

5-20-2011

Optimization of Financial Transmission Right Portfolios Using Risk-Reward Analysis of Deregulated Power Systems

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Optimization of Financial Transmission Right Portfolios
Using Risk-Reward Analysis of Deregulated Power Systems

A Thesis

Submitted to Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Master of Science
In
Engineering

by

Aashay Nandedkar

B. Tech JNTU 2008
May, 2011

Acknowledgement

My eternal gratitude is extended to my major professor, Dr. Ittiphong Leevongwat. Without his encouragement, guidance, direction and assistance I would never have continued the process and completed the thesis. He never wavered in his commitment to assist me in this endeavor. He demanded my best in every aspect of the program. Any draft was corrected with suggestions for improvement. While I felt overwhelmed many times I never lost sight of the final goal because of his dedication and steadfastness to the task at hand. Dr. Leevongwat was always very focused regarding my program and kept me focused. I appreciate that he never accepted any doubt that I would be able to complete this thesis. I also take this opportunity to thank Dr. Parviz Rastgouard, whose comments have always been encouraging and positive. He has assisted by making sure I have been accountable to the task and myself.

I would also like to acknowledge my friends (Anirudh, Appu, Goutham, Jaipal, Kanaka, Monica, Murali, Nag bhai, Naveen D, Naveen Reddy, Pinky, Ramu, Shivani, Vamshi, Vandana) who have constantly encouraged me and supported in every way possible, helping me to achieve my goals.

Last but not the least; I am sincerely grateful to my grandparents, parents, aunt, uncle and my sisters for their unconditional support throughout the years.

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ABSTRACT

Financial Transmission Rights (FTR) is an investment that protects the market customers from price uncertainty in the case of transmission line congestion. Pennsylvania-New Jersey-Maryland Interconnection (PJM) allows bidding of FTR's on various transmission paths.

This thesis investigates quantitative methods for portfolio optimization to produce a risk-minimum portfolio of FTR's to bid. A computer model based on Security-Constrained Unit Commitment Problem and Risk-Reward Analysis is developed to simulate various operating conditions of a power system and predict the variations of power flows and corresponding electricity prices. It offers guidelines about the bidding cost and the amount of megawatts to bid for each transmission path, in order to obtain a certain profit with the corresponding minimum risk. The method for calculating the risk and reward is Markowitz Mean-Variance Analysis. The computer model also includes the LMP determination for which a MATLAB code has been developed. The model is tested on a 6-bus power system.

CHAPTER 1

1.1 Introduction

Electric utilities invest their money in many assets such as power plants, new transmission lines, new generations, plant acquisitions, and transmission contracts. These investments can be done by acquiring certain hedges or rights. Financial Transmission Rights (FTR) is one such financial hedge that facilitates open transmission access.

Transmission Congestion is a common botheration in the Transmission sector. It leads to inconsistency in the prices for the firm transmission service customers. Financial Transmission Rights is the way to resolve this problem. PJM allows for bidding of these FTR's by its customers. Customers bid on the amount of MW for which they would want to hold the FTR on a particular Transmission path. The idea of this thesis is to prepare a portfolio emphasizing on the paths of interest of the customer with the details of amount of MW to be bid for and the risk and reward associated with it.

1.2 Objective

With the increase of customers day by day and the number of lines, it is a challenging task to bid on the right lines. Hence, it is necessary for a more detailed assessment of the cost and the risk/reward so as to assure the profit. The objective of this research is

- a) To study the various FTR bidding markets
- b) To understand the concepts of Locational Marginal Pricing (LMP) and execute it in MATLAB
- c) To understand the concepts of Risk-Reward analysis

- d) Develop a model that suggests different portfolios of transmission lines based on risk and reward associated with the portfolios.
- e) Test the model on a 6-bus power system.
- f) Outline further research opportunities.

1.3 Historical Review:

1.3.1 Deregulation

Beginning in 1971 with the passing of the first proposal to deregulate a major industry, United States has come a long way in dismantling the regulatory hold of many industries [1]. Deregulation is a process by which involvement of the government in a particular industry or business is curtailed or removed to make it a better market place [2]. It is done in order to encourage the theoretical efficient operation of markets. The point is to reduce the influence of government so as to create a much competitive environment, thereby resulting in higher efficiency and lower overall prices. It is different from liberalization, as in a liberalized market infinite members may take part but they can be regulated. By deregulating the market, it allows new companies to enter the market which was not possible before this movement. Unregulated non-utility providers are permitted to serve customers.

1.3.2 Electricity Deregulation

In the beginning there was no regulation. Power was supplied by small companies. Later when transmitting AC power over long distances was started by Westinghouse, it became the national standard [29]. Some public owned utilities came into existence under various municipalities but most of the electric power was still supplied by private companies. Hence it became a monopoly. Thus Public Utility Commissions (PUC's) were established to regulate the

price of electricity. The price of electricity used to account for all the generation, transmission and distribution of it and also included a fair rate of return for the utilities. They were accused of manipulating the cost of electricity. Hence Federal Energy Regulatory Commission came into existence. Under this system the electric was supplied by vertically integrated industries which controlled generation, transmission and distribution of electricity in its territory. This industry could be owned by government or privately or by a cooperative of consumers. They used to generate power from fossil fuels which were depleting. Due to regulation the tariff was set to earn a fair rate of return, based on the cost of services and to recover operational expenses. They passed on the expenses to the customers. In 1978, Congress passed a legislation passed by Congress required utilities to purchase power from companies which generated power using renewable sources. In 1992, Congress passed additional legislation which allowed generating companies to be exempt from regulation and have access to the nation's distribution systems at "just and reasonable" rates [29].

Deregulation means unbundling of the vertically integrated industry [3]. It allows smaller utilities to take part in the competition thus making it more efficient. Electricity producers can take part in the wholesale market to sell their electricity and customers can choose their supplier from different sellers in the retail market. The Energy Policy Act of 1992 made amends so that small utility companies can compete with bigger industries [4].

PJM (Pennsylvania-New Jersey-Maryland interconnection), ERCOT Market, New York Market, California ISO, New England Market are some of the deregulated markets in Northern America. PJM is a Regional Transmission Organization (RTO) which is part of an Eastern Interconnection Grid [8].

PJM introduced Locational Marginal Pricing on April 1 1998, and also offered some customers Financial Transmission Rights (FTRs) to protect themselves against price variations. The "Locational Marginal Price" ("LMP") is a market-pricing approach used to manage the efficient use of the transmission system when congestion occurs on the bulk power grid [3]. The Federal Energy Regulatory Commission (FERC) has proposed Locational Marginal Price as a way to achieve short- and long-term efficiency in wholesale electricity markets [4].

Marginal pricing is the idea that the market price of any commodity should be the cost of bringing the last unit of that commodity - the one that balances supply and demand - to market. In electricity, LMP recognizes that this marginal price may vary at different times and locations based on transmission congestion [4].

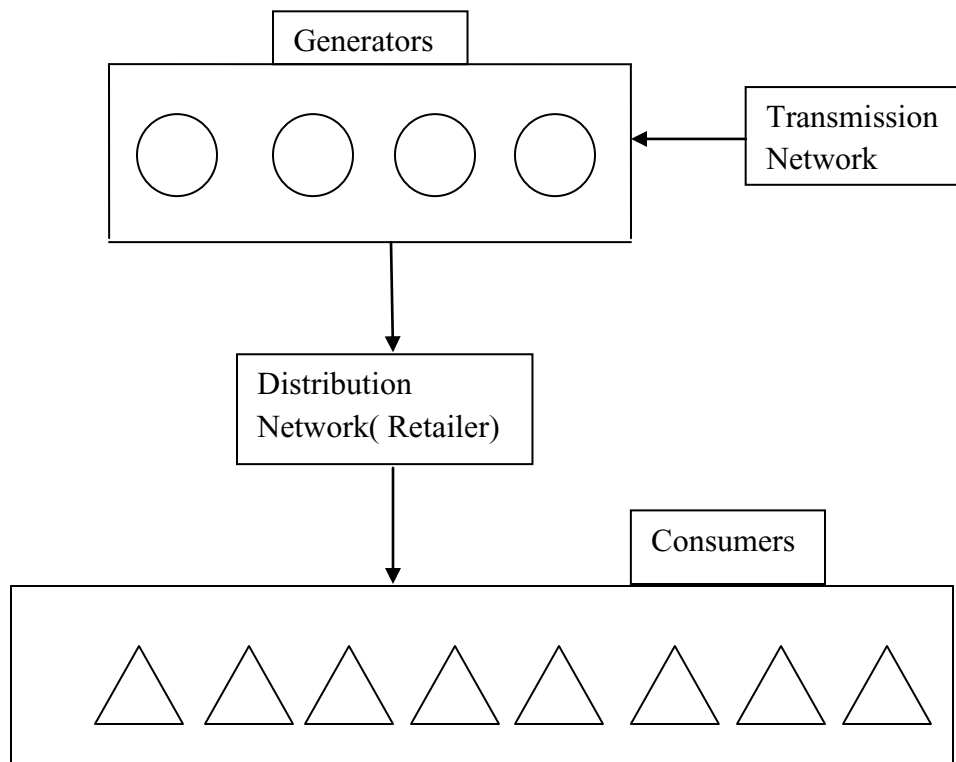


Figure 1.1: Vertically Integrated Electric Industry

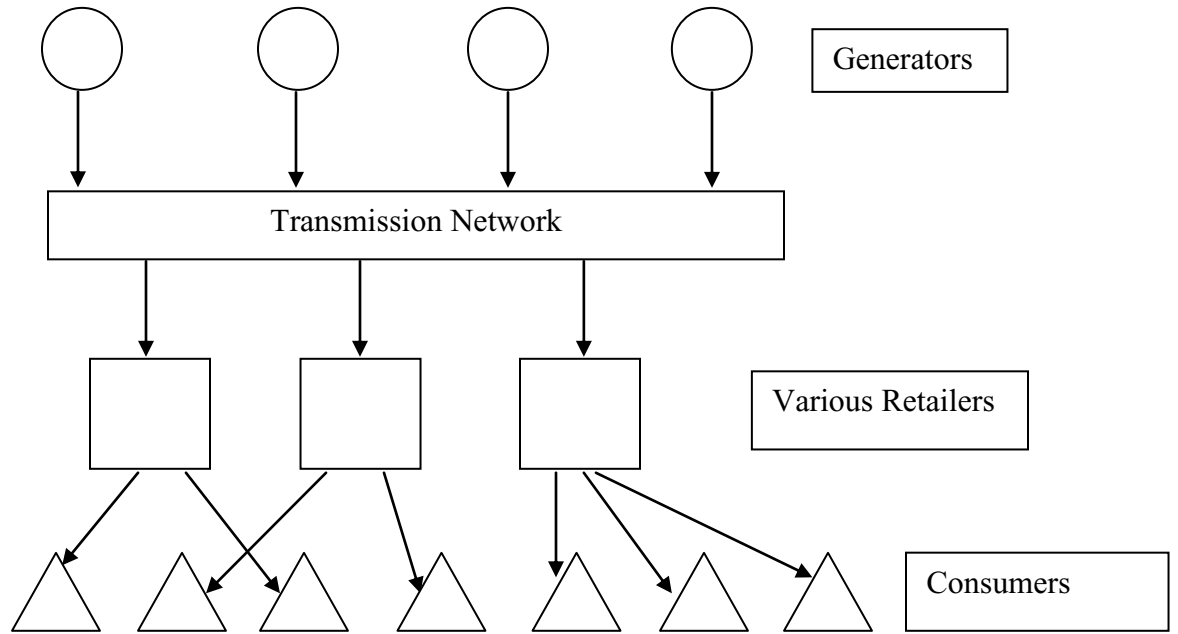


Figure 1.2: Deregulated Electric Market (Unbundled)

1.3.3 Financial Transmission Rights

Financial Transmission Rights (FTR) are financial instruments that entitles the holder of the FTR to receive a share of the excess payments collected for congestion costs that arise when the transmission grid is congested in the day ahead market [6]. These costs are used to hedge the costs related with transmission congestion. It protects the firm transmission service customers from congestion costs. These are financial instruments that give rebates of congestion costs to the holder. A FTR holder does not have to deliver energy in order to receive credit. The holder of FTR, in a day ahead market, when the line is congested, receives the credit based on the price difference in the sending end and receiving end and MW rating at the sending end [6].

$$FTR\ credit = (MW\ amount\ of\ FTR) * (LMP\ at\ sink - LMP\ at\ source) \quad (1.1)$$

FTR's are used mostly in all the markets but have been given different names. In PJM, FTR's are called Fixed Transmission Rights, in New York Transmission Congestion Contracts (TCC's), in California Firm Transmission Rights (TCR's). Though they may have similar background, the designs used are different [8].

FTR's came into existence due to the problems faced by the customer, price uncertainty being one of them. It happens due to the dispatch of generators out of merit order to relieve the congestion. Also under constrained conditions, PJM collects more money from customers than it pays generators [7]. The solution to these problems is FTR. It provides price certainty and also the concern of paying more is checked.

When a Firm Transmission Service Customer bids for an FTR he can bid for an Obligation or an Option. An Obligation can be a benefit or a liability whereas an Option can be a benefit but never a liability i.e. the hourly congestion value is zero [8].

In PJM, FTR's can be acquired by participating in one of the four auctions: the Long-term FTR Auction, Annual FTR Auction, Monthly FTR Auction or the FTR Secondary market.

FTR Auctions	Available Capability for sale
1. Long-term FTR Auction	Residual system capability after the assumption that all ARR's are self-scheduled into FTR's.
2. Annual FTR Auction	Entire transmission capability available on the PJM system on annual basis.
3. Monthly FTR Auction	Residual transmission capability available from the Annual and Long-term FTR auctions
4. FTR Secondary Market	Bilateral trading system which facilitates trading of existing FTR's between PJM members

Table 1.1: Different Markets in PJM for FTR auction

1.3.4 Auction Revenue Rights

Auction Revenue Rights are entitlements given to Firm Transmission Service Customers which make them eligible to receive a part of the revenues or charges from the Annual FTR auction [6]. Participants will submit their requests for the ARR's and PJM has the right to accept all, few or none of the requests. They are allocated at the start of each annual period.

$$ARR = (\text{MW amount of } ARR / \text{number of rounds}) * (\text{LMP at sink} - \text{LMP at source}) \quad (1.2)$$

The LMP's based on average nodal clearing prices over the 4 rounds of Annual FTR auction[7]. An ARR is available only as an Obligation. It is not a physical right. Holders of ARR may retain the ARR's or convert them into FTR's by self-scheduling an FTR into the first round of Annual FTR auction. The FTR should have the same path as ARR or a ARR can be reconfigured and may be used to bid for FTR on an alternative path [9].

1.3.5 Risk Reward Analysis

Trade is the mode of speech in any market. A trade cannot exist without the application of the terms Risk and Reward with it. Though identifying a good risk/reward trade may not result in success but not identifying it will surely result in a loss. A good profit from the invested money will result only if one understands the risk associated with it. We must be aware of the risk being undertaken before choosing investments for a portfolio.

In this study we will be using Harry Markowitz's Mean-Variance approach for which he received Nobel Prize in Economics in 1990 [10]. Markowitz has provided a solution to bridge the gap between high rewards and low risk which is a challenge every investor faces. Risk is defined as the variance of its returns while reward as mean of its returns [10]. We plan to apply

this analysis to the portfolios of the utilities. We then look at Risk and Reward together to help us evaluate the portfolio. For this we use Sharpe's ratio [29].

Thus we conclude the chapter by discussing the history of Deregulation, Financial Transmission Rights and Risk- Reward Analysis. In the following chapter we will be discussing about the FTR market in PJM and also Risk-Reward analysis in detail.

Chapter 2

2.1 Locational Marginal Pricing

Physical hindrances to trade cause prices to differ. The difference is the price of congestion is also known as Locational Marginal Price. The "Locational Marginal Price" ("LMP") is a market-pricing approach used to manage the efficient use of the transmission system when congestion occurs on the bulk power grid. To achieve long term and short term efficiency in the wholesale electricity market, LMP has been suggested as a safe bet by Federal Energy Regulatory Commission (FERC) [4]. LMP is the lowest possible bid at any location for supplying energy to one incremental megawatt of load [22]. It is the marginal cost of serving the next increment of demand at that node consistent with existing transmission facility constraints and the performance characteristics of resources [31].

If the transmission line between two locations is not able to handle the total requirement between the two locations, then the supplying location will have to buy power from another expensive generator. This will increase the price of power at that location. Thus LMP is a unique price. It is determined by the demand and supply of the market and has nothing to do with the architecture of the market [31].

Like all competitive prices, LMP minimizes the cost of production and reveal to the customers the true cost of consumption. It takes into consideration locational constraints. It also provides price signals for developing new generation and transmission resources in the best location. It increases the efficiency of a competitive wholesale energy market [22].

2.2 Assets

We consider two types of market contracts that are based on Locational Marginal Pricing: Auction Revenue Rights (ARR) and Financial Transmission Rights (FTR). Market participants may acquire ARR and FTR to hedge against congestion.

2.2.1 Auction Revenue Rights

Auction Revenue Rights (ARRs) are the mechanism by which the proceeds from the Annual FTR Auction are allocated [9]. Auction Revenue Rights are privileges given annually to Firm Transmission Service Customers that enable the holder to receive a part of the revenues from the Annual FTR Auction.

Auction Revenue Rights are given to Network Transmission Service Customers and Firm Point-to-Point Transmission Customers [7]. Market participants will request ARRs, in which, all, part or none of the request based on the results of Simultaneous Feasibility Test will be approved. ARRs are allocated to the Network Transmission Service Customers and Firm Point-to-Point Transmission Customers for the duration of Annual Planning Period [9].

ARRs are defined from a source price node to a sink price node for a specific MW amount. The value of each ARR is based on the MW amount and on the Locational price difference between the source and the sink node. It can be positive or negative [7].

ARRs are allocated for a period of one year and are allocated for the entire capability of the transmission system. ARR holders are entitled to the price difference between the sink and the source LMPs established in the FTR auction times the number of ARRs they hold. The maximum ARRs is limited to participant's peak load responsibility within a zone. ARRs must be designated from unit-specific capacity resources to aggregate loads. The ARRs request from capacity resource cannot exceed the capacity value contracted by the participant [9].

The settlements for Auction Revenue Rights will be based on the clearing prices from each round of the Annual FTR auction. The amount of the credit that the ARR holder should receive for each round is equal to the MW amount of the ARR times the price difference from the ARR sink point to the ARR source point [9].

Holders of ARR may keep their allocated ARRs and get allocation of revenues from the Annual FTR Auction. Else they can convert their ARRs into self-scheduled FTRs into the first round of the Annual FTR Auction. When self-scheduled an FTR must hold the same path as that of the ARR. They can also bid into the market for to acquire FTR on an alternative path.

Auction Revenue Rights will be given to Network Transmission Service Customers and Firm Point-to-Point Transmission Customers [9]. The Market participants submit ARR requests for the planning period during the Annual ARR allocation process. It is a two stage process designed to provide long-term certainty along with increased flexibility. The first stage consists of two parts, Stage 1A and Stage 1B [9]. In this first stage, Network Service Customers make ARR requests based on generation resources that served load in each transmission zone. Also in Stage 1, Firm Transmission Customers can make ARR requests based on the megawatts of firm service provided between the receipt and delivery points as to which the transmission Customer had Firm Point-to-Point Transmission Service during the historical reference year. The second stage, stage 2, is a three round allocation process that allows market participants to adjust their hedging paths on an annual basis. PJM will allocate ARRs that pass a simultaneous feasibility test to Firm Transmission Customers based of feasibility [9].

2.2.2 Financial Transmission Rights

A Financial Transmission Right (FTR) is a financial instrument that entitles the holder of the FTR to receive a share of the excess payments collected for congestion costs that arise when the transmission grid is congested in the day-ahead market [9]. An FTR is defined from point of sending to the point of receiving. For each hour of congestion on the transmission system between the sending and receiving ends, the FTR holder is given a part of the congestion costs which is collected from the Market participants [7].

Protection of Firm Transmission Customers from increased cost due to Transmission Congestion is one of the main purposes of FTRs. They are financial instruments that enable the holder to rebates of the congestion charges paid by Firm Transmission Customers. FTRs can be acquired by market participants in the form of options or obligations. They do not make the process of power delivery compulsive [7].

The holder of FTR does not require delivering power in order to receive credit. If there exists congestion on the transmission line then the holder of the FTR receives a credit based on the FTR MW reservation and the Congestion price difference between the point of delivery and point of receipt. It is paid to the customer inconsiderate of who delivered the power or the amount of power delivered across that line [9].

FTRs can be acquired in four market mechanisms:

- a) Long-term FTR Auction
- b) Annual FTR Auction
- c) Monthly FTR Auction
- d) FTR Secondary Market

a. Long-term FTR Auction:

PJM conducts a Long-term FTR process of buying and selling FTRs through a multi-round process for FTRs for three consecutive periods immediately after the planning period during which the FTR Long term Auction is conducted. The capacity offered for sale is the residual capacity of the system after assuming that all the Annual Revenue Rights from the recently concluded Annual Revenue Rights auction are self-scheduled into FTRs. The Long-term FTR Auction consists of two rounds. The first round shall be conducted approximately 11 months prior to the start of the three planning period term covered by the relevant long-term FTR auctions and the second round shall be conducted approximately 4 months after the first round. In each round 50% of the total available capacity in the Long-term FTR Auction shall be offered for sale [9].

b. Annual FTR Auction:

The Annual FTR auction offers for sale the entire transmission entitlement that is available with PJM on an annual basis. It is a multi-round auction consisting of four rounds. 25% of the FTR capability of the entire PJM system is awarded in each of the four rounds. FTRs that are acquired in one round may be sold again in another round [9].

c. Monthly FTR Auction:

Every month, Monthly FTR Auctions provide a way of auctioning the residual FTR capability that is left over on the PJM system after the Long-term and Annual FTR Auctions are conducted. It is a single round process and hence the whole residual FTR capability is up for grabs. The Monthly FTR Auctions allow market participants an opportunity to offer for sale any FTRs that they currently hold. An Auction participant must own the FTR that is offered for sale [9].

d. FTR Secondary Market:

It is a bilateral trading system which allows trading of existing FTRs between participants. Participants specify trades by transmission paths [9]. One FTR can be split into multiple FTRs on the same path with different MW amounts and different start and end dates from the original FTR. The trading takes place in the following way:

- i. One participant posts a secondary trade.
- ii. Another participant accepts it.
- iii. The owner of the FTR confirms the trade.

The clearing mechanism of the FTR Auctions will maximize the quote-based value of FTRs awarded in each auction. Auction Revenue Rights are the mechanism by which the proceeds from the FTR Auctions are allocated [7]. The proceeds from the Annual FTR Auction are distributed to ARR holders. All long-term and monthly auction revenues are first allocated among ARR holders in proportion to the holders deficiencies from the Annual FTR Auction. Any monthly auction revenues remaining after this allocation are treated as excess congestion charges and are distributed [9].

FTRs that are awarded in the FTR markets have the following features:

- i. FTRs protect the holder against congestion payments when their energy delivery is consistent according to the definition.
- ii. They do not protect the owner against payment for losses.
- iii. FTRs acquired in the Long-term Auctions have a term of one year or three years.
- iv. FTRs acquired in the Annual FTR auction have a term of one year.

- v. FTRs acquired in the Monthly FTR Auctions have a term of one month for any of the next three individual months remaining in the planning period.
- vi. FTRs acquired in the FTR Auctions entitle the holder to credits for transmission congestion charges for the term of the purchased FTR.

2.3 Risk-Reward Analysis

Trading is a tricky game, in which anything can happen at any time. Price will go where price wants to go, no matter how hard we try to study it. So its better to control the risk first rather than searching for the perfect trade. Risk-Reward should be measured before taking up a trade. The distance between the entry and the price that breaks the trade points to the risk and the distance between your trade entry and the next obstacle within your holding period measures the reward.

The basic principle is that potential return rises with an increase in risk [14]. Low levels of uncertainty (low risk) are associated with low potential returns, whereas high levels of uncertainty (high risk) are associated with high potential returns. According to the risk-return tradeoff, invested money can render higher profits only if it is subject to the possibility of being lost [27]. Because of the risk-return tradeoff, you must be aware of your personal risk tolerance when choosing investments for your portfolio. Taking on some risk is the price of achieving returns; therefore, if you want to make money, you can't cut out all risk.

All investments carry some amount of risk. One should understand the rule, “the higher the risk, the higher is the reward”. But an addition to this rule is that,” the higher the risk, the higher the potential return and less likely it will achieve the higher return” [14].

Every investor needs to find their comfort level with risk and construct an investment strategy around that level. A portfolio that carries a significant degree of risk may have the potential for outstanding returns, but it also may fail dramatically. Many investors find that a modest amount of risk in their portfolio is an acceptable way to increase the potential of achieving their financial goals. By diversifying their portfolio with investments of various degrees of risk, they hope to take advantage of a rising market and protect themselves from dramatic losses in a down market.

In this chapter we have described the FTR market and the bidding process of the transmission lines. The knowledge will be used to come up with a process to ease the bidding system. The model thus developed will be tested on a six-bus system. The model developed is explained in the next chapter.

Chapter 3

This chapter discusses about the model used to approach the problem of Optimization of FTR portfolios.

3.1 Explanation of Model

Bidding is a complicated process. Bidding of FTR's is a much complex process as it requires understanding of the market conditions and the transmission grid. The idea is to build software which outputs portfolios of FTR's according to the risk and reward associated, thus aiding a market participant in bidding. Even though the portfolio does not guarantee that the bidder will win the bidding, the portfolio contains FTR's that are optimally profitable based on the power system conditions and the expected reward associated with the portfolio. This is achieved by a model integrating the Security-Constrained Unit Commitment Problem with Risk-Reward Analysis. Simulation of this model will lead to various power flows and corresponding prices of electricity. These results will then be used to produce various portfolios of FTR's which can be bid for. They give information about the bidding price of a line and the amount of megawatts (MW's) one can bid for on a particular line to obtain a certain amount of profit with minimum risk, or to obtain the maximum profit with a certain risk.

3.2 Development of Model

The developed model helps us generate FTR portfolios which produce certain Reward for minimum risk.

3.2.1 Locational Marginal Pricing Model:

Transmission lines in power network normally operate under thermal, voltage and stability constraints. An increase in demand of electricity might lead the transmission system to operate beyond its limit. When it happens, given the same resources, the power network becomes congested under these constraints and hence the network operates at more cost.

Locational Marginal Pricing (LMP) forecasting is a process of market simulation. It includes many economical and physical electric system parameters as inputs. LMP is calculated by a Security-Constrained Unit Commitment (SCUC) process, which uses generator bids, load bids and transmission network data as inputs. An ISO runs the SCUC to determine which units need to be committed for next day operation and what units are dispatched at each hour based on economic & operational constraints.

LMP is a result of the SCUC problem. SCUC is an optimization process whose goal is to minimize the total system production cost to all economic and security constraints [22]. Some of these constraints are Transmission flow limits, Interface limits, System Real Power balance, Contingency constraints, Unit operating limits and System spinning reserve requirements.

The SCUC problem can be represented mathematically as follows

Minimize:
$$J = \min \sum_{i=1}^{N_g} \sum_{t=1}^{N_t} [P(i, t)C_i (P(i, t)I(i, t) + S(i, t))] \quad (3.1)$$

Subject to:

$$\sum_{i=1}^{N_g} P(i, t) I(i, t) = P_D(t) \quad (3.2)$$

$$\sum_{i=1}^{N_g} r_s(i, t) I(i, t) \geq R_s \quad (3.3)$$

$$P_{g \min}(i) \leq P(i, t) \leq P_{g \max}(i) \quad (3.4)$$

$$\forall^j P_j(t) \leq P_j^{\max} \quad (3.5)$$

$$\forall_{IL=1}^{N_{IL}} \sum_{k=1}^{N_L} P_k(t) \leq L_{IL} \quad (3.6)$$

Where:

J = Total production cost

$C_i(P(i, t))$ = Average Marginal cost of generator i which is the product of unit heat rate and unit fuel cost

$P(i, t)$ = Output of generator i at time t

$I(i, t)$ = Commitment state of generator i at time t

$S(i, t)$ = Start-up cost of generator i at time t

$P_D(t)$ = Load demand at time t

$r_s(t)$ = Spinning reserve contribution from generator i at time t

R_s = System spinning reserve requirement in the commitment period

$P_{g \min}(i)$ = Minimum output capacity of generator i

$P_{g\max}(i)$ = Maximum output capacity of generator i

$P_j(t)$ = Power flow in transmission line j at time t

P_j^{\max} = Maximum power flow allowed in transmission line j

$P_k(t)$ = Power flow in the transmission line k that composes the interface IL

L_{IL} = Interface limit

N_g = Number of generators

N_t = Number of time periods

N_1 = Number of transmission lines in the interface IL

i = Generators index

t = Time index in the operational period

SCUC is a complicated process and hence is difficult to be implemented as is it. To make it simpler to execute and understandable it is divided into number of subprocesses as explained below.

Firstly we need the initial data to generate the initial parameters to carry out the sub processes. The initial data include the Branch data, Generator data, Load profile, Interfaces and Contingency cases.

With these sets of data we generate the initial parameters which are

- Bus admittance matrix (Y_{bus})

- Bus impedance matrix (Z_{bus})
- Generator shift factor
- Line outage distribution factor

Bus Admittance Matrix: It is a symmetric matrix which related bus voltages to bus currents. We assume a lossless system to simplify LMP where impedance is purely reactive i.e, $Z=0+jX$ and admittance is purely susceptive i.e, $Y=0 - j 1/X$

A diagonal element of Y_{bus} is equal to the sum of all admittances from other buses connected to bus i and is called self admittance y_{ii} . It is written as

$$y_{ii} = -j \sum_{\substack{k=1 \\ k \neq i}}^n \frac{1}{x_{ik}} \quad (3.7)$$

A mutual element, y_{ik} , is equal to the negative of the sum of admittances between bus i and bus k. It is written as

$$y_{ik} = - \left(-j \frac{1}{x_{ik}} \right) = j \frac{1}{x_{ik}} \quad (3.8)$$

Where,

n = Number of buses

x_{ik} = Imaginary part of line reactance between bus i and bus k

We can write the admittance matrix as

$$Y_{bus} = jB \quad (3.9)$$

Where,

B = Imaginary part of bus admittance matrix

Bus Impedance Matrix: Bus impedance matrix is a compliment of the Bus admittance matrix and can be written as

$$Z_{bus} = Y_{bus}^{-1} = j(-B^{-1}) \quad (3.10)$$

Since the matrix B is singular and has no inverse, the impedance matrix has to be adjusted.

Generator Shift Factor: The Generator shift factor (GSF) expressed in percentage is the change in power flow on a transmission line corresponding to change in power injection at a bus. GSF can be defined mathematically as follows

$$GSF_{jk,n} = \frac{Z_{jn} - Z_{kn}}{Z_{jk}} \quad (3.11)$$

Where,

$GSF_{jk,n}$ = GSF representing the current change on line jk with respect to current injection at bus n

Z_{ab} = Impedence between bus a and bus b value at row a and column b of Zbus

Z_{jk} = Impedence of line jk

Assuming lossless system, GSF is defined as

$$GSF_{jk,n} = \frac{Z_{jn} - Z_{kn}}{jx_{jk}} \quad (3.12)$$

Where,

x_{jk} = Imaginary part of line reactance between buses j and k

Line Outage Distribution Factor (LODF): For secure operation, the power grid is required to maintain its operating conditions under its limit in the event of power outage. The planning of this unforeseen event is called contingency. LODF is used to save time in verifying power flow on transmission lines against contingency cases and flow limits.

LODF is change in power flow (change in current) on a transmission line corresponding to an outage (no current injection) at another line.

$$LODF_{ip} = \frac{Z_p}{Z_i} \frac{(Z_{jm} - Z_{jn}) - (Z_{km} - Z_{kn})}{Z_{th,p} - Z_p} \quad (3.13)$$

Where,

$LODF_{ip}$ = LODF representing current change on line i with an outage on line p

i = Line between buses j and k

p = line between buses m and n

Z_i = Impedance of line i

Z_p = Impedance of line p

$Z_{th,p}$ = Thevenin's impedance of line p

For simplification, the SCUC process is divided into smaller processes: **Unit Commitment, Economic Dispatch, Decoupled Power Flow, and Security-Constrained Optimal Power Flow.**

Unit Commitment (UC): UC is an optimization process aiming to minimize total production cost considering only economic and operational constraints. No transmission constraints are considered. This subprocess determines which generators are to be committed based on generator capacity, generator operation cost and amount of load.

It is mathematically represented as,

$$\text{Minimize: } J = \min \sum_{i=1}^{N_g} \sum_{t=1}^{N_t} [P(i, t) C_i (P(i, t)) I(i, t) + S(i, t)] \quad (3.14)$$

Subject to:

$$\sum_{i=1}^{N_g} P(i, t) I(i, t) = P_D (t) \quad (3.15)$$

$$\sum_{i=1}^{N_g} r_s (i, t) I(i, t) \geq R_s \quad (3.16)$$

$$P(i, t) \leq P_{g, \max}(i) \quad (3.17)$$

Where,

$C_i(P(i, t))$ = Average Marginal cost of generator i which is the product of unit heat rate and unit fuel cost

$P(i, t)$ = Output of generator i at time t

$I(i, t)$ = Commitment state of generator i at time t

$S(i, t)$ = Start-up cost of generator i at time t

$P_D(t)$ = Load demand at time t

$r_s(t)$ = Spinning reserve contribution from generator i at time t

R_s = System spinning reserve requirement in the commitment period

$P_{g \max}(i)$ = Maximum output capacity of generator i

N_g = Number of generators

N_t = Number of time periods

i = Generators index

t = Time index in the operational period

Economic Dispatch (ED): ED is to optimize output levels of committed generators so that operating cost is minimized. It uses the results of UC. The committed generators in UC are generally dispatched at maximum capacity levels. However as number of generators increase and the load decreases, the later committed units get to dispatch under maximum or minimum capacities. This violation is corrected by ED by enforcing the minimum capacity requirements. It is mathematically represented as

$$\text{Minimize: } J = \min \sum_{i=1}^{N_t} \sum_{t=1}^{N(t)} [P(i, t)C_i(P(i, t))uc_i(t) + S(i, t)] \quad (3.18)$$

Subject to:

$$\sum_{i=1}^{N(t)} P(i, t)uc_i(t) = P_D(t) \quad (3.19)$$

$$\sum_{i=1}^{N(t)} r_s(i, t) uc_i(t) \geq R_s \quad (3.20)$$

$$P_{g,min}(i) \leq P(i, t) \leq P_{g,max}(i) \quad (3.21)$$

Where,

$C_i(P(i, t))$ = Average Marginal cost of generator i which is the product of unit heat rate and unit fuel cost

$P(i, t)$ = Output of generator i at time t

$uc_i(t)$ = Commitment state of generator i at time t i.e., the value of row I from the unit schedule matrix of time t

$S(i, t)$ = Start-up cost of generator i at time t

$P_D(t)$ = Load demand at time t

$r_s(t)$ = Spinning reserve contribution from generator i at time t

R_s = System spinning reserve requirement in the commitment period

$P_{g,min}(i)$ = Minimum output capacity of generator i

$P_{g,max}(i)$ = Maximum output capacity of generator i

$N(t)$ = Number of generators

N_t = Number of time periods

i = Generators index

t = Time index in the operational period

DC Power Flow (DCPF): Another simplification in the LMP method is use of DC power flow that considers only the real power flow. The DC power flow equation is

$$P_i = \sum_{\substack{k=1 \\ k \neq i}}^n b_{ik} (\theta_i - \theta_k) \quad (3.22)$$

Where,

P_i = Power injection at bus i

n = Number of buses

θ_i = Voltage angle at bus i

b_{ik} = Susceptance between bus i and k

The line power flows obtained from DCPF process are checked against all flow limits of system including line flow limits and interface flow limits. Failing this test indicates overloading the transmission network and the Security Constrained Optimal Power Flow process (explained below) will start in order to optimize generator patterns to solve overloads. If the test passes it means that the network operates securely. If transmission line operates close to or at its limit, then it is identified and is stored as a binding constraint which is used in spot fixing or LMP calculation.

Security Constrained Optimal Power Flow (SCOPF): It is a economic dispatch problem considering more constraints. Apart from the constraints considered in ordinary economic dispatch problem, it also uses the optimal power flow that includes transmission constraints such as flow limits and additional constraints which include contingencies. SCOPF is represented

mathematically exactly as the original economic dispatch problem with a few additional constraints. SCOPF is used to reduce production cost. SCOPF uses Linear Programming to solve the optimization process.

LMP calculation: When a secure generator pattern is determined by SCUC, it also looks for binding constraints, where generators operate close to or at their limits. If a binding constraint is detected with the secure generator pattern, LMP calculation is necessary to find out which generator will be contributing when one incremental MW of power is to be delivered at a particular location. LMP calculation is based on two equations. The following is the incremental flow equation of bus k

$$\forall_i^{N_b} (\sum_j^{N_c} (GSF_{ij} \Delta P_j = GSF_{ik}) \quad (3.23)$$

$$\sum_j^{N_c} \Delta P_j = 1 \quad (3.24)$$

Where,

ΔP_j = Amount less than or equal to 1 representing the contribution from a committed generator at bus j

i = binding constraint at a transmission line or interface

j = bus number where a committed generator is located

N_b = Number of binding constraints

N_c = Number of committed generators

By solving these linear equations, the generator contribution at each bus is derived and then used in the following incremental price equation

$$LMP_k = \sum_j^{N_c} (\Delta P_j MC_j) \quad (3.25)$$

Where,

MC_j = Marginal Cost of generator at bus j

If there is no binding constraint, LMP calculation is not needed. Instead, the marginal cost of the last generator dispatched (usually the most expensive) is used as the marginal price at all locations (buses).

The set of locational prices obtained from the above processes is then used in the portfolio optimization process.

3.2.2 Risk-Reward Analysis:

The optimization of FTR portfolio is done by taking into consideration the transmission line limits, locational marginal price at each bus, and power flow solution. The risk-reward analysis can be treated in two different ways:

a) Non-Interactive Case

b) Interactive Case

a) Non-Interactive Case:

The non-interactive case is one where the bidder does not play any role. It is developed to give a firsthand idea to the customers about how the market is functioning and the performance of the portfolios of transmission lines. There are a few assumptions in this case.

Assumptions:

- i. The megawatt available for auction on each line is constant and is equal to the maximum capacity of the line.
- ii. Auction cost is not considered in this case.

Initially we compute the various combinations of transmission lines, also known as portfolios, each containing a possible combination of available transmission lines. The number of combinations for a given set of transmission lines is given by

$$n_{tr} = \sum_{i=1}^n \frac{n!}{(n-i)! * i!} \quad (3.26)$$

n_{tr} = Number of combinations of transmission lines

n = Total number of transmission lines

i = number of transmission lines in a particular combination

Next we calculate the rate of return for every hour of each combination. It is accounted as the product between the difference of LMP's at the sink and source of the transmission line and the maximum capacity of the transmission line. It is calculated for every transmission line in a combination for every hour. The ratio of this product to the sum of maximum capacities of all the transmission lines in the combination (portfolio) gives us the rate of return for that combination at a particular hour.

$$r_c^{hr} = \sum_i^{n_{comb}} (LMP_{i \text{ at sink}} - LMP_{i \text{ at source}}) * MW_i / \sum_i^{n_{comb}} MW_i \quad (3.27)$$

r_c^{hr} = Rate of Return for combination c at a particular hour

c = Combination number

hr = Hour number in 24 hours

i = Transmission line ID in a given combination

n_{comb} = Number of transmission lines in a given combination

$LMP_{i \text{ at sink}}$ = LMP at sink of i^{th} transmission line

$LMP_{i \text{ at source}}$ = LMP at source of i^{th} transmission line

MW_i = Maximum Capacity of i^{th} transmission line

We use 3 measures to assess a portfolio.

- i. Reward attained from the portfolio
- ii. Risk associated with the portfolio
- iii. Sharpe's ratio of the portfolio

We calculate the Risk, Reward and Sharpe's ratio of each portfolio of transmission lines.

The **Reward** for a portfolio is defined as the mean of the rates of return over a period of 24 hours.

$$r_c^{mean} = \sum_{hr=1}^{24} r_c^{hr} / 24 \quad (3.28)$$

r_c^{hr} = Rate of return of portfolio c for a particular hour

r_c^{mean} = Reward associated with portfolio c

The **Risk** of a portfolio is measured as the variance of the rates of returns over a period of 24 hours and is given as:

$$\sigma_c^2 = \sum_{hr=1}^{24} (r_c^{hr} - r_c^{mean})^2 / 24 \quad (3.29)$$

σ_c^2 = Risk (variance) of a portfolio c

r_c^{hr} = Rate of return of portfolio c for a particular hour

r_c^{mean} = Reward associated with portfolio c

Sharpe's ratio is a way to measure performance of a portfolio. Sharpe's ratio is defined as ratio of the difference between portfolio return and risk-free rate to the standard deviation of the return. For simplification, we neglect the risk-free rate. Hence Sharpe's ratio is a ratio between the return and standard deviation.

$$sr = r_c^{mean} / \sigma_c \quad (3.30)$$

sr = Sharpe's Ratio

σ_c = deviation of a portfolio c

r_c^{mean} = Reward associated with portfolio c

Once the three measures are calculated for every portfolio, the portfolios are ranked based on each of the measures.

Portfolio Recommendation:

The portfolios with negative rewards are eliminated because such portfolios do not make daily revenue. Instead, they cause a loss due to the FTR charges (as opposed to FTR credit) which the investor has to pay to PJM.

Portfolios with a positive reward are then ranked three times based on the three measures. A list of portfolios ranked in the order of each measure is generated. An investor may use the three lists as guidelines for bidding.

The first list is based on the reward. The portfolios are ranked in descending order of the reward. The portfolio(s) with the best reward are displayed first in the list.

The second assessment is based on risk. The portfolios are categorized in five regions based on the range of the risk values, i.e., very high risk (top 20% of the range), high risk, moderate risk, low risk, and very low risk (bottom 20% of the range).

The last assessment is based on Sharpe's ratio. The portfolios are arranged from the best performance portfolio with the highest value of Sharpe's ratio to the worst performance portfolio with the lowest value of Sharpe's ratio.

b) Interactive Case:

The Interactive case requires inputs from the user to the model.

- The Initial Wealth (W) of the bidder (i.e., the amount of money the bidder is ready to invest in the bidding process) is taken into consideration.
- Maximum Auction Price of the FTR market is also added to the process, which may be derived from historical data of the bidding in the market.

Assumptions:

- i. Auction Price depends on the “busyness” of the line which is given by the Busyness Factor (b). The busyness of a line is defined as the daily average percentage of the power flow in the line compared to the maximum flow allowed in the line.

$$b_i = \frac{\sum_{hr=1}^{24} \left(\frac{P_i^{hr}}{P_i^{max}} \right)}{24}$$

Where:

b_i = Busyness Factor of i^{th} transmission line

P_i^{hr} = Power flow (MW) of i^{th} transmission line at a particular hour

P_i^{max} = Maximum power flow (MW) of i^{th} transmission line

- ii. A is defined as Maximum Auction Price. The Auction price of individual FTRs (transmission lines) is the product of Maximum Auction price and the Busyness Factor.

$$A_i = A * b_i \quad (3.31)$$

Where:

A_i = Auction price of i^{th} transmission line (in dollars per MW)

A = Maximum Auction Price (in dollars per MW)

b_i = Busyness Factor of i^{th} transmission line

Now the Rate of Return of each transmission line depends on the auction price and can vary each hour. We input a new term, Auction price, into the equation mentioned in the non-interactive case.

$$r_c^{hr} = \sum_i^{n_{comb}} (LMP_{i \text{ at sink}} - LMP_{i \text{ at source}} - A_i) * MW_i / \sum_i^{n_{comb}} MW_i * A_i \quad (3.32)$$

In this case we do not assume that the megawatt that can be bid for on each line is constant (the maximum capacity of the line). Instead we derive the megawatts to bid, based on maximizing the total reward of a portfolio. The Optimization problem is to maximize the

Reward of a portfolio over 24 hours subject to two constraints. The first constraint is that the total bidding cost (i.e., the sum of the products of Auction price and Megawatts bid on every line) is not greater than the Wealth of the bidder. The second constraint is that the Megawatts bid on a single line should not be greater than the maximum capacity of the line. The optimization can be represented as:

$$\max \sum_{hr=1}^{24} r_c^{hr} \quad (3.33)$$

$$S.T. \sum_i^{n_{comb}} MW_i * A_i \leq W \quad (3.34)$$

$$MW_i \leq P_i^{max} \quad (3.35)$$

Where,

MW_i = Megawatt to be auctioned on i^{th} transmission line

r_c^{hr} = Average Rate of Return of i^{th} transmission line at a particular hour (in dollars per MW)

A_i = Auction Price of i^{th} transmission line

W = Wealth of the bidder (in dollars)

P_i^{max} = Maximum power flow allowed in the i^{th} transmission line

The results of the optimization process are the amounts of megawatts (MW_i) that can be bid on transmission lines of a portfolio and yields the maximum reward for the portfolio over 24 hours.

Like the Non-interactive Case, the reward, risk, and Sharpe's ratio are calculated and ranked.

The next Chapter explains the test system that we use to test the proposed model. The results of the test are shown in Chapter 5.

Chapter 4

4.1 Test System

The Test system used in this thesis to generate the FTR portfolios is a 6 bus system. It has 6 buses of which 3 are Generators buses and 3 are Load buses. It also has 11 Transmission lines. The system is shown in the figure below. This chapter gives information power systems specifications which are translated into input files which will be used in MATLAB coding.

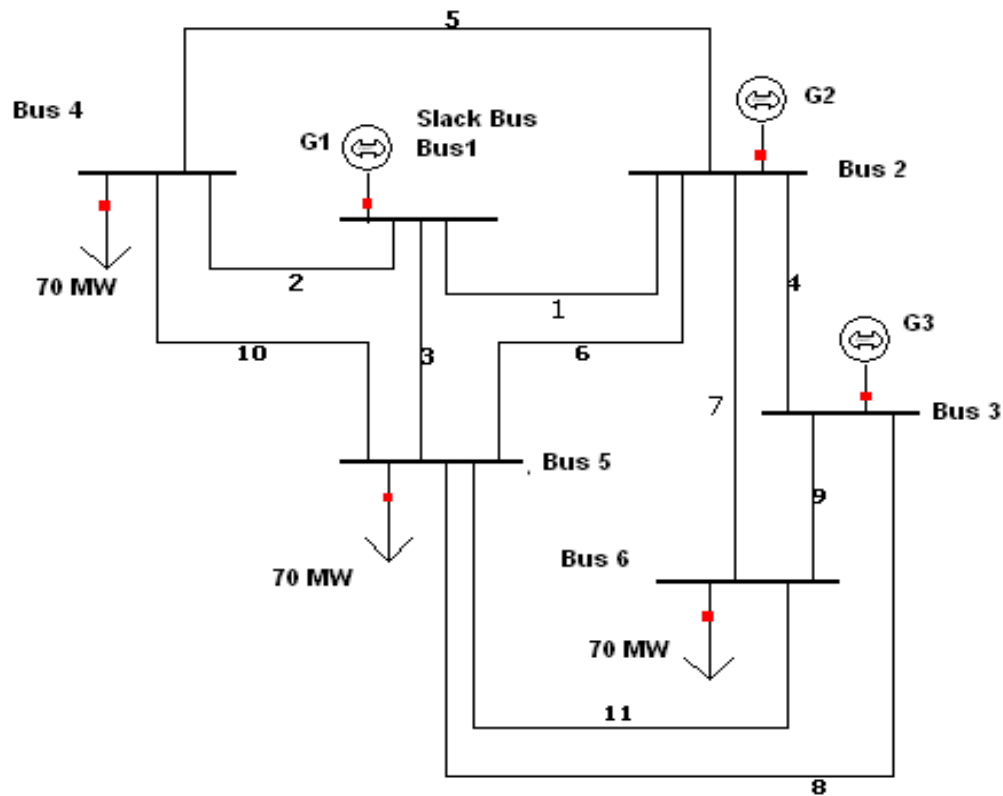


Figure 4.1: Six Bus System

4.2 Transmission Line Data

Branch ID	From Bus	To Bus	Resistance	Reactance	MW Rating	Busyness Factor
1	1	2	0.1	0.2	30	1
2	1	4	0.05	0.2	50	1
3	1	5	0.08	0.3	40	1
4	2	3	0.05	0.25	20	1
5	2	4	0.05	0.1	40	1
6	2	5	0.1	0.3	20	1
7	2	6	0.07	0.2	30	1
8	3	5	0.12	0.26	20	1
9	3	6	0.02	0.1	60	1
10	4	5	0.2	0.4	20	1
11	5	6	0.1	0.3	20	1

Table 4.1: Transmission Line Data

The Above data is for the Transmission lines. The Busyness Factor for all buses is considered 1 in the non-interactive case. In the interactive case the busyness factor depends on the average powerflow on the transmission line over a period of 24 hours. The MW rating of each transmission line plays a key role in this thesis.

4.3 Generators Data

The following table gives information about the 3 generators. The marginal cost of each generator is also given which is the product of heat rate and fuel cost. The maximum and minimum operating limits helps us in the economic dispatch of generators.

Bus ID	Operating Limits		Heat Rate (\$/MBTU)	Fuel (\$/MMBTU)	Marginal Cost(\$)
	Minimum	Maximum			
1	50	200	6.912	6	41.47
2	37.5	150	6.912	3.728	25.77
3	45	180	10.541	3.728	39.3

Table 4.2: Generators Data

4.4 Load Data

The following data gives information about the hourly load on the system. The day-ahead load is expected for simulation of results. The system load for 24 hours is necessary and is assumed to be equally distributed among all the generators.

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Load	150	140	120	135	150	170	180	210	220	240	250	255
Hour	13	14	15	16	17	18	19	20	21	22	23	24
Load	260	260	255	270	270	255	140	230	220	180	150	130

Table 4.3: Load Data for a period of 24Hrs

4.5 Interface Specification

There are two interfaces. The first interface is rated at 78MW and consists of branches 2 and 5. The second interface is rated at 95MW and consists of branches 7, 8 and 9.

Interface ID	Branch ID	MW Rating
1	2	78

1	5	0
2	7	95
2	8	0
2	9	0

Table 4.4: Interface Specification of six-bus power system

4.6 Locational Marginal Pricing

As explained in the model development in Chapter 3 we use the above 6-bus system to generate the FTR Portfolios which contain the Risk and Reward of every combination of Transmission Lines.

The Generators, Transmission Lines and the Load data are used to generate the LMP for each of the 6 buses for 24 hours using the Security Constrained Unit Commitment process. The LMP data obtained from the model is given below:

Hour	Bus 1	Bus 2	Bus 3	Bus 4	Bus 5	Bus 6
1	41.47	41.47	41.47	41.47	41.47	41.47
2	41.47	41.47	41.47	41.47	41.47	41.47
3	25.77	25.77	25.77	25.77	25.77	25.77
4	69.63	25.77	39.30	122.99	55.37	38.53
5	41.47	41.47	41.47	41.47	41.47	41.47
6	41.47	41.47	41.47	41.47	41.47	41.47
7	41.47	41.47	41.47	41.47	41.47	41.47
8	41.47	25.77	39.30	55.53	43.93	42.93
9	41.47	25.77	39.30	55.53	43.93	42.93
10	41.47	25.77	39.30	55.53	43.93	42.93
11	41.47	25.77	39.30	55.53	43.93	42.93
12	41.47	25.77	39.30	55.53	43.93	42.93
13	41.47	25.77	39.30	58.76	44.34	42.77

14	41.47	25.77	39.30	58.76	44.34	42.77
15	41.47	25.77	39.30	55.53	43.93	42.93
16	41.47	25.77	39.30	55.53	43.93	42.93
17	41.47	25.77	39.30	55.53	43.93	42.93
18	41.47	25.77	39.30	55.53	43.93	42.93
19	41.47	25.77	39.30	55.53	43.93	42.93
20	41.47	25.77	39.30	55.53	43.93	42.93
21	41.47	25.77	39.30	55.53	43.93	42.93
22	41.47	41.47	41.47	41.47	41.47	41.47
23	41.47	41.47	41.47	41.47	41.47	41.47
24	39.30	39.30	39.30	39.30	39.30	39.30

Table 4.5: LMP at the 6 buses at the end of 24 Hrs

The above LMP data is then used as input to generate the FTR portfolios as explained in Chapter 3. The results of risk-reward analysis and the portfolio generation are shown in the next Chapter.

Chapter 5

5.1 Results

To test the developed model we executed a code in MATLAB. The 6-Bus system mentioned in the previous chapter has been used as the test system to generate the following results.

Table of Portfolios: This table tells us about the transmission lines associated with each portfolio. The first column gives us the portfolio number and the rest eleven columns are for the combination of transmission lines. One can just find the portfolio number and see which lines are included in it by checking the rows corresponding to the portfolio number in this table.

1	1										
2	2										
3	3										
4	4										
5	5										
6	6										
7	7										
8	8										
9	9										
10	10										
11	11										
12	1	2									
13	1	3									
14	1	4									
15	1	5									
16	1	6									
17	1	7									
18	1	8									
19	1	9									
20	1	10									
21	1	11									
22	2	3									
23	2	4									
24	2	5									
25	2	6									
26	2	7									

27	2	8									
28	2	9									
29	2	10									
30	2	11									
31	3	4									
32	3	5									
33	3	6									
34	3	7									
35	3	8									
36	3	9									
37	3	10									
38	3	11									
39	4	5									
40	4	6									
41	4	7									
42	4	8									
43	4	9									
44	4	10									
45	4	11									
46	5	6									
47	5	7									
48	5	8									
49	5	9									
50	5	10									
51	5	11									
52	6	7									
53	6	8									
54	6	9									
55	6	10									
56	6	11									
57	7	8									
58	7	9									
59	7	10									
60	7	11									
61	8	9									
62	8	10									
63	8	11									
64	9	10									
65	9	11									
66	10	11									
67	1	2	3								
68	1	2	4								
69	1	2	5								
70	1	2	6								
71	1	2	7								
72	1	2	8								

73	1	2	9								
74	1	2	10								
75	1	2	11								
76	1	3	4								
77	1	3	5								
78	1	3	6								
79	1	3	7								
80	1	3	8								
81	1	3	9								
82	1	3	10								
83	1	3	11								
84	1	4	5								
85	1	4	6								
86	1	4	7								
87	1	4	8								
88	1	4	9								
89	1	4	10								
90	1	4	11								
91	1	5	6								
92	1	5	7								
93	1	5	8								
94	1	5	9								
95	1	5	10								
96	1	5	11								
97	1	6	7								
98	1	6	8								
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101	1	6	11								
102	1	7	8								
103	1	7	9								
104	1	7	10								
105	1	7	11								
106	1	8	9								
107	1	8	10								
108	1	8	11								
109	1	9	10								
110	1	9	11								
111	1	10	11								
112	2	3	4								
113	2	3	5								
114	2	3	6								
115	2	3	7								
116	2	3	8								
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118	2	3	10								

119	2	3	11								
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125	2	4	10								
126	2	4	11								
127	2	5	6								
128	2	5	7								
129	2	5	8								
130	2	5	9								
131	2	5	10								
132	2	5	11								
133	2	6	7								
134	2	6	8								
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136	2	6	10								
137	2	6	11								
138	2	7	8								
139	2	7	9								
140	2	7	10								
141	2	7	11								
142	2	8	9								
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144	2	8	11								
145	2	9	10								
146	2	9	11								
147	2	10	11								
148	3	4	5								
149	3	4	6								
150	3	4	7								
151	3	4	8								
152	3	4	9								
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155	3	5	6								
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167	3	7	9								
168	3	7	10								
169	3	7	11								
170	3	8	9								
171	3	8	10								
172	3	8	11								
173	3	9	10								
174	3	9	11								
175	3	10	11								
176	4	5	6								
177	4	5	7								
178	4	5	8								
179	4	5	9								
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1761	2	4	5	6	9	10	11				
1762	2	4	5	7	8	9	10				
1763	2	4	5	7	8	9	11				
1764	2	4	5	7	8	10	11				
1765	2	4	5	7	9	10	11				
1766	2	4	5	8	9	10	11				
1767	2	4	6	7	8	9	10				
1768	2	4	6	7	8	9	11				
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1771	2	4	6	8	9	10	11				
1772	2	4	7	8	9	10	11				
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1774	2	5	6	7	8	9	11				

1775	2	5	6	7	8	10	11				
1776	2	5	6	7	9	10	11				
1777	2	5	6	8	9	10	11				
1778	2	5	7	8	9	10	11				
1779	2	6	7	8	9	10	11				
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1821	1	2	3	4	5	6	8	10			
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2004	1	2	3	5	6	7	8	10	11		

2005	1	2	3	5	6	7	9	10	11		
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2007	1	2	3	5	7	8	9	10	11		
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2034	2	4	5	6	7	8	9	10	11		
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2037	1	2	3	4	5	6	7	8	9	11	
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2040	1	2	3	4	5	6	8	9	10	11	
2041	1	2	3	4	5	7	8	9	10	11	
2042	1	2	3	4	6	7	8	9	10	11	
2043	1	2	3	5	6	7	8	9	10	11	
2044	1	2	4	5	6	7	8	9	10	11	
2045	1	3	4	5	6	7	8	9	10	11	
2046	2	3	4	5	6	7	8	9	10	11	
2047	1	2	3	4	5	6	7	8	9	10	11

Table 5.1: Table of Portfolios

Non-Interactive Case:

To simplify the understanding of the code, it has been divided into 11 different parts, depending on the number of lines used in each combination.

One Line Combination: The following table gives us the rate of return of a portfolio with a single line for 24hours.

-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
42.86	52.36	-15.26	-14.53	96.22	28.6	11.76	15.07	-1.77	-68.62	15.84
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-16.7	13.06	1.46	12.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	16.29	1.87	-14.53	31.99	17.57	16	4.04	2.47	-15.42	0.57
-16.7	16.29	1.87	-14.53	31.99	17.57	16	4.04	2.47	-15.42	0.57
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-16.7	13.06	1.46	-14.53	28.76	17.16	16.16	3.63	2.63	-12.6	0
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

Table 5.2: Rate of Return for one line portfolios over 24hrs

The above table gives us the Rate of Return for the eleven one-line cases for 24hours. The columns depict the eleven portfolios and the rows depict the 24 hours. It shows the rate at which an individual would be repaid if they invest on a particular portfolio at each hour. This result is again used in calculating the reward and risk associated with each over 24hours which is shown in the next table.

Reward	Risk	Sharpe's Ratio	Portfolio Number
-8.33083	13.04603	-0.63857	1
9.694167	11.31484	0.856765	2
-0.125	3.37926	-0.03699	3
-8.32875	7.79118	-1.069	4
20.68	21.38512	0.967027	5
10.86083	9.45818	1.148301	6
9.528333	8.200878	1.161867	7
2.404583	3.464717	0.69402	8
1.072083	1.822919	0.588114	9
-10.8192	13.3683	-0.80932	10
0.3325	3.278097	0.101431	11

Table 5.3: Parameters associated with each portfolio for one line case

The above table shows the Reward, Risk, Sharpe's Ratio and the portfolio number. The portfolio number can be used to find the combination of lines included in the particular portfolio by matching the same in the Combinations table.

There are similar tables for Two-Line cases, Three-Line cases and so on. All these tables are added to a single table in order to compare the performance of different portfolios. The different portfolios are then assessed in three different ways. Firstly all the portfolios with negative rewards are eliminated here. The first assessment is based on the reward. The portfolios are arranged in descending order of the reward. The second assessment is based on risk. The portfolios in this evaluation are categorized in five regions based on the severity of the risk i.e., highly risk, moderately risk etc. The last assessment is based on Sharpe's ratio. The portfolios are arranged from highest sharpe to the lowest sharpe.

Reward	Risk	Sharpe's Ratio	Portfolio Number
20.68	21.385	0.96703	5
17.407	17.175	1.0135	46
15.901	14.938	1.0644	47
14.781	13.659	1.0821	197
14.588	15.411	0.94661	48
14.577	15.776	0.92398	24

13.901	14.469	0.9608	127
13.897	15.181	0.91545	51
13.657	13.742	0.99376	198
13.314	13.334	0.9985	128
13.138	13.539	0.97044	201
12.964	12.708	1.0202	401
12.902	12.374	1.0427	202
12.53	11.788	1.063	527
12.441	12.163	1.0229	205
12.364	13.538	0.9133	129
12.154	11.604	1.0474	530
12.133	12.775	0.94973	402
11.987	13.419	0.89328	132
11.813	12.661	0.93306	405
11.756	11.921	0.98616	406
11.644	11.547	1.0084	863
11.46	11.802	0.97099	409
11.385	11.436	0.99555	866
11.025	12.252	0.89983	208
11.01	12.851	0.85675	39
10.992	11.522	0.95398	533
10.973	11.742	0.93454	176
10.861	9.4582	1.1483	6
10.654	10.341	1.0303	1005
10.616	10.573	1.004	539
10.579	10.271	1.03	492
10.559	11.435	0.92346	869
10.516	10.548	0.997	177
10.513	11.888	0.88436	412
10.481	11.545	0.90787	380
10.412	12.122	0.85898	120
10.394	9.875	1.0526	155
10.387	10.547	0.98485	1383
10.35	9.8466	1.0512	200
10.328	10.758	0.96001	875
10.302	10.513	0.97998	828
10.278	10.053	1.0223	32
10.223	10.755	0.95049	381
10.195	9.2456	1.1026	457
10.18	10.082	1.0097	50
10.161	10.258	0.99051	359
10.126	9.122	1.1101	529
10.098	10.31	0.97948	404
10.073	9.2202	1.0925	156
10.061	8.5765	1.1731	52
10.055	9.6541	1.0415	793

10.053	10.47	0.96021	113
10.027	10.523	0.95288	25
9.9911	9.6121	1.0394	865
9.963	9.0586	1.0998	204
9.9595	10.582	0.94119	131
9.9547	9.717	1.0245	360
9.8778	9.3459	1.0569	133
9.8669	9.6794	1.0194	408
9.6942	11.315	0.85677	2
9.6322	9.3819	1.0267	26
9.5283	8.2009	1.1619	7
9.425	9.7263	0.96902	1346
9.4041	10.466	0.89853	829
9.3965	9.1814	1.0234	864
9.3731	9.6478	0.97153	403
9.3217	9.2117	1.0119	968
9.2971	8.6364	1.0765	528
9.2904	9.0267	1.0292	1311
9.2593	10.081	0.91847	493
9.2485	9.4551	0.97815	794
9.2456	9.8416	0.93944	833
9.2397	9.049	1.0211	199
9.2339	9.1904	1.0047	407
9.2063	10.939	0.84163	611
9.1945	9.6331	0.95448	1349
9.18	10.788	0.85098	382
9.1751	9.7578	0.94028	130
9.1559	8.448	1.0838	933
9.1481	8.9197	1.0256	1382
9.137	12.221	0.74762	247
9.1278	10.377	0.87963	832
9.1158	9.015	1.0112	798
9.0832	8.9268	1.0175	1314
9.0724	9.3936	0.96581	868
9.0624	8.7908	1.0309	458
9.0565	8.53	1.0617	203
9.0417	9.2498	0.97751	497
9.0333	9.5337	0.94751	361
9.0048	9.3537	0.96269	797
9.003	10.787	0.83464	317
9.0026	9.0654	0.99308	971
8.9865	9.7454	0.92212	836
8.9857	11.322	0.79363	248
8.9381	8.2173	1.0877	1004
8.9342	8.8951	1.0044	874
8.9181	8.8097	1.0123	1386

8.9152	9.0451	0.98564	49
8.8933	8.3077	1.0705	462
8.8858	8.9091	0.99738	801
8.8796	8.2928	1.0708	936
8.8615	10.701	0.82813	385
8.859	10.496	0.844	178
8.8497	13.021	0.67965	69
8.8449	9.9386	0.88995	496
8.8278	12.803	0.6895	91
8.7969	9.4855	0.92741	411
8.7961	9.2825	0.9476	872
8.7612	8.5521	1.0245	532
8.7608	8.6552	1.0122	1381
8.757	9.4285	0.92879	364
8.717	8.6238	1.0108	461
8.7029	8.724	0.99759	157
8.675	8.7777	0.9883	878
8.665	9.0924	0.95299	500
8.6399	8.9945	0.96057	867
8.6324	8.3476	1.0341	416
8.6313	11.352	0.76034	92
8.6195	8.0353	1.0727	1008
8.5889	8.0063	1.0728	538
8.5747	8.1343	1.0541	465
8.5724	8.567	1.0006	1385
8.5509	8.6126	0.99284	873
8.5158	9.0141	0.94472	1754
8.4904	10.151	0.83638	1115
8.4864	8.0093	1.0596	1003
8.4784	9.3713	0.90472	415
8.4758	8.424	1.0062	1733
8.4214	8.9064	0.94554	871
8.3786	9.0162	0.92928	410
8.3468	8.3546	0.99907	536
8.3437	8.5204	0.97926	877
8.3412	10.359	0.80518	181
8.3371	9.5629	0.87182	1352
8.3337	8.952	0.93094	134
8.3096	8.7312	0.95171	1317
8.2957	11.121	0.74594	612
8.2885	8.5408	0.97046	160
8.287	8.1768	1.0135	419
8.2723	10.093	0.81957	1118
8.2667	8.2689	0.99974	1775
8.263	8.2414	1.0026	531
8.2551	9.0462	0.91255	1358

8.2468	14.488	0.56923	15
8.2426	7.8783	1.0462	1007
8.2375	8.3597	0.98539	1323
8.2366	8.4169	0.97858	207
8.217	8.1853	1.0039	1276
8.2122	7.7984	1.0531	542
8.2113	10.395	0.7899	616
8.1865	8.1845	1.0002	138
8.1696	7.837	1.0424	537
8.1344	8.9262	0.91129	414
8.1229	8.3108	0.97739	1460
8.1176	7.7061	1.0534	1439
8.06	9.7396	0.82755	737
8.0584	8.1373	0.9903	1774
8.0442	8.5963	0.93577	1389
8.0365	11.076	0.7256	615
8.0098	8.7259	0.91794	804
8.0003	9.7335	0.82194	839
7.9855	8.4896	0.94063	772
7.9786	8.1829	0.97504	1393
7.968	7.5328	1.0578	1313
7.9676	10.342	0.77043	619
7.9672	8.1056	0.98292	535
7.9555	7.9889	0.99582	1348
7.9291	11.642	0.68105	249
7.9232	8.0884	0.97957	773
7.8934	7.6942	1.0259	541
7.8738	6.9341	1.1355	212
7.8731	8.7846	0.89624	137
7.8485	8.3867	0.93583	1388
7.8303	8.1091	0.96562	206
7.8153	7.8779	0.99205	939
7.8096	7.5065	1.0404	1312
7.8036	8.0572	0.96853	1392
7.7907	7.4035	1.0523	1481
7.785	7.8929	0.98633	1347
7.7721	7.9966	0.97193	141
7.7715	8.8565	0.87749	974
7.7642	9.6632	0.80348	740
7.7521	7.4944	1.0344	945
7.7245	7.32	1.0553	898
7.7184	8.1991	0.94137	211
7.713	9.4611	0.81523	1593
7.7019	8.2208	0.93688	980
7.6925	7.6257	1.0088	796
7.6884	7.7494	0.99213	1696

7.6686	8.5833	0.89343	881
7.6598	11.09	0.69071	318
7.6467	7.334	1.0426	800
7.641	8.3105	0.91943	831
7.6332	11.608	0.65755	252
7.628	7.4006	1.0307	1480
7.6116	9.0704	0.83917	27
7.6024	8.4597	0.89866	352
7.5937	10.031	0.75699	322
7.5925	7.8596	0.96602	835
7.5638	7.5945	0.99596	795
7.5589	7.2808	1.0382	1384
7.5324	7.3465	1.0253	799
7.5314	8.3509	0.90187	880
7.5099	8.1341	0.92326	830
7.5	7.6626	0.97879	1699
7.4849	7.9652	0.9397	210
7.4776	7.782	0.96088	834
7.4622	7.1485	1.0439	1732
7.4465	7.4931	0.99377	885
7.4288	8.532	0.87071	1045
7.4108	10.224	0.72485	1121
7.4006	7.5295	0.98287	1753
7.3982	7.9579	0.92966	1277
7.394	7.1858	1.029	1731
7.3927	6.6327	1.1146	935
7.3819	9.615	0.76775	1127
7.3714	7.6207	0.96729	1281
7.3604	9.3495	0.78725	1080
7.3566	7.5308	0.97688	1011
7.3366	7.5189	0.97575	1752
7.3183	7.1107	1.0292	1015
7.3139	6.7207	1.0883	934
7.3077	7.6895	0.95034	468
7.2872	6.9247	1.0524	970
7.283	11.043	0.65951	321
7.2819	6.5192	1.117	215
7.2739	7.0473	1.0322	1736
7.2738	7.4131	0.98122	436
7.2718	7.52	0.96699	1010
7.2701	7.427	0.97887	363
7.2481	9.9659	0.72729	325
7.2477	7.3435	0.98695	870
7.2477	7.1852	1.0087	1014
7.2419	7.0171	1.032	437
7.2343	7.1031	1.0185	1735

7.2285	7.0816	1.0208	876
7.2234	7.0157	1.0296	969
7.2167	7.4389	0.97014	362
7.1934	7.4355	0.96744	1757
7.1801	7.8737	0.91191	1280
7.1642	7.5307	0.95133	1284
7.1642	7.4419	0.96267	1756
7.1537	8.9728	0.79726	503
7.1458	8.2672	0.86436	384
7.136	7.1794	0.99395	1316
7.1291	6.9518	1.0255	1773
7.1224	6.9334	1.0273	1322
7.1157	8.0724	0.88149	383
7.1155	7.2298	0.9842	1315
7.1051	7.0141	1.013	1321
7.0988	6.845	1.0371	1402
7.0982	8.4135	0.84367	1117
7.0943	8.8869	0.79828	1257
7.0843	8.2443	0.85929	1116
7.0789	9.0604	0.7813	569
7.0755	7.3081	0.96818	1938
7.0676	8.5492	0.82669	570
7.0251	7.7378	0.90788	1351
7.0236	7.6875	0.91364	1350
7.02	6.5131	1.0778	365
7.0195	8.9138	0.78748	30
7.0162	7.3857	0.94998	1356
7.016	7.3658	0.95252	1357
6.9919	8.0913	0.86413	1521
6.9907	7.8701	0.88826	774
6.9795	10.577	0.65986	622
6.9568	6.8625	1.0137	1776
6.9539	10.232	0.67961	590
6.9485	11.995	0.57929	93
6.9485	9.5295	0.72916	591
6.9352	7.1467	0.97041	1319
6.9322	6.9274	1.0007	1325
6.9308	6.3554	1.0905	1006
6.9179	7.0765	0.9776	1320
6.9152	6.8256	1.0131	1326
6.8983	6.5883	1.047	459
6.8965	6.4003	1.0775	463
6.8893	6.8357	1.0078	1958
6.8884	8.7869	0.78394	1556
6.8788	7.8167	0.88001	422
6.8777	7.235	0.95061	428

6.868	6.7381	1.0193	1959
6.8588	6.1995	1.1063	464
6.8585	6.365	1.0775	460
6.855	6.7137	1.0211	1405
6.846	6.3836	1.0724	1437
6.8433	6.9683	0.98207	386
6.828	7.3067	0.93448	1360
6.8263	7.6136	0.89659	1354
6.8226	7.1433	0.95511	413
6.8117	8.0342	0.84784	1524
6.8058	6.2119	1.0956	1438
6.798	7.1325	0.95309	1965
6.7901	6.743	1.007	1391
6.7864	6.9683	0.9739	1387
6.7858	7.2687	0.93357	1361
6.7813	7.6487	0.8866	1355
6.7591	7.3197	0.9234	544
6.7587	7.0563	0.95783	802
6.758	7.0698	0.9559	1966
6.747	7.7864	0.86651	777
6.7386	6.7211	1.0026	498
6.7315	7.1575	0.94048	1708
6.7298	7.0656	0.95247	494
6.7252	7.4519	0.90248	1702
6.7246	8.2357	0.81652	617
6.7209	7.6706	0.87619	667
6.7177	8.6823	0.77372	613
6.7164	6.6271	1.0135	1458
6.7098	7.8619	0.85347	1591
6.6977	6.9547	0.96305	803
6.6911	8.7413	0.76546	1559
6.6788	5.9601	1.1206	57
6.6556	7.2489	0.91816	545
6.6556	8.4376	0.7888	618
6.6512	7.9421	0.83746	1592
6.6486	6.2645	1.0613	1441
6.6426	9.0312	0.73552	614
6.6372	6.4963	1.0217	499
6.636	6.436	1.0311	1459
6.6327	6.3249	1.0487	53
6.6235	8.0647	0.82129	1050
6.6197	7.5861	0.87261	837
6.6146	6.9222	0.95557	495
6.6115	8.499	0.77791	1046
6.6065	6.593	1.0021	1971
6.6061	9.2186	0.71661	233

6.6016	6.6488	0.9929	1394
6.5971	6.5224	1.0115	903
6.5892	6.8789	0.95788	1390
6.584	6.6545	0.98941	1742
6.5781	6.8373	0.96209	899
6.5759	6.2684	1.0491	417
6.5728	6.8483	0.95978	1738
6.5681	6.5324	1.0055	1697
6.5621	6.0531	1.0841	1442
6.5613	6.9707	0.94127	806
6.5562	7.1094	0.92219	148
6.5562	9.0304	0.72601	749
6.5441	7.8105	0.83785	1595
6.5325	9.8621	0.66238	743
6.5269	8.6722	0.75262	702
6.5136	7.6247	0.85427	838
6.5051	6.5104	0.99918	1743
6.4982	6.5151	0.99742	1462
6.4881	11.983	0.54142	96
6.488	6.727	0.96447	1739
6.4865	6.3768	1.0172	1698
6.4702	8.8859	0.72814	1085
6.4593	6.984	0.92488	1763
6.4592	7.6687	0.84228	1853
6.4543	6.0174	1.0726	1479
6.454	6.8475	0.94252	807
6.4539	7.8845	0.81855	1596
6.4484	9.4709	0.68087	1081
6.4429	6.0993	1.0563	808
6.4418	7.2517	0.88831	1759
6.4285	5.9567	1.0792	418
6.4261	8.0104	0.80222	1053
6.4233	6.0629	1.0594	943
6.4065	5.9418	1.0782	540
6.4043	8.4517	0.75775	1049
6.4016	7.5135	0.85202	841
6.3991	6.2222	1.0284	937
6.3958	10.683	0.59871	240
6.3865	6.3569	1.0046	1782
6.3797	6.0275	1.0584	115
6.3766	6.0679	1.0509	1734
6.374	6.1078	1.0436	534
6.3597	6.2857	1.0118	1463
6.3592	7.3976	0.85963	738
6.3576	6.7523	0.94155	879
6.3489	7.8205	0.81183	1125

6.3478	6.8849	0.92198	1764
6.3357	6.3014	1.0054	114
6.3323	6.1948	1.0222	158
6.3255	8.2062	0.77082	1119
6.3208	6.3804	0.99066	906
6.3206	7.2066	0.87705	1760
6.3183	8.28	0.76308	1874
6.2899	7.3301	0.85809	1287
6.2821	6.7059	0.93679	902
6.2797	6.0011	1.0464	1802
6.2707	6.3052	0.99453	1936
6.2652	5.7793	1.0841	944
6.2573	8.7815	0.71255	250
6.2521	8.8467	0.70672	1088
6.2518	6.3766	0.98044	1778
6.2413	7.2032	0.86646	1185
6.2375	7.4886	0.83293	1894
6.2373	7.5383	0.82741	842
6.236	5.8823	1.0601	1482
6.2347	6.2461	0.99818	1755
6.2288	6.3244	0.98488	978
6.2253	6.5783	0.94634	1777
6.2224	5.913	1.0523	938
6.2182	9.4402	0.65869	1084
6.2105	6.3104	0.98417	1282
6.2092	6.4542	0.96204	843
6.2081	7.9128	0.78456	1126
6.2054	5.9332	1.0459	947
6.1999	6.6632	0.93046	1328
6.198	5.7491	1.0781	549
6.1891	6.6084	0.93656	972
6.1839	5.9471	1.0398	811
6.1821	6.5041	0.9505	1278
6.1717	8.4086	0.73398	1120
6.1712	7.3826	0.8359	739
6.1688	6.0973	1.0117	941
6.1687	7.7719	0.79372	1129
6.1463	6.1223	1.0039	1937
6.1394	6.6605	0.92177	882
6.1393	8.5738	0.71605	571
6.1372	8.1636	0.75177	1123
6.1295	7.5638	0.81037	276
6.1243	5.7462	1.0658	1803
6.1228	6.2313	0.98259	1940
6.1122	5.9351	1.0298	883
6.1084	6.2143	0.98295	1809

6.1018	7.5	0.81357	1895
6.0929	5.8664	1.0386	1957
6.0764	7.6146	0.798	1533
6.073	8.2076	0.73993	275
6.0585	7.4087	0.81776	1486
6.0582	5.7509	1.0534	159
6.049	6.09	0.99328	1283
6.0413	6.77	0.89236	179
6.0407	7.9962	0.75544	1527
6.04	9.2517	0.65285	251
6.0398	6.5691	0.91942	122
6.0277	6.488	0.92906	1329
6.021	7.127	0.84481	1363
6.0162	6.7957	0.88529	1522
6.0117	8.0165	0.74991	1220
6.011	7.127	0.84342	1188
6.0061	6.3028	0.95294	1279
6.003	5.7904	1.0367	1324
5.9939	7.6993	0.77849	144
5.99	7.8602	0.76206	1130
5.9888	5.5993	1.0696	948
5.986	6.0022	0.9973	979
5.985	6.2059	0.96439	982
5.9737	6.0329	0.99018	1941
5.9655	5.9137	1.0088	1318
5.9638	7.0044	0.85144	1255
5.9634	5.8247	1.0238	139
5.9483	7.231	0.82262	121
5.9449	5.7814	1.0283	1960
5.9415	8.3651	0.71026	1124
5.9402	6.0234	0.98618	1964
5.9358	5.614	1.0573	1013
5.9301	6.4995	0.9124	976
5.9263	5.7391	1.0326	942
5.9177	6.0843	0.97261	1706
5.9133	6.3199	0.93566	846
5.9129	6.3318	0.93384	973
5.9091	8.5345	0.69238	574
5.8969	9.7612	0.60411	592
5.8944	5.9361	0.99296	1810
5.8942	6.0823	0.96907	135
5.8857	8.3286	0.70669	1568
5.8819	5.8073	1.0129	887
5.8799	6.2566	0.93979	1700
5.8778	5.7539	1.0215	1009
5.8749	6.0407	0.97255	2027

5.872	8.245	0.71219	620
5.8712	5.6278	1.0432	1815
5.8676	7.4267	0.79007	1602
5.8643	6.4925	0.90325	438
5.8601	6.0241	0.97278	1414
5.8535	5.5563	1.0535	884
5.8512	7.2356	0.80867	1557
5.85	5.3554	1.0924	60
5.8434	5.6782	1.0291	1448
5.8421	6.6756	0.87514	1523
5.8414	5.836	1.0009	466
5.8368	8.8334	0.66077	1562
5.8261	7.77	0.74982	1598
5.8239	5.5746	1.0447	1403
5.8142	5.9785	0.97251	1359
5.8118	5.6275	1.0328	370
5.8046	8.8572	0.65535	297
5.7974	6.2941	0.92108	1408
5.7966	7.2768	0.79658	323
5.7924	5.8213	0.99504	1444
5.7864	7.0573	0.81992	1364
5.7838	6.354	0.91026	1395
5.7807	5.9439	0.97255	1967
5.7671	6.5655	0.87839	1851
5.7663	7.0925	0.813	1816
5.7642	6.1785	0.93295	1353
5.7641	5.6497	1.0202	1333
5.7583	6.0079	0.95846	1710
5.7566	6.9379	0.82972	1259
5.7526	7.9626	0.72246	1223
5.7456	10.397	0.55264	328
5.7364	6.2713	0.91471	775
5.7309	5.848	0.97998	366
5.7261	5.596	1.0233	1741
5.7254	7.819	0.73224	319
5.7177	5.8405	0.97897	1707
5.7141	6.1844	0.92395	1704
5.7089	5.6148	1.0167	2033
5.7083	9.8813	0.57769	296
5.7003	6.8927	0.82701	1256
5.6991	5.8267	0.9781	2028
5.692	5.4648	1.0416	1016
5.6806	5.7071	0.99536	1737
5.6758	7.7796	0.72957	253
5.6673	5.8386	0.97065	983
5.6648	8.2093	0.69005	624

5.6639	7.051	0.80328	672
5.6631	6.0262	0.93975	1701
5.652	6.5562	0.86208	1594
5.6504	6.7608	0.83577	1649
5.6486	7.4399	0.75922	1603
5.6379	9.7443	0.57859	595
5.629	7.2082	0.78092	1558
5.6286	6.6504	0.84636	1051
5.6262	5.5644	1.0111	209
5.6242	6.514	0.8634	1855
5.6188	5.6117	1.0013	1012
5.6081	5.9087	0.94913	1469
5.6013	7.3377	0.76335	1025
5.6005	7.0455	0.79491	1819
5.5967	5.7696	0.97003	56
5.5959	6.9557	0.80451	1872
5.5878	7.8705	0.70996	1599
5.5867	5.149	1.085	1440
5.5856	8.517	0.65581	621
5.5839	7.5712	0.73752	668
5.5824	5.7019	0.97904	470
5.5772	6.9301	0.80477	1047
5.5676	6.1854	0.90011	977
5.5671	5.3108	1.0483	1449
5.567	6.4183	0.86737	1852
5.5667	5.5063	1.011	1744
5.5586	8.0216	0.69295	1056
5.5575	5.3767	1.0336	888
5.5531	6.4597	0.85965	180
5.543	5.2253	1.0608	1404
5.5418	5.2578	1.054	140
5.5396	5.7604	0.96167	2034
5.5384	6.158	0.89937	1465
5.5381	7.7593	0.71374	1024
5.5342	5.5586	0.99561	1397
5.5341	5.216	1.061	161
5.53	5.7614	0.95985	1762
5.5293	5.7472	0.9621	1711
5.5266	5.3681	1.0295	1780
5.5217	6.2923	0.87753	501
5.519	6.3594	0.86785	441
5.5187	5.821	0.94808	1947
5.5186	5.5093	1.0017	426
5.5158	5.4586	1.0105	373
5.5149	5.6209	0.98113	1740
5.4993	5.5937	0.98312	805

5.4861	5.4314	1.0101	1445
5.4746	5.9551	0.91933	1368
5.4721	5.9383	0.9215	1758
5.469	5.98	0.91454	1943
5.4658	5.939	0.92032	1705
5.4518	6.6222	0.82327	1690
5.4492	5.3306	1.0223	467
5.4467	6.0241	0.90415	1285
5.4424	6.9128	0.78729	1876
5.4413	6.8162	0.7983	1260
5.435	5.9904	0.90729	776
5.434	6.0402	0.89963	391
5.4289	5.724	0.94846	420
5.4197	6.8526	0.79089	747
5.4165	6.3171	0.85743	2003
5.4156	7.1578	0.75659	1086
5.4121	5.6923	0.95077	369
5.4115	6.3271	0.85529	1893
5.4049	6.981	0.77423	675
5.4013	6.3602	0.84924	1856
5.3949	5.4788	0.9847	136
5.3898	6.4143	0.84027	1531
5.3895	7.2508	0.7433	324
5.3806	7.4576	0.72149	1670
5.3684	7.7727	0.69067	1132
5.364	6.4967	0.82566	1052
5.3638	6.7794	0.79119	1983
5.3574	5.6794	0.94331	1765
5.3498	7.5336	0.71012	1082
5.3486	6.8813	0.77727	1873
5.3464	5.2624	1.016	1784
5.3459	5.2296	1.0223	1484
5.3409	5.3489	0.99851	1962
5.3347	7.3031	0.73047	741
5.3331	6.6634	0.80037	1525
5.3301	5.6635	0.94114	22
5.3266	8.4863	0.62766	625
5.3262	5.2566	1.0132	1939
5.3244	5.1294	1.038	1461
5.3233	6.999	0.76057	1491
5.3189	8.0729	0.65886	707
5.31	4.9574	1.0711	1801
5.3076	7.516	0.70618	671
5.304	6.5384	0.81121	387
5.2937	5.1737	1.0232	904
5.2919	5.8619	0.90276	1761

5.2891	6.8372	0.77358	1048
5.2845	5.4535	0.96901	1961
5.2786	9.0283	0.58467	1091
5.2689	5.5494	0.94946	1948
5.2666	5.9517	0.88489	1289
5.2617	5.3585	0.98193	1483
5.2596	5.3715	0.97916	430
5.258	6.2746	0.83797	1896
5.2555	8.0471	0.65309	320
5.2533	7.3647	0.7133	1487
5.2396	7.2001	0.72771	626
5.2363	6.3645	0.82273	1535
5.2355	4.9566	1.0563	809
5.2329	6.6744	0.78403	2010
5.2322	5.5059	0.95029	1470
5.2302	5.3991	0.96872	1327
5.2293	5.4429	0.96076	950
5.2278	5.8934	0.88705	840
5.2257	6.1848	0.84493	505
5.2126	4.9978	1.043	1781
5.2064	5.289	0.98439	900
5.2025	8.3372	0.624	77
5.2001	8.8682	0.58638	703
5.1996	5.7198	0.90905	1944
5.199	6.3867	0.81404	1128
5.1895	6.7921	0.76405	751
5.1803	5.7904	0.89463	1186
5.1793	6.1454	0.84278	2004
5.1747	6.8606	0.75427	1566
5.1738	6.6188	0.78168	1529
5.1685	6.8356	0.75611	1877
5.166	5.2432	0.98528	543
5.1633	5.1103	1.0104	1398
5.1581	4.7794	1.0792	213
5.1527	5.5983	0.92039	424
5.1431	6.9565	0.73933	1494
5.1314	5.1237	1.0015	2026
5.1302	5.5037	0.93215	1969
5.1298	4.8333	1.0614	1804
5.1269	5.189	0.98803	820
5.1234	6.6947	0.76529	1122
5.116	5.7199	0.89443	1286
5.1157	5.789	0.88369	1466
5.111	5.1016	1.0018	1973
5.1067	6.2329	0.8193	1532
5.1043	7.1908	0.70984	1560

5.1039	5.1351	0.99392	471
5.1039	6.4433	0.79212	1691
5.1013	5.0502	1.0101	778
5.0968	6.8204	0.74729	572
5.091	7.2546	0.70176	745
5.0886	5.9041	0.86187	394
5.0783	7.1312	0.71212	1087
5.074	5.9404	0.85415	909
5.0715	6.5893	0.76965	1197
5.0649	7.3295	0.69103	1490
5.0611	6.0807	0.83233	2016
5.0609	5.6673	0.893	1968
5.05	5.3095	0.95112	1330
5.0487	6.3358	0.79685	1150
5.0463	4.9416	1.0212	1808
5.041	6.1645	0.81775	1862
5.0376	5.7507	0.876	1713
5.0315	4.7022	1.07	946
5.0269	6.0114	0.83623	1817
5.0268	6.5297	0.76984	1526
5.0229	8.0354	0.62509	710
5.0189	4.9102	1.0221	427
5.0185	4.9871	1.0063	1412
5.0111	5.3867	0.93028	814
5.0089	6.8219	0.73424	1570
5.0019	7.917	0.63179	1133
4.9945	4.8593	1.0278	1785
4.9933	5.0466	0.98943	2029
4.9912	5.5441	0.90028	28
4.9791	7.6155	0.65382	1083
4.9781	4.7871	1.0399	1331
4.976	6.393	0.77835	1858
4.9755	6.1529	0.80863	1601
4.9661	7.0346	0.70595	1191
4.9651	4.6628	1.0648	472
4.9633	7.1459	0.69457	629
4.9631	6.7069	0.74	748
4.9589	5.6592	0.87626	1362
4.949	5.5951	0.88452	1647
4.9473	6.5641	0.75369	2011
4.9467	7.7907	0.63495	562
4.9424	5.1473	0.96018	894
4.9354	7.8657	0.62746	94
4.9316	7.1585	0.68892	1564
4.9298	4.6909	1.0509	940
4.9273	6.4299	0.76631	390

4.9265	6.1777	0.79746	1536
4.9263	5.0912	0.96761	1406
4.924	6.6748	0.73769	1828
4.9233	5.8463	0.84213	502
4.9196	5.0019	0.98356	844
4.9118	4.6893	1.0474	1979
4.911	6.4582	0.76043	1266
4.9005	4.942	0.9916	1709
4.8979	5.6326	0.86956	1290
4.8968	6.4247	0.76218	1597
4.8905	6.2263	0.78545	1221
4.8813	8.8498	0.55157	706
4.8731	5.8415	0.83422	985
4.8725	6.5394	0.7451	1054
4.8699	5.0894	0.95688	546
4.8656	4.6893	1.0376	224
4.8577	5.8466	0.83086	1981
4.8552	5.4603	0.88918	1854
4.8512	5.0927	0.95259	421
4.849	4.8233	1.0053	1811
4.8432	7.003	0.6916	1822
4.8385	6.4822	0.74642	1530
4.8384	5.1557	0.93846	1745
4.8339	4.6728	1.0345	905
4.8315	4.9374	0.97856	2046
4.8293	5.3426	0.90393	890
4.8236	6.7779	0.71167	1567
4.822	5.0319	0.95828	1703
4.8212	4.874	0.98918	1416
4.8169	7.3302	0.65713	742
4.816	6.5712	0.7329	1883
4.8097	6.1033	0.78804	1604
4.8082	6.8513	0.70178	1262
4.807	4.7506	1.0119	182
4.8016	4.8469	0.99065	1291
4.7987	7.5378	0.63662	593
4.7982	5.2528	0.91345	116
4.79	4.5007	1.0643	810
4.7897	4.667	1.0263	1335
4.7843	6.0471	0.79117	1612
4.7813	4.5316	1.0551	1447
4.7764	5.5275	0.86411	1651
4.7721	7.5721	0.63022	277
4.772	5.4113	0.88186	1187
4.7615	5.5837	0.85276	1365
4.7479	4.6968	1.0109	1974

4.7373	6.8703	0.68953	1879
4.7345	4.4429	1.0656	547
4.733	7.8395	0.60374	71
4.7248	5.9606	0.79267	1863
4.7242	6.3819	0.74024	1600
4.7241	5.8023	0.81417	1985
4.7222	4.8234	0.97902	1946
4.7217	7.1923	0.65649	1561
4.7191	4.9849	0.94667	1410
4.7183	4.8757	0.96772	951
4.7084	5.7814	0.8144	1818
4.7052	5.5493	0.8479	855
4.6998	6.4997	0.72308	1058
4.697	5.33	0.88125	2002
4.6956	7.4504	0.63025	1232
4.6925	7.3485	0.63857	1026
4.689	4.7263	0.99212	901
4.6772	4.5286	1.0328	1443
4.6736	4.7063	0.99305	431
4.673	4.6294	1.0094	981
4.67	6.7159	0.69536	573
4.6681	4.8305	0.96638	1366
4.6671	6.6433	0.70253	752
4.6645	5.9739	0.7808	1668
4.6623	6.7077	0.69507	1137
4.6604	5.4233	0.85934	1714
4.6429	4.4334	1.0473	886
4.6429	4.9072	0.94615	1942
4.6414	5.3838	0.86211	1258
4.6364	4.6844	0.98974	1980
4.6357	6.2296	0.74413	1859
4.6315	5.9077	0.78398	1898
4.6263	6.7395	0.68645	1571
4.6164	5.7394	0.80433	1875
4.6122	5.4935	0.83958	673
4.6111	4.7348	0.97387	1791
4.6104	4.4573	1.0343	371
4.5979	7.2664	0.63277	326
4.5948	5.8316	0.78791	1492
4.5939	5.368	0.85579	1922
4.5933	5.2199	0.87996	142
4.591	4.5424	1.0107	1747
4.5883	4.3543	1.0537	475
4.584	4.3944	1.0432	1450
4.5834	5.6602	0.80977	2037
4.581	7.1591	0.63989	1089

4.5771	5.9882	0.76435	1615
4.5742	4.743	0.96441	1949
4.5714	4.7181	0.96891	1294
4.5634	5.2766	0.86483	2005
4.5633	10.684	0.42711	84
4.5618	4.8749	0.93575	1017
4.5566	5.3976	0.84419	1766
4.5511	8.1077	0.56133	1226
4.5496	6.5729	0.69218	623
4.5481	4.4818	1.0148	1413
4.5457	6.1562	0.73839	1897
4.5448	7.0483	0.64481	23
4.5392	5.9673	0.76068	849
4.5377	5.6092	0.80898	1982
4.5362	4.7138	0.96233	975
4.5352	5.2147	0.8697	1648
4.5327	4.9793	0.91029	218
4.5249	4.3166	1.0483	1332
4.5233	6.2644	0.72206	1538
4.52	8.9084	0.50739	70
4.5145	7.1634	0.63021	1565
4.5089	5.7065	0.79014	506
4.5087	4.8366	0.9322	1787
4.5075	6.0739	0.74212	1488
4.4997	4.7997	0.93749	439
4.4981	7.2886	0.61715	746
4.4938	5.7779	0.77775	669
4.4894	4.8311	0.92927	1945
4.4853	7.3233	0.61247	1029
4.4779	4.4874	0.9979	367
4.4761	5.9217	0.75587	1672
4.4745	4.912	0.91094	425
4.47	4.395	1.0171	1446
4.4639	5.582	0.79968	2009
4.4609	4.7215	0.94479	1370
4.4532	7.5386	0.59072	280
4.4437	5.6677	0.78404	1826
4.4435	6.387	0.6957	1055
4.4381	5.2083	0.85212	1689
4.4343	4.4754	0.9908	1468
4.4331	6.4502	0.68728	1884
4.4325	5.1659	0.85804	2043
4.4296	4.6481	0.95299	2031
4.4215	5.0922	0.86827	119
4.419	4.2909	1.0299	1396
4.4157	4.2011	1.0511	551

4.4115	5.3087	0.831	1195
4.4103	5.2123	0.84613	1534
4.4034	4.537	0.97056	1407
4.3945	4.275	1.028	1806
4.3927	7.1353	0.61562	1093
4.3899	4.3208	1.016	818
4.3843	6.2418	0.70241	1267
4.3842	5.5607	0.78843	1986
4.3796	5.7572	0.76072	1902
4.3767	4.232	1.0342	1783
4.3748	7.1496	0.6119	258
4.3586	5.9459	0.73305	1222
4.3573	5.8861	0.74027	1820
4.3547	4.575	0.95184	1718
4.3546	6.2869	0.69265	1131
4.3494	4.5031	0.96586	895
4.3456	4.7307	0.9186	2030
4.328	5.1345	0.84293	1652
4.3226	6.8188	0.63393	1880
4.3222	6.1177	0.7065	647
4.3217	7.2352	0.59731	330
4.3209	5.538	0.78023	2012
4.3202	4.3738	0.98774	845
4.3159	5.3983	0.79949	1528
4.3109	5.5127	0.78199	575
4.3044	4.3284	0.99444	1417
4.3035	5.7155	0.75294	1929
4.3008	5.6262	0.76442	1830
4.2993	4.5558	0.9437	1464
4.2968	4.6721	0.91967	1288
4.2961	6.9628	0.61701	1497
4.2948	5.5574	0.77281	1189
4.2947	4.1534	1.034	1336
4.2823	4.2829	0.99987	1805
4.2784	4.4443	0.96268	354
4.2745	5.0949	0.83897	146
4.274	4.5957	0.92998	1768
4.2732	4.2972	0.99442	507
4.272	5.0913	0.83908	1861
4.2669	4.6374	0.9201	907
4.2597	4.3558	0.97794	812
4.2524	4.0696	1.0449	955
4.2497	5.1387	0.82701	1692
4.2477	5.4154	0.78437	2038
4.2439	7.683	0.55238	594
4.2362	6.3484	0.66729	1059

4.2271	6.0235	0.70176	708
4.227	6.821	0.61969	1573
4.2232	5.2439	0.80535	1199
4.222	5.4846	0.76979	627
4.219	6.7663	0.62353	1263
4.2189	4.1291	1.0218	1972
4.2161	4.3475	0.96978	1471
4.2118	4.1534	1.0141	1399
4.2093	5.8502	0.71951	1824
4.1973	5.4037	0.77674	2044
4.1884	4.0963	1.0225	469
4.1827	4.1895	0.99836	822
4.1801	6.9799	0.59888	678
4.1794	5.2601	0.79454	1857
4.1785	5.4862	0.76164	1992
4.177	4.473	0.93382	392
4.1734	5.5603	0.75057	1493
4.1708	9.3103	0.44798	298
4.1675	7.9658	0.52316	254
4.1662	6.2517	0.66641	1134
4.1582	5.3239	0.78104	986
4.156	4.6815	0.88776	891
4.1532	4.9821	0.83363	1923
4.1527	6.6262	0.62672	646
4.1476	4.018	1.0323	1019
4.1455	4.5681	0.90747	1712
4.1444	4.394	0.9432	1411
4.1415	5.6666	0.73087	1669
4.1291	5.0393	0.81936	1864
4.1168	5.5356	0.7437	1569
4.1111	4.8381	0.84974	376
4.1102	5.2969	0.77597	1060
4.1091	5.8182	0.70625	1155
4.1057	4.0369	1.017	1748
4.1044	4.2054	0.97599	1792
4.0974	5.5025	0.74465	1193
4.0961	6.7787	0.60426	754
4.0959	4.9989	0.81937	1935
4.0955	4.8798	0.83928	214
4.089	5.6895	0.71868	1988
4.0807	4.2223	0.96647	1367
4.0796	4.5969	0.88748	353
4.072	6.466	0.62976	704
4.0716	5.0956	0.79905	1658
4.0697	6.0818	0.66917	1539
4.0692	6.2239	0.6538	123

4.0691	4.4378	0.91691	1467
4.056	7.1193	0.56973	261
4.0545	4.9233	0.82354	1613
4.0531	4.0166	1.0091	1975
4.0511	5.8504	0.69244	1489
4.0489	5.292	0.7651	1135
4.0475	4.0591	0.99715	1779
4.0448	5.7636	0.70179	1230
4.0442	4.2937	0.94189	783
4.0436	4.2427	0.95307	1813
4.0416	4.2322	0.95496	816
4.0395	7.1962	0.56134	1090
4.0367	4.5277	0.89155	911
4.0319	5.3913	0.74785	1827
4.0314	5.214	0.77318	1860
4.0252	4.8764	0.82543	433
4.021	4.0981	0.98117	1342
4.0194	6.0154	0.66819	1605
4.0178	4.9375	0.81374	2007
4.0121	4.4928	0.89301	34
4.0109	4.9979	0.80253	674
4.0099	8.3143	0.48229	95
4.0046	4.8041	0.83357	1984
4.0024	4.0226	0.99496	1292
4.0023	5.8024	0.68978	1563
3.9978	4.6431	0.86102	388
3.9902	3.9811	1.0023	949
3.99	5.381	0.7415	1882
3.98	4.3443	0.91614	853
3.9797	4.491	0.88616	1715
3.9781	5.9241	0.67151	1027
3.9511	4.2716	0.92497	1788
3.9504	5.023	0.78646	750
3.9502	5.3247	0.74187	1654
3.9471	6.2434	0.6322	1151
3.931	3.9444	0.99661	2035
3.9276	4.8097	0.81661	1900
3.9229	5.0974	0.7696	2006
3.9227	3.8198	1.0269	372
3.9139	5.6485	0.69292	1821
3.9113	5.6121	0.69694	1673
3.9076	4.7219	0.82755	2036
3.9026	4.3287	0.90156	1812
3.8965	6.1411	0.6345	1224
3.8921	5.2342	0.74359	1063
3.8908	3.8858	1.0013	58

3.8857	4.1441	0.93763	1338
3.8795	5.6196	0.69034	1878
3.8789	5.77	0.67225	1158
3.8735	4.4131	0.87773	1419
3.8692	3.9461	0.98051	1716
3.8661	5.3476	0.72295	1831
3.8656	3.81	1.0146	429
3.863	4.41	0.87597	1950
3.857	5.7312	0.67299	1495
3.8562	4.4316	0.87018	779
3.8515	5.237	0.73545	1139
3.847	4.2874	0.89729	1650
3.8376	5.7205	0.67086	1234
3.8365	5.3414	0.71826	1885
3.8358	6.615	0.57987	638
3.8332	4.4316	0.86498	29
3.8324	4.8273	0.7939	1196
3.8221	7.9617	0.48006	257
3.8217	4.0741	0.93804	1371
3.8207	5.3496	0.71421	670
3.8127	3.9942	0.95455	510
3.8104	4.4967	0.84738	847
3.8093	7.1825	0.53036	1094
3.8085	6.2606	0.60833	596
3.7958	4.8672	0.77988	1265
3.7941	9.3315	0.40659	301
3.7852	4.1564	0.91069	786
3.782	4.6755	0.80891	2039
3.779	5.3426	0.70734	744
3.776	3.7021	1.02	1334
3.7705	5.1552	0.7314	1057
3.7683	4.7534	0.79275	1904
3.7606	5.3934	0.69726	1930
3.76	3.8332	0.98088	952
3.7591	3.7463	1.0034	1415
3.7578	5.2067	0.72173	1993
3.7504	5.0651	0.74044	1543
3.7498	4.2315	0.88616	857
3.7493	3.84	0.97636	473
3.7447	5.509	0.67975	278
3.7412	5.6131	0.66651	1825
3.7377	5.2106	0.71734	2014
3.736	4.219	0.88552	1921
3.7329	3.6854	1.0129	819
3.7315	5.5343	0.67424	1624
3.7257	5.0823	0.73307	1607

3.7201	5.5873	0.66581	1881
3.7197	4.0457	0.91944	548
3.718	7.3914	0.50302	327
3.7073	5.5109	0.67273	1679
3.7033	3.7178	0.99609	893
3.7033	6.2108	0.59627	1154
3.7033	4.6056	0.80409	2047
3.6976	5.7016	0.64852	1499
3.6965	3.6943	1.0006	368
3.6965	3.8393	0.96283	1720
3.6784	6.1107	0.60196	1228
3.6708	4.6603	0.78767	2018
3.6688	6.7932	0.54008	1574
3.6658	3.7665	0.97324	423
3.6655	5.0245	0.72951	1537
3.6642	3.9835	0.91985	1769
3.6617	3.6181	1.0121	1746
3.6604	3.9755	0.92072	440
3.6549	3.8198	0.95683	166
3.6541	5.1264	0.71282	1190
3.6434	5.9199	0.61544	1095
3.6414	3.6729	0.99141	1790
3.6384	5.4444	0.66829	1989
3.6343	5.1432	0.70663	1261
3.6326	4.078	0.89078	504
3.6318	4.063	0.89387	1303
3.6269	3.833	0.94624	117
3.6261	5.4324	0.66749	2013
3.6244	3.7676	0.962	1451
3.6206	3.5915	1.0081	222
3.6196	7.2869	0.49672	632
3.6153	4.145	0.8722	1377
3.6087	6.1561	0.5862	126
3.6053	5.5379	0.65102	1833
3.6039	3.6958	0.97514	1409
3.6036	5.2907	0.68112	676
3.6022	4.7534	0.75781	1200
3.5972	3.7891	0.94935	1952
3.5911	3.626	0.99036	953
3.5886	4.8035	0.74708	1268
3.5803	8.3759	0.42746	713
3.58	4.313	0.83005	782
3.5767	4.1462	0.86263	1924
3.5666	4.3993	0.81072	851
3.5666	5.9106	0.60343	1618
3.5571	5.8494	0.60811	1675

3.5566	3.8136	0.93262	990
3.5369	3.8062	0.92926	33
3.5317	4.5403	0.77786	1829
3.5242	3.6045	0.97773	813
3.5193	3.5017	1.005	54
3.5174	3.6988	0.95095	889
3.5157	4.2089	0.83531	143
3.5061	4.9838	0.70349	1540
3.4949	3.6392	0.96034	1786
3.493	4.0946	0.85307	2024
3.489	3.4892	0.99995	1749
3.4831	3.7671	0.92461	374
3.4824	4.6245	0.75304	1659
3.481	3.8686	0.8998	908
3.481	4.6816	0.74354	1694
3.4791	3.9833	0.87343	984
3.4764	4.9778	0.69838	628
3.4739	3.4976	0.99322	823
3.4731	3.5643	0.97439	896
3.466	4.2605	0.81351	1061
3.4623	4.4888	0.77133	1671
3.4619	4.4196	0.78331	1614
3.4611	3.5498	0.97503	1793
3.4591	4.4702	0.7738	1991
3.4443	4.2964	0.80166	1373
3.4417	4.2053	0.81843	1297
3.4409	5.1818	0.66404	259
3.4376	5.1682	0.66513	235
3.4358	4.5974	0.74735	1156
3.4297	5.6979	0.60193	709
3.4274	4.8743	0.70316	1865
3.4162	5.0937	0.67067	1264
3.4127	4.7053	0.72529	1823
3.4103	5.0699	0.67266	1194
3.4056	3.4394	0.99018	1963
3.3996	5.8891	0.57727	1098
3.3897	5.6414	0.60087	397
3.3855	5.2474	0.64519	680
3.3811	4.196	0.80579	1541
3.3789	5.6418	0.59889	1092
3.3766	3.5079	0.96258	1977
3.3742	4.4018	0.76655	1928
3.3701	5.6803	0.5933	1028
3.3662	3.52	0.9563	1401
3.3658	4.3304	0.77725	1901
3.3551	3.4367	0.97625	1343

3.3504	4.7983	0.69824	1136
3.3498	4.5013	0.74419	1622
3.3473	3.4217	0.97827	957
3.3457	3.4634	0.96601	1369
3.3455	4.6216	0.72389	1987
3.3413	7.3911	0.45207	331
3.3323	3.4171	0.97518	1293
3.3319	4.9979	0.66666	636
3.3253	4.4266	0.75122	1994
3.3199	4.936	0.67258	1693
3.3165	3.4882	0.9508	784
3.316	4.9642	0.66799	580
3.3065	3.5219	0.93886	1789
3.3045	4.8984	0.67461	1655
3.3016	5.4062	0.61071	1231
3.2977	5.4531	0.60473	1572
3.2963	3.3496	0.9841	216
3.2948	5.6219	0.58607	1578
3.2921	5.0736	0.64887	1202
3.2823	5.4702	0.60004	1496
3.2736	3.5565	0.92047	892
3.2726	4.8413	0.67597	1152
3.2695	4.3677	0.74857	2041
3.2601	3.4219	0.95272	1767
3.2593	3.6412	0.89511	552
3.2539	3.3395	0.97435	162
3.2481	3.305	0.98278	1453
3.248	3.4264	0.94792	817
3.2439	3.2903	0.98588	226
3.2395	3.357	0.96502	1717
3.2393	3.6358	0.89094	378
3.2336	3.4527	0.93653	1301
3.2313	3.493	0.9251	1976
3.23	3.5641	0.90627	393
3.2271	5.6141	0.57481	255
3.2201	3.8633	0.83352	987
3.2153	4.1348	0.77762	1545
3.2094	3.8536	0.83282	1198
3.2074	4.5844	0.69962	1990
3.2015	4.3464	0.73658	1931
3.1972	6.7494	0.4737	755
3.1971	4.7185	0.67756	1616
3.1945	3.4206	0.93388	169
3.1929	5.6646	0.56365	234
3.185	3.7176	0.85673	912
3.1822	3.5286	0.90182	1400

3.1774	4.2674	0.74457	1905
3.1772	4.4509	0.71384	1626
3.1668	6.3969	0.49505	299
3.1656	6.3223	0.50071	705
3.1643	5.6527	0.55978	97
3.1572	4.5133	0.69954	2040
3.1553	4.0849	0.77242	1867
3.1514	3.6058	0.87399	825
3.1487	3.3976	0.92676	1339
3.1424	3.8185	0.82292	1657
3.1402	4.2771	0.73417	2025
3.1356	5.3648	0.58448	630
3.1299	3.4815	0.89899	780
3.1295	3.809	0.82161	1472
3.125	5.4302	0.57548	1575
3.1207	6.5857	0.47386	268
3.1178	4.3734	0.71289	1911
3.1147	3.1953	0.9748	558
3.1137	4.9553	0.62836	640
3.113	4.1988	0.7414	2019
3.1121	3.5061	0.88762	854
3.1066	4.7424	0.65506	1140
3.1039	3.2911	0.94311	1020
3.0944	5.3768	0.5755	576
3.094	5.4462	0.56809	1500
3.0874	3.6677	0.84177	1420
3.0832	3.2823	0.93935	508
3.0771	6.0288	0.5104	711
3.0723	4.9166	0.62487	583
3.0718	3.3007	0.93064	1770
3.0696	5.2714	0.58232	1886
3.0675	3.1625	0.96997	821
3.0642	5.9155	0.51799	1225
3.0608	3.4597	0.8847	1295
3.0553	4.0347	0.75726	147
3.0508	3.173	0.9615	484
3.0462	4.8091	0.63342	1146
3.0452	3.3381	0.91226	1305
3.0426	5.3714	0.56645	1235
3.0365	5.2723	0.57595	1834
3.0354	3.996	0.75961	1192
3.0327	4.6051	0.65855	1608
3.0323	3.2132	0.94371	1721
3.0267	4.5773	0.66124	1096
3.0252	6.1398	0.49273	648
3.0169	4.6788	0.64481	1620

3.0162	3.2862	0.91784	1970
3.0136	3.4356	0.87717	442
3.0123	5.1948	0.57987	332
3.0072	3.1072	0.96784	1341
3.002	4.7589	0.63082	1072
2.9927	3.1732	0.94313	988
2.9919	3.3267	0.89936	1727
2.9806	3.9496	0.75465	1653
2.9804	4.5064	0.66137	1030
2.9753	3.1922	0.93204	1953
2.9726	4.4771	0.66394	1576
2.9717	5.1467	0.5774	1680
2.9697	3.7475	0.79243	1660
2.9679	4.578	0.6483	1907
2.942	4.0283	0.73032	124
2.937	3.9301	0.74732	434
2.9348	9.6985	0.3026	12
2.9261	3.7245	0.78564	1926
2.9256	4.4031	0.66443	1501
2.9198	3.1976	0.91312	913
2.9104	3.5882	0.81111	1903
2.9054	5.3392	0.54417	634
2.8997	3.6621	0.79181	389
2.8819	3.0574	0.94261	220
2.8743	3.5753	0.80393	2017
2.8703	3.9445	0.72767	395
2.8677	3.0034	0.95482	815
2.8634	3.3555	0.85336	1299
2.8553	5.1406	0.55545	1142
2.8467	3.8453	0.74031	112
2.8398	4.4506	0.63807	1498
2.8353	5.3504	0.52993	579
2.8348	5.0356	0.56294	329
2.8334	6.0198	0.47068	715
2.8287	8.359	0.33841	72
2.8236	2.9845	0.94608	1337
2.8236	3.3525	0.84222	1723
2.8235	3.61	0.78214	848
2.8189	2.9624	0.95153	1344
2.816	3.3481	0.8411	858
2.8087	4.3773	0.64166	1832
2.8024	3.0615	0.91536	554
2.8004	3.8903	0.71982	1656
2.7976	3.0702	0.91121	910
2.7924	4.4379	0.62922	1580
2.7895	3.7316	0.74752	1138

2.7883	5.7286	0.48672	1237
2.7879	5.903	0.47228	1229
2.7875	5.1273	0.54366	1066
2.7844	2.9456	0.94526	1751
2.7842	4.8406	0.57516	753
2.7787	3.7704	0.73696	355
2.7687	3.8563	0.71797	1925
2.7672	2.9525	0.93726	1719
2.7647	3.3396	0.82785	1378
2.7617	3.8458	0.71811	581
2.7614	4.3562	0.63389	1888
2.7583	3.0685	0.89889	1418
2.7561	3.7083	0.74321	1606
2.749	6.1344	0.44813	651
2.7428	5.5917	0.49051	1676
2.7394	2.9293	0.93517	1951
2.7377	4.9984	0.54771	279
2.7358	2.9135	0.93902	165
2.7306	3.8126	0.71621	1070
2.7282	4.3595	0.62581	1504
2.7263	3.5139	0.77587	2020
2.7236	6.1788	0.44079	242
2.7225	4.1102	0.66237	1233
2.7182	3.58	0.75929	1062
2.7165	2.9682	0.91517	992
2.7085	5.7924	0.46759	1161
2.7049	3.5081	0.77104	2045
2.7001	3.4631	0.77967	550
2.7001	4.2773	0.63126	1838
2.6936	4.0481	0.66539	1678
2.6932	4.7811	0.56331	677
2.6884	3.5682	0.75343	1542
2.681	5.7837	0.46354	601
2.6798	2.9441	0.91022	1474
2.6696	2.8516	0.93616	478
2.6607	3.1558	0.84311	1018
2.6607	4.3472	0.61206	1835
2.6552	3.2599	0.81451	167
2.6436	4.285	0.61695	1995
2.6398	3.985	0.66245	1157
2.6263	2.8438	0.92348	1340
2.6218	3.0138	0.86993	482
2.6163	3.9286	0.66595	1623
2.607	2.8564	0.91269	1750
2.6011	2.9408	0.88449	916
2.5979	5.1538	0.50408	335

2.5941	3.8605	0.67195	399
2.58	2.8114	0.9177	1954
2.5759	3.6483	0.70604	1609
2.5749	2.859	0.90063	1424
2.5718	3.8074	0.67547	860
2.5675	2.8122	0.91298	2032
2.5657	4.8501	0.52899	759
2.5621	3.6336	0.70513	1899
2.5608	4.0944	0.62543	474
2.5589	2.8944	0.88408	145
2.5566	4.0654	0.62887	577
2.5511	2.942	0.86713	1421
2.5505	3.7588	0.67854	1074
2.5428	4.0086	0.63433	1064
2.5404	4.8117	0.52796	756
2.5388	3.7349	0.67975	1552
2.5383	2.9389	0.86369	432
2.5378	2.964	0.85619	1794
2.5367	3.5229	0.72008	954
2.5261	4.6588	0.54222	1269
2.5224	3.5645	0.70766	1502
2.5137	3.5554	0.70702	1836
2.5107	2.8167	0.89135	856
2.5052	4.0029	0.62585	1681
2.5047	3.486	0.71852	852
2.5045	4.3903	0.57046	1227
2.5001	2.831	0.88311	1376
2.4968	3.9542	0.63142	1933
2.495	4.2941	0.58103	1674
2.4914	3.4711	0.71774	1374
2.491	3.4986	0.71201	1546
2.4835	3.4956	0.71047	1868
2.4738	4.5519	0.54346	649
2.4672	4.4384	0.55589	1159
2.4599	3.6663	0.67094	358
2.4525	3.6288	0.67585	789
2.417	4.7515	0.50867	681
2.4154	4.5861	0.52669	1203
2.4143	8.4145	0.28693	75
2.4127	7.5117	0.3212	264
2.4091	3.8775	0.62129	1627
2.4087	3.8356	0.62797	1912
2.4047	5.7827	0.41585	604
2.4047	5.4793	0.43887	1107
2.4046	3.4647	0.69402	8
2.3955	2.7077	0.88469	375

2.3939	2.6606	0.89975	118
2.3928	4.1923	0.57075	1617
2.3927	2.7059	0.88427	1302
2.3914	4.289	0.55756	1153
2.3913	2.7114	0.88192	785
2.3909	3.0388	0.78682	187
2.3868	2.7596	0.8649	1485
2.3855	3.4456	0.69233	41
2.3844	2.9129	0.81855	1021
2.3823	6.4493	0.36938	597
2.3786	7.011	0.33926	241
2.3633	3.5027	0.67469	1997
2.3602	3.5072	0.67297	1840
2.3586	3.9241	0.60107	1548
2.3544	3.9692	0.59317	1068
2.3525	2.6668	0.88214	964
2.3489	4.4142	0.53213	637
2.3455	2.7727	0.84592	486
2.3404	4.5769	0.51135	260
2.3363	2.7282	0.85637	1422
2.3292	2.9687	0.78459	1866
2.3283	2.8407	0.81963	914
2.3232	2.9343	0.79173	1544
2.3188	2.658	0.87239	476
2.307	4.1861	0.55111	1932
2.3045	2.8106	0.81993	163
2.303	2.7373	0.84134	1772
2.2977	4.2642	0.53883	1677
2.2929	2.699	0.84954	1379
2.2848	3.415	0.66904	757
2.2816	4.321	0.52803	1629
2.2788	2.8531	0.7987	897
2.2704	2.789	0.81408	1372
2.2699	4.414	0.51425	1163
2.2676	3.4083	0.66533	333
2.262	2.7867	0.81171	435
2.2599	3.1743	0.71194	1910
2.2547	2.7423	0.82218	850
2.2479	3.1535	0.71282	1625
2.2428	2.9281	0.76596	1454
2.2397	2.861	0.78285	787
2.23	3.5294	0.63184	1201
2.2213	4.1772	0.53177	1105
2.2203	2.8128	0.78937	356
2.218	3.2477	0.68294	958
2.2117	3.5374	0.62523	679

2.202	4.2646	0.51635	602
2.1965	4.0837	0.53788	1908
2.1915	2.9359	0.74644	2008
2.1867	2.5811	0.8472	1728
2.1757	2.8993	0.75041	1869
2.1747	4.1605	0.52269	1621
2.17	5.1795	0.41896	262
2.1625	2.544	0.85004	1306
2.1455	2.5077	0.85557	1796
2.1365	5.4612	0.39122	73
2.1297	2.5943	0.82092	1296
2.126	6.0483	0.35151	1101
2.1223	3.1408	0.67571	2022
2.1209	3.9031	0.5434	1577
2.1205	2.5991	0.81583	826
2.1182	2.5464	0.83187	1426
2.1159	3.1528	0.67112	682
2.1117	4.264	0.49524	1147
2.1006	3.1182	0.67365	1913
2.0931	2.5434	0.82295	781
2.0903	4.0658	0.51411	1035
2.0876	3.9672	0.52621	1097
2.0862	6.4732	0.32229	600
2.0859	2.7321	0.76346	1771
2.0767	2.5041	0.82932	379
2.0758	3.2966	0.62969	1906
2.0742	2.978	0.69652	1452
2.0727	4.3883	0.47231	641
2.0705	2.3876	0.86719	960
2.0679	3.1009	0.66685	281
2.0679	3.3563	0.61611	1271
2.0651	3.4794	0.59351	1661
2.0626	2.4144	0.85427	1726
2.0581	2.8133	0.73157	1308
2.0571	4.0833	0.50378	1587
2.0533	4.1523	0.49449	564
2.0523	2.6731	0.76777	1375
2.0472	3.285	0.62319	1619
2.0353	3.2633	0.62371	956
2.0327	3.483	0.5836	1204
2.0315	2.4106	0.84272	1304
2.0265	4.9264	0.41135	631
2.0257	3.3443	0.60572	761
2.024	4.1548	0.48715	1109
2.0228	2.4059	0.84077	480
2.0216	2.7571	0.73325	791

1.9892	4.5083	0.44123	1099
1.9848	5.1851	0.38279	236
1.9841	3.2638	0.60791	1145
1.9776	2.3161	0.85382	824
1.9658	4.9631	0.39609	643
1.9635	5.2132	0.37664	256
1.9506	3.8228	0.51027	1889
1.9467	3.2663	0.596	2021
1.943	4.6483	0.41801	598
1.9405	2.5245	0.76868	1724
1.9399	3.2439	0.59801	639
1.9335	2.687	0.71958	519
1.9295	2.3158	0.83316	1956
1.9274	2.2775	0.84624	377
1.9229	3.9739	0.48387	1513
1.9148	5.5229	0.34671	67
1.911	5.1845	0.3686	266
1.91	3.2536	0.58705	1909
1.9083	2.6119	0.73064	1807
1.9028	3.8732	0.49128	1581
1.893	3.1151	0.6077	1207
1.8899	2.2832	0.82774	1729
1.886	2.4491	0.77008	1300
1.8721	4.0432	0.46303	1038
1.8692	3.0751	0.60786	1887
1.8647	5.8722	0.31754	712
1.8561	2.7884	0.66565	1455
1.8538	2.2758	0.81459	1722
1.8459	3.1812	0.58025	1511
1.8405	3.2371	0.56857	1611
1.8386	4.3877	0.41904	1583
1.8281	3.0529	0.59882	1071
1.8251	4.435	0.41151	1031
1.8227	3.0448	0.59862	1579
1.8209	2.2299	0.81662	1345
1.82	3.0663	0.59354	685
1.8148	4.7146	0.38492	1143
1.8028	2.4619	0.73229	1205
1.8014	2.2311	0.8074	1298
1.7989	2.6782	0.67171	190
1.7973	3.1609	0.56862	1036
1.7868	3.2179	0.55526	1148
1.7823	2.3269	0.76595	517
1.782	4.503	0.39574	1103
1.7783	4.943	0.35977	586
1.7665	6.3919	0.27637	300

1.7603	3.0054	0.58571	582
1.7595	2.1557	0.81621	827
1.7554	3.061	0.57346	2015
1.7527	4.5881	0.38201	563
1.7402	3.4927	0.49823	1141
1.7359	2.3608	0.73533	683
1.7338	3.1637	0.54803	1847
1.7321	2.2165	0.78146	1955
1.7305	4.9328	0.35081	635
1.7304	2.89	0.59873	1837
1.711	3.6534	0.46833	584
1.7035	3.0323	0.56177	1890
1.6888	5.1999	0.32478	239
1.6857	3.0422	0.55408	1553
1.6801	3.1444	0.53433	1515
1.6794	3.5414	0.47423	223
1.6758	4.3107	0.38876	1507
1.6737	2.1513	0.77797	1725
1.6691	2.4127	0.69178	188
1.6691	2.4627	0.67777	1663
1.6663	3.5053	0.47538	633
1.6662	2.8402	0.58664	1503
1.6604	5.5212	0.30073	1238
1.6467	2.4874	0.662	1551
1.6456	3.0329	0.54258	183
1.6368	3.3695	0.48578	1505
1.634	3.6881	0.44304	237
1.6186	2.8874	0.56056	1998
1.6144	4.0009	0.4035	1236
1.6122	3.4583	0.46619	1610
1.61	3.0005	0.53657	1075
1.5956	2.3659	0.6744	1209
1.5949	4.4343	0.35966	1034
1.5941	2.4427	0.65262	1996
1.589	2.1319	0.74534	999
1.5856	3.6076	0.43953	1077
1.5807	2.4043	0.65746	1073
1.567	3.3711	0.46484	1032
1.5502	2.8417	0.54553	1841
1.5493	2.5009	0.6195	1871
1.5484	3.2946	0.46997	1065
1.5459	5.9072	0.2617	716
1.5365	3.3473	0.45902	1843
1.5341	2.3721	0.64673	1839
1.533	3.4685	0.44197	1144
1.5291	2.6473	0.57759	989

1.5214	4.0921	0.37179	714
1.5128	2.4536	0.61655	2042
1.5038	3.6364	0.41354	588
1.4923	3.9225	0.38045	1682
1.4809	2.4242	0.61089	1554
1.4761	2.4118	0.61204	447
1.4642	3.3484	0.43728	1509
1.4635	2.0844	0.70211	521
1.4513	2.3869	0.608	1999
1.4413	3.2856	0.43869	578
1.4293	2.5782	0.55438	1547
1.4268	3.2777	0.4353	1549
1.4052	1.8651	0.75344	61
1.3991	2.6893	0.52026	557
1.3965	3.8654	0.36129	1160
1.3963	3.9973	0.3493	1239
1.3893	5.2528	0.26449	59
1.3801	2.4026	0.57441	559
1.3685	3.2472	0.42145	63
1.3678	2.318	0.59007	1473
1.3622	2.7631	0.493	396
1.3588	2.0461	0.66409	511
1.345	2.1425	0.62776	1475
1.345	2.6042	0.51646	1870
1.3407	2.4981	0.53667	1067
1.3345	3.1744	0.42041	509
1.3335	2.1657	0.61574	923
1.3182	3.2708	0.40301	1069
1.3173	2.8683	0.45926	513
1.3119	2.903	0.45191	1628
1.3001	2.0104	0.64668	925
1.2845	3.794	0.33857	1630
1.2697	2.8069	0.45236	150
1.266	3.3169	0.3817	40
1.2621	3.9576	0.31891	650
1.2598	2.0563	0.61264	859
1.2588	2.0082	0.62684	1814
1.2569	2.1608	0.58169	1023
1.2567	2.5339	0.49594	1550
1.2335	2.9152	0.42314	1914
1.2296	2.5526	0.48169	991
1.2281	1.9049	0.64471	1433
1.2163	3.2046	0.37954	225
1.2122	1.9865	0.6102	995
1.2078	2.8607	0.42221	1162
1.2038	2.7742	0.43392	861

1.1907	1.7848	0.66713	229
1.1907	2.3427	0.50825	448
1.1622	2.0882	0.55656	1380
1.1527	3.8682	0.298	1164
1.1523	2.3465	0.49108	993
1.1497	1.9819	0.58009	184
1.1317	2.8791	0.39308	1631
1.1306	2.672	0.42311	125
1.124	2.1138	0.53175	1476
1.1222	3.8833	0.28897	717
1.1072	1.911	0.57938	398
1.1054	2.6342	0.41965	1240
1.0993	2.1121	0.52051	450
1.0927	3.5562	0.30728	1106
1.0897	1.9612	0.55562	927
1.088	2.6476	0.41094	1423
1.0874	3.081	0.35293	227
1.0873	2.6654	0.40795	1586
1.0835	2.3672	0.4577	1795
1.0803	2.4241	0.44566	560
1.0721	1.8229	0.58811	9
1.0596	2.785	0.38047	342
1.0502	4.9061	0.21406	102
1.0405	2.7603	0.37695	963
1.0282	2.6717	0.38483	1684
1.027	2.6971	0.38076	1892
1.0233	3.4077	0.30028	483
1.0181	2.049	0.49689	1978
1.016	1.9474	0.52172	862
1.0135	1.8366	0.55183	515
1.0127	3.5181	0.28786	1588
1.0093	3.7819	0.26689	1242
1.0035	4.338	0.23132	605
0.99911	2.1628	0.46195	1797
0.99606	1.6308	0.61076	1307
0.98789	1.7932	0.5509	917
0.98544	2.693	0.36593	400
0.96918	6.6807	0.14507	243
0.96872	2.8314	0.34213	768
0.96598	2.2803	0.42362	1457
0.9656	1.7455	0.5532	788
0.96191	2.6023	0.36964	1108
0.95486	2.8564	0.33429	186
0.94438	2.618	0.36072	1425
0.94375	2.1362	0.44179	553
0.94309	2.5516	0.36961	718

0.93835	1.6104	0.58268	1730
0.93733	1.9036	0.4924	443
0.93637	4.2288	0.22143	1112
0.91785	3.6137	0.25399	603
0.917	2.5572	0.3586	965
0.91506	1.6109	0.56805	1429
0.90774	1.9894	0.4563	1846
0.90719	2.6437	0.34316	1589
0.90667	4.5799	0.19797	344
0.89516	1.8716	0.4783	170
0.89113	1.7738	0.50238	1309
0.88719	1.4675	0.60454	65
0.88613	2.2062	0.40165	1798
0.88544	3.1108	0.28463	915
0.88175	1.8433	0.47834	1632
0.8782	6.189	0.1419	607
0.87525	2.6035	0.33618	1244
0.86808	2.046	0.42428	2001
0.86567	4.0558	0.21344	302
0.8608	2.4247	0.35501	1512
0.85858	3.2058	0.26782	485
0.85641	1.6728	0.51197	1022
0.84897	3.5653	0.23812	1110
0.84774	1.5457	0.54845	790
0.83653	1.6765	0.49898	919
0.83598	1.9088	0.43797	1916
0.83542	2.6947	0.31002	103
0.82876	1.6318	0.50787	1270
0.82835	4.5078	0.18376	244
0.82483	2.8987	0.28455	1582
0.81541	2.5833	0.31565	217
0.81483	2.4797	0.32861	1848
0.81478	1.5106	0.53938	489
0.81172	2.4335	0.33357	1427
0.8104	2.3208	0.3492	1165
0.79867	1.4936	0.53472	1310
0.79828	3.0579	0.26106	1039
0.79673	2.5706	0.30993	966
0.79632	1.7373	0.45838	692
0.788	1.8776	0.41969	1514
0.78547	1.8941	0.4147	444
0.78377	2.922	0.26823	1891
0.77913	1.7252	0.45162	1695
0.7768	3.9079	0.19878	720
0.77323	4.3674	0.17704	609
0.76358	2.7668	0.27598	346

0.75948	3.0701	0.24738	1518
0.75727	2.3944	0.31627	1634
0.75425	1.9461	0.38756	1849
0.74996	1.842	0.40715	1216
0.74425	1.5953	0.46652	357
0.73209	4.0284	0.18173	1100
0.72946	1.6979	0.42963	1166
0.72885	1.5848	0.45989	921
0.72677	3.1323	0.23203	642
0.71817	1.9769	0.36328	35
0.71632	4.4032	0.16268	168
0.70709	2.1096	0.33517	758
0.6983	2.3336	0.29924	1037
0.69561	4.2695	0.16293	565
0.69469	1.5629	0.44448	555
0.69338	1.7776	0.39007	1636
0.68931	1.6003	0.43074	792
0.68768	3.9403	0.17452	1584
0.68733	3.1447	0.21857	1149
0.68208	7.4744	0.091256	68
0.67868	2.0973	0.3236	1842
0.67656	2.3525	0.2876	959
0.66683	2.8703	0.23232	1102
0.66344	2.4038	0.27599	1516
0.65848	2.3705	0.27778	286
0.65532	1.2843	0.51024	1662
0.65529	4.1554	0.1577	1041
0.65396	2.1642	0.30217	2000
0.65358	2.2513	0.29032	1272
0.65158	2.6038	0.25024	219
0.64653	3.1396	0.20593	487
0.63833	1.8881	0.33809	1456
0.63767	3.0499	0.20908	566
0.63645	2.8997	0.21949	1585
0.63177	1.4145	0.44664	760
0.62842	1.2997	0.4835	1927
0.62382	6.7648	0.092215	246
0.62177	1.301	0.47791	172
0.61313	3.2523	0.18852	336
0.61191	2.4879	0.24595	694
0.60991	3.0647	0.19901	1043
0.59875	5.5803	0.1073	17
0.5985	1.5338	0.39021	1273
0.5984	1.8477	0.32387	556
0.59531	1.5226	0.39099	287
0.59325	2.2168	0.26761	36

0.58262	2.1926	0.26572	652
0.57574	3.2545	0.17691	764
0.57189	2.1061	0.27154	1076
0.57052	2.1553	0.26471	149
0.56611	1.6621	0.34061	696
0.56067	2.6795	0.20924	1506
0.55411	4.8329	0.11465	263
0.55197	2.1933	0.25166	1555
0.55135	2.2907	0.24069	1168
0.5498	1.5736	0.34939	174
0.53993	2.7255	0.1981	1844
0.53486	1.9949	0.26811	1508
0.53217	5.0006	0.10642	105
0.52292	1.6184	0.3231	446
0.52244	4.6097	0.11333	644
0.5193	2.0759	0.25016	1845
0.51705	3.1342	0.16497	265
0.49906	1.2301	0.40569	1206
0.49651	3.1493	0.15766	645
0.49314	4.1881	0.11775	599
0.48053	1.3458	0.35706	1664
0.48042	1.1596	0.4143	1208
0.47308	4.0681	0.11629	1104
0.46695	1.1452	0.40774	1665
0.45151	4.4702	0.101	232
0.43946	1.8836	0.23332	686
0.43925	2.8474	0.15426	477
0.43664	4.3152	0.10119	568
0.42968	2.7918	0.15391	479
0.4282	2.0163	0.21237	1212
0.42147	1.9962	0.21114	961
0.41758	2.1544	0.19383	962
0.38862	1.9829	0.19599	587
0.38432	2.8929	0.13285	585
0.38352	2.0923	0.1833	1079
0.37858	2.9351	0.12898	1078
0.36758	1.8581	0.19783	334
0.36174	2.0751	0.17432	762
0.35581	2.6328	0.13515	1033
0.35346	2.6885	0.13147	1510
0.3325	3.2781	0.10143	11
0.31311	2.3659	0.13234	289
0.30925	2.1903	0.14119	79
0.29437	3.292	0.08942	340
0.28744	3.2951	0.087231	99
0.24481	5.6862	0.043053	338

0.24005	1.0889	0.22045	1210
0.22685	0.96315	0.23552	684
0.2198	6.3869	0.034413	98
0.20875	4.9146	0.042476	267
0.19569	1.8658	0.10488	690
0.184	5.248	0.035061	74
0.17744	1.6885	0.10509	283
0.13104	2.9936	0.043772	688
0.12917	1.5895	0.081265	1478
0.1253	2.9276	0.042801	589
0.12472	2.0712	0.060217	221
0.10207	2.0645	0.049443	998
0.095698	2.8778	0.033254	238
0.094392	2.9422	0.032083	282
0.080753	1.8531	0.043578	1800
0.054257	2.2919	0.023673	1432
0.027503	1.4204	0.019362	38
0.024833	2.5728	0.009652	481
0.020833	4.4445	0.004688	55

Table 5.4: Performance Assessment based on Reward

The above table shows the portfolios arranged according to the reward i.e., the highest rewarding portfolio first and the least rewarding portfolio last. Similar assessments based on risk and sharpe's ratio have also been done.

Chapter 6

6.1 Conclusion

Deregulated power markets in the United States are based on a bidding process to assign generators and transmission lines to deliver power to customers. Bidding in general is a risky process. Financial Transmission Rights (FTR's) are a way to hedge the congestion costs which occur in the day-ahead market. Bidding of FTR's is a complicated process as it requires knowledge about the power grid.

We have developed a mathematical model for portfolio optimization to produce a risk-minimum portfolio of FTR's to bid. Even though the portfolio does not guarantee that the bidder will win the bidding, the portfolio contains FTR's that are optimally profitable based on the power system conditions and the expected reward given an initial investment fund. A computer model based on Security Constrained Unit Commitment process and Risk-Reward Analysis has been developed. The portfolios generated from the model offer information about the bidding cost and the amount of megawatts to bid for each transmission path, in order to obtain a certain profit with the corresponding minimum risk or to obtain the maximum profit with a corresponding risk. The method for calculating the risk and reward is Markowitz Mean-Variance Analysis. The computer model also includes the LMP determination for which a MATLAB code has been developed. The model is tested on a 6-bus system.

First we have discussed the historical data about Regulated and Deregulated Market and how the FTR's came into existence. We also discussed briefly about the Risk-Reward analysis. Later on we followed it by in detail analysis of Locational Marginal Pricing, Financial Transmission Right and Risk-Reward Analysis. Further the developed model was explained and

the methodology for generating the portfolios was explained. The 6-bus test system was also shown and the results documented.

6.2 Future Work

Future work includes applying the proposed model to a bigger system such as the IEEE 39-bus system and generating portfolios associated with the system. Possible future works may include the following activities that extend this work.

- The determination of LMP with the inclusion of the cost function of the generators
- The use of the Interactive-Case treatment described in Chapter 3 to the system
- The determination of Maximum Auction Price based on the market history
- The game theory of the bidding

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Appendix

1. Two Line Combination:

-1.0	-1.0	-1.0	48.8	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	-6.3	-6.3	-6.3	-6.3	-6.3
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	-5.0	-15.8	-15.8	-15.8	-15.8
-1.0	-1.0	-1.0	73.4	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	37.2	-1.0	-1.0	-1.0	-3.2	-3.2	-3.2	-3.2	-3.2
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	31.7	-1.0	-1.0	-1.0	-8.6	-8.6	-8.6	-8.6	-8.6
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	-3.8	-3.8	-3.8	-3.8	-3.8
-1.0	-1.0	-1.0	-1.7	-1.0	-1.0	-1.0	-15.1	-15.1	-15.1	-15.1	-15.1
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	-10.0	-10.0	-10.0	-10.0	-10.0
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	7.9	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	33.2	-1.0	-1.0	-1.0	12.9	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	71.9	-1.0	-1.0	-1.0	20.0	20.0	20.0	20.0	20.0
-1.0	-1.0	-1.0	45.6	-1.0	-1.0	-1.0	14.2	14.2	14.2	14.2	14.2
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	14.2	14.2	14.2	14.2	14.2
-1.0	-1.0	-1.0	41.7	-1.0	-1.0	-1.0	10.4	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	22.8	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	5.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	41.9	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	-15.0	-1.0	-1.0	-1.0	5.2	-3.9	-3.9	-3.9	-3.9
-1.0	-1.0	-1.0	40.5	-1.0	-1.0	-1.0	15.1	15.1	15.1	15.1	15.1
-1.0	-1.0	-1.0	-0.6	-1.0	-1.0	-1.0	6.7	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	-3.7	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	-5.2	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2

Table 1.1: Rate of Return for two line portfolio over first 12 hours

3.9	3.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
-6.1	-6.1	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-1.0	-1.0	-1.0
-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-1.0	-1.0	-1.0
11.1	11.1	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
-3.0	-3.0	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-1.0	-1.0	-1.0
-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
-8.4	-8.4	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-1.0	-1.0	-1.0
-3.9	-3.9	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-1.0	-1.0	-1.0
-16.2	-16.2	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-1.0	-1.0	-1.0
-9.8	-9.8	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-1.0	-1.0	-1.0
9.9	9.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0

7.5	7.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
23.3	23.3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	-1.0	-1.0	-1.0
16.7	16.7	14.2	14.2	14.2	14.2	14.2	14.2	14.2	-1.0	-1.0	-1.0
16.2	16.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	-1.0	-1.0	-1.0
12.8	12.8	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
8.8	8.8	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.2	7.2	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
11.8	11.8	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
-3.6	-3.6	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-1.0	-1.0	-1.0
16.9	16.9	15.1	15.1	15.1	15.1	15.1	15.1	15.1	-1.0	-1.0	-1.0
7.1	7.1	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
2.6	2.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0

Table 1.2: Rate of Return for two line portfolio over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
2.935	9.699	0.303	12
-3.642	3.751	-0.971	13
-8.330	9.182	-0.907	14
8.247	14.488	0.569	15
-0.654	7.950	-0.082	16
0.599	5.580	0.107	17
-4.037	8.286	-0.487	18
-2.062	3.440	-0.600	19
-9.326	6.983	-1.336	20
-4.866	8.815	-0.552	21
5.330	5.664	0.941	22
4.545	7.048	0.645	23
14.577	15.776	0.924	24
10.027	10.523	0.953	25
9.632	9.382	1.027	26
7.612	9.070	0.839	27
4.991	5.544	0.900	28
3.833	4.432	0.865	29
7.020	8.914	0.787	30
-2.860	3.262	-0.877	31
10.278	10.053	1.022	32
3.537	3.806	0.929	33
4.012	4.493	0.893	34
0.718	1.977	0.363	35
0.593	2.217	0.268	36
-3.690	6.224	-0.593	37
0.028	1.420	0.019	38
11.010	12.851	0.857	39

1.266	3.317	0.382	40
2.386	3.446	0.692	41
-2.962	3.199	-0.926	42
-1.278	1.543	-0.829	43
-9.574	9.152	-1.046	44
-3.998	3.781	-1.058	45
17.407	17.175	1.014	46
15.901	14.938	1.064	47
14.588	15.411	0.947	48
8.915	9.045	0.986	49
10.180	10.082	1.010	50
13.897	15.181	0.915	51
10.061	8.577	1.173	52
6.633	6.325	1.049	53
3.519	3.502	1.005	54
0.021	4.445	0.005	55
5.597	5.770	0.970	56
6.679	5.960	1.121	57
3.891	3.886	1.001	58
1.389	5.253	0.264	59
5.850	5.355	1.092	60
1.405	1.865	0.753	61
-4.207	5.030	-0.836	62
1.369	3.247	0.421	63
-1.901	3.467	-0.548	64
0.887	1.468	0.605	65
-5.243	5.132	-1.022	66

Table 1.3: Parameters Associated with each portfolio for two line case

2. Three Line Combination:

-1.0	-1.0	-1.0	27.4	-1.0	-1.0	-1.0	1.8	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	36.1	-1.0	-1.0	-1.0	4.0	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	64.6	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	44.8	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	38.7	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	42.1	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	25.3	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
-1.0	-1.0	-1.0	42.2	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	4.3	-1.0	-1.0	-1.0	-2.1	-8.1	-8.1	-8.1	-8.1
-1.0	-1.0	-1.0	41.1	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	0.4	0.4	0.4	0.4	0.4

-1.0	-1.0	-1.0	10.9	-1.0	-1.0	-1.0	-4.1	-4.1	-4.1	-4.1	-4.1
-1.0	-1.0	-1.0	4.4	-1.0	-1.0	-1.0	-2.2	-2.2	-2.2	-2.2	-2.2
-1.0	-1.0	-1.0	-7.7	-1.0	-1.0	-1.0	-7.7	-7.7	-7.7	-7.7	-7.7
-1.0	-1.0	-1.0	11.0	-1.0	-1.0	-1.0	-4.9	-4.9	-4.9	-4.9	-4.9
-1.0	-1.0	-1.0	53.8	-1.0	-1.0	-1.0	10.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	1.3	-6.4	-6.4	-6.4	-6.4
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	2.9	-3.8	-3.8	-3.8	-3.8
-1.0	-1.0	-1.0	18.5	-1.0	-1.0	-1.0	-2.5	-10.3	-10.3	-10.3	-10.3
-1.0	-1.0	-1.0	8.1	-1.0	-1.0	-1.0	-0.8	-5.8	-5.8	-5.8	-5.8
-1.0	-1.0	-1.0	-5.4	-1.0	-1.0	-1.0	-7.2	-14.9	-14.9	-14.9	-14.9
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	-3.6	-11.3	-11.3	-11.3	-11.3
-1.0	-1.0	-1.0	63.4	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	54.9	-1.0	-1.0	-1.0	11.3	11.3	11.3	11.3	11.3
-1.0	-1.0	-1.0	60.4	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	38.7	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	41.8	-1.0	-1.0	-1.0	4.4	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	60.6	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	27.6	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	30.8	-1.0	-1.0	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	6.9	-1.0	-1.0	-1.0	-5.9	-5.9	-5.9	-5.9	-5.9
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	-2.3	-2.3	-2.3	-2.3	-2.3
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	0.7	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	12.8	-1.0	-1.0	-1.0	1.2	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	-3.4	-3.4	-3.4	-3.4	-3.4
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	13.5	-1.0	-1.0	-1.0	-2.5	-2.5	-2.5	-2.5	-2.5
-1.0	-1.0	-1.0	3.1	-1.0	-1.0	-1.0	-9.7	-9.7	-9.7	-9.7	-9.7
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	-6.1	-6.1	-6.1	-6.1	-6.1
-1.0	-1.0	-1.0	-1.8	-1.0	-1.0	-1.0	-5.4	-5.4	-5.4	-5.4	-5.4
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	-3.1	-3.1	-3.1	-3.1	-3.1
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	-10.8	-10.8	-10.8	-10.8	-10.8
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	8.7	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	45.0	-1.0	-1.0	-1.0	14.3	14.3	14.3	14.3	14.3
-1.0	-1.0	-1.0	23.5	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	12.7	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	56.1	-1.0	-1.0	-1.0	18.7	13.8	13.8	13.8	13.8
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	13.9	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	13.9	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	29.2	-1.0	-1.0	-1.0	10.8	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	8.2	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	10.6	-1.0	-1.0	-1.0	7.2	1.2	1.2	1.2	1.2

-1.0	-1.0	-1.0	29.4	-1.0	-1.0	-1.0	10.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	64.0	-1.0	-1.0	-1.0	19.5	19.5	19.5	19.5	19.5
-1.0	-1.0	-1.0	56.8	-1.0	-1.0	-1.0	19.1	19.1	19.1	19.1	19.1
-1.0	-1.0	-1.0	61.5	-1.0	-1.0	-1.0	17.1	17.1	17.1	17.1	17.1
-1.0	-1.0	-1.0	42.4	-1.0	-1.0	-1.0	13.1	13.1	13.1	13.1	13.1
-1.0	-1.0	-1.0	46.3	-1.0	-1.0	-1.0	14.1	14.1	14.1	14.1	14.1
-1.0	-1.0	-1.0	61.7	-1.0	-1.0	-1.0	16.4	16.4	16.4	16.4	16.4
-1.0	-1.0	-1.0	35.4	-1.0	-1.0	-1.0	14.8	14.8	14.8	14.8	14.8
-1.0	-1.0	-1.0	38.8	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	23.7	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	8.3	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	39.0	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	32.7	-1.0	-1.0	-1.0	12.1	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	20.5	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	32.9	-1.0	-1.0	-1.0	11.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	17.2	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	8.8	-1.0	-1.0	-1.0	4.3	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	29.5	-1.0	-1.0	-1.0	14.6	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	-4.1	-1.0	-1.0	-1.0	8.2	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	-6.1	-1.0	-1.0	-1.0	8.8	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-7.5	-1.0	-1.0	-1.0	4.8	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	-8.4	-1.0	-1.0	-1.0	3.9	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	-28.4	-1.0	-1.0	-1.0	0.7	-6.1	-6.1	-6.1	-6.1
-1.0	-1.0	-1.0	-7.3	-1.0	-1.0	-1.0	3.9	-2.9	-2.9	-2.9	-2.9
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	15.5	15.5	15.5	15.5	15.5
-1.0	-1.0	-1.0	32.6	-1.0	-1.0	-1.0	15.4	15.4	15.4	15.4	15.4
-1.0	-1.0	-1.0	35.4	-1.0	-1.0	-1.0	12.8	12.8	12.8	12.8	12.8
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	35.6	-1.0	-1.0	-1.0	12.1	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	3.5	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	-1.2	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	-17.6	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	3.5	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	0.5	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	-2.8	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	-18.1	-1.0	-1.0	-1.0	3.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	0.7	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	-3.5	-1.0	-1.0	-1.0	2.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	-21.0	-1.0	-1.0	-1.0	-1.5	-1.5	-1.5	-1.5	-1.5

-1.0	-1.0	-1.0	0.1	-1.0	-1.0	-1.0	1.6	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	-17.4	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	-3.3	-1.0	-1.0	-1.0	1.8	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	-20.8	-1.0	-1.0	-1.0	-2.4	-2.4	-2.4	-2.4	-2.4
-1.0	-1.0	-1.0	51.6	-1.0	-1.0	-1.0	21.8	15.0	15.0	15.0	15.0
-1.0	-1.0	-1.0	43.5	-1.0	-1.0	-1.0	21.0	14.9	14.9	14.9	14.9
-1.0	-1.0	-1.0	48.2	-1.0	-1.0	-1.0	18.4	11.7	11.7	11.7	11.7
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	13.0	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	14.4	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	48.4	-1.0	-1.0	-1.0	17.5	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	15.4	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	11.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	1.8	-1.0	-1.0	-1.0	7.5	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	-18.2	-1.0	-1.0	-1.0	5.7	-3.3	-3.3	-3.3	-3.3
-1.0	-1.0	-1.0	10.0	-1.0	-1.0	-1.0	9.9	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	5.2	-1.0	-1.0	-1.0	11.5	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	-0.4	-1.0	-1.0	-1.0	8.1	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	-18.7	-1.0	-1.0	-1.0	6.9	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	5.4	-1.0	-1.0	-1.0	10.5	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	4.8	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	-22.7	-1.0	-1.0	-1.0	1.2	-7.8	-7.8	-7.8	-7.8
-1.0	-1.0	-1.0	5.5	-1.0	-1.0	-1.0	5.4	-3.6	-3.6	-3.6	-3.6
-1.0	-1.0	-1.0	-17.7	-1.0	-1.0	-1.0	1.6	-3.8	-3.8	-3.8	-3.8
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	4.1	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	-22.4	-1.0	-1.0	-1.0	0.0	-9.0	-9.0	-9.0	-9.0
-1.0	-1.0	-1.0	53.0	-1.0	-1.0	-1.0	22.0	22.0	22.0	22.0	22.0
-1.0	-1.0	-1.0	59.0	-1.0	-1.0	-1.0	19.6	19.6	19.6	19.6	19.6
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	13.8	13.8	13.8	13.8	13.8
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	15.5	15.5	15.5	15.5	15.5
-1.0	-1.0	-1.0	59.2	-1.0	-1.0	-1.0	18.7	18.7	18.7	18.7	18.7
-1.0	-1.0	-1.0	50.0	-1.0	-1.0	-1.0	19.0	19.0	19.0	19.0	19.0
-1.0	-1.0	-1.0	31.5	-1.0	-1.0	-1.0	13.8	13.8	13.8	13.8	13.8
-1.0	-1.0	-1.0	31.4	-1.0	-1.0	-1.0	15.4	15.4	15.4	15.4	15.4
-1.0	-1.0	-1.0	50.2	-1.0	-1.0	-1.0	18.2	18.2	18.2	18.2	18.2
-1.0	-1.0	-1.0	33.7	-1.0	-1.0	-1.0	11.5	11.5	11.5	11.5	11.5
-1.0	-1.0	-1.0	34.7	-1.0	-1.0	-1.0	12.1	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	55.8	-1.0	-1.0	-1.0	15.3	15.3	15.3	15.3	15.3
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	33.8	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	34.9	-1.0	-1.0	-1.0	11.2	11.2	11.2	11.2	11.2
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	12.9	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	7.4	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	-6.4	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	11.8	11.8	11.8	11.8	11.8
-1.0	-1.0	-1.0	7.7	-1.0	-1.0	-1.0	5.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	-8.3	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7

-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	-9.1	-1.0	-1.0	-1.0	2.5	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	7.8	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	-8.1	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	5.0	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	-10.3	-1.0	-1.0	-1.0	4.4	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	-10.2	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	5.1	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	-10.0	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	-11.8	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	5.1	-1.0	-1.0	-1.0	2.3	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	-12.6	-1.0	-1.0	-1.0	-3.0	-3.0	-3.0	-3.0	-3.0
-1.0	-1.0	-1.0	-11.6	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9

Table 2.1: Rate of Return for three line portfolios over first 12 hours

3.2	3.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
0.2	0.2	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
13.3	13.3	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
6.6	6.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
7.2	7.2	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
3.9	3.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
3.3	3.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
0.1	0.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
3.2	3.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-8.0	-8.0	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1	-1.0	-1.0	-1.0
7.8	7.8	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
-0.8	-0.8	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-3.8	-3.8	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-1.0	-1.0	-1.0
-2.1	-2.1	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-1.0	-1.0	-1.0
-8.2	-8.2	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7	-1.0	-1.0	-1.0
-4.6	-4.6	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-1.0	-1.0	-1.0
5.4	5.4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
-6.3	-6.3	-6.4	-6.4	-6.4	-6.4	-6.4	-6.4	-6.4	-1.0	-1.0	-1.0
-3.9	-3.9	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-1.0	-1.0	-1.0
-10.2	-10.2	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-1.0	-1.0	-1.0
-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-1.0	-1.0	-1.0
-15.7	-15.7	-14.9	-14.9	-14.9	-14.9	-14.9	-14.9	-14.9	-1.0	-1.0	-1.0
-11.1	-11.1	-11.3	-11.3	-11.3	-11.3	-11.3	-11.3	-11.3	-1.0	-1.0	-1.0
12.6	12.6	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
12.6	12.6	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-1.0	-1.0	-1.0
9.5	9.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
7.1	7.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0

5.2	5.2	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
8.8	8.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
-1.0	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-6.5	-6.5	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-1.0	-1.0	-1.0
-2.0	-2.0	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-1.0	-1.0	-1.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
-4.1	-4.1	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-1.0	-1.0	-1.0
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.0	-1.0	-1.0
-10.4	-10.4	-9.7	-9.7	-9.7	-9.7	-9.7	-9.7	-9.7	-1.0	-1.0	-1.0
-5.8	-5.8	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-1.0	-1.0	-1.0
-6.0	-6.0	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4	-1.0	-1.0	-1.0
-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-1.0	-1.0	-1.0
-11.4	-11.4	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-1.0	-1.0	-1.0
5.4	5.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
16.7	16.7	14.3	14.3	14.3	14.3	14.3	14.3	14.3	-1.0	-1.0	-1.0
11.3	11.3	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
11.4	11.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
8.8	8.8	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
6.9	6.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
5.3	5.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
8.2	8.2	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
16.4	16.4	13.8	13.8	13.8	13.8	13.8	13.8	13.8	-1.0	-1.0	-1.0
9.7	9.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
10.0	10.0	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
6.7	6.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
5.2	5.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
5.9	5.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
22.2	22.2	19.5	19.5	19.5	19.5	19.5	19.5	19.5	-1.0	-1.0	-1.0
21.5	21.5	19.1	19.1	19.1	19.1	19.1	19.1	19.1	-1.0	-1.0	-1.0
19.8	19.8	17.1	17.1	17.1	17.1	17.1	17.1	17.1	-1.0	-1.0	-1.0
14.9	14.9	13.1	13.1	13.1	13.1	13.1	13.1	13.1	-1.0	-1.0	-1.0
16.2	16.2	14.1	14.1	14.1	14.1	14.1	14.1	14.1	-1.0	-1.0	-1.0
19.1	19.1	16.4	16.4	16.4	16.4	16.4	16.4	16.4	-1.0	-1.0	-1.0
16.5	16.5	14.8	14.8	14.8	14.8	14.8	14.8	14.8	-1.0	-1.0	-1.0
13.9	13.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0
10.1	10.1	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
9.5	9.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
13.1	13.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
13.8	13.8	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
10.3	10.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
9.9	9.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0

13.1	13.1	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
8.0	8.0	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.5	6.5	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
10.1	10.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
7.5	7.5	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
5.8	5.8	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
10.6	10.6	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
1.7	1.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
-1.7	-1.7	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
-6.6	-6.6	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-1.0	-1.0	-1.0
-2.6	-2.6	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-1.0	-1.0	-1.0
17.1	17.1	15.5	15.5	15.5	15.5	15.5	15.5	15.5	-1.0	-1.0	-1.0
16.7	16.7	15.4	15.4	15.4	15.4	15.4	15.4	15.4	-1.0	-1.0	-1.0
14.4	14.4	12.8	12.8	12.8	12.8	12.8	12.8	12.8	-1.0	-1.0	-1.0
10.7	10.7	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
10.5	10.5	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
13.7	13.7	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
10.1	10.1	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
7.1	7.1	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
2.7	2.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
6.3	6.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
-1.9	-1.9	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.0	-1.0	-1.0
2.1	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
-0.7	-0.7	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
2.0	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
-2.8	-2.8	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-1.0	-1.0	-1.0
16.8	16.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	-1.0	-1.0	-1.0
16.3	16.3	14.9	14.9	14.9	14.9	14.9	14.9	14.9	-1.0	-1.0	-1.0
13.4	13.4	11.7	11.7	11.7	11.7	11.7	11.7	11.7	-1.0	-1.0	-1.0
9.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.5	8.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
12.5	12.5	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
2.4	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
-4.1	-4.1	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-1.0	-1.0	-1.0
1.2	1.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0

3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
-1.7	-1.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
-8.6	-8.6	-7.8	-7.8	-7.8	-7.8	-7.8	-7.8	-7.8	-1.0	-1.0	-1.0
-3.3	-3.3	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-1.0	-1.0	-1.0
-4.5	-4.5	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-1.0	-1.0	-1.0
-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
-9.8	-9.8	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	-1.0	-1.0	-1.0
23.5	23.5	22.0	22.0	22.0	22.0	22.0	22.0	22.0	-1.0	-1.0	-1.0
21.4	21.4	19.6	19.6	19.6	19.6	19.6	19.6	19.6	-1.0	-1.0	-1.0
14.8	14.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	-1.0	-1.0	-1.0
16.5	16.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	-1.0	-1.0	-1.0
20.5	20.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7	-1.0	-1.0	-1.0
20.4	20.4	19.0	19.0	19.0	19.0	19.0	19.0	19.0	-1.0	-1.0	-1.0
14.7	14.7	13.8	13.8	13.8	13.8	13.8	13.8	13.8	-1.0	-1.0	-1.0
16.1	16.1	15.4	15.4	15.4	15.4	15.4	15.4	15.4	-1.0	-1.0	-1.0
19.7	19.7	18.2	18.2	18.2	18.2	18.2	18.2	18.2	-1.0	-1.0	-1.0
12.6	12.6	11.5	11.5	11.5	11.5	11.5	11.5	11.5	-1.0	-1.0	-1.0
13.2	13.2	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
17.1	17.1	15.3	15.3	15.3	15.3	15.3	15.3	15.3	-1.0	-1.0	-1.0
9.3	9.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
12.0	12.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
12.3	12.3	11.2	11.2	11.2	11.2	11.2	11.2	11.2	-1.0	-1.0	-1.0
13.0	13.0	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
8.9	8.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
7.5	7.5	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
12.0	12.0	11.8	11.8	11.8	11.8	11.8	11.8	11.8	-1.0	-1.0	-1.0
5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
2.1	2.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
7.4	7.4	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
1.9	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
0.9	0.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
6.4	6.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
3.6	3.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
8.2	8.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
2.9	2.9	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
2.6	2.6	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
-0.8	-0.8	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
-3.6	-3.6	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0
-1.5	-1.5	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0

Table 2.2: Rate of Return for three line portfolios for next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
1.9148	5.5229	0.34671	67
0.68208	7.4744	0.091256	68
8.8497	13.021	0.67965	69
4.52	8.9084	0.50739	70
4.733	7.8395	0.60374	71
2.8287	8.359	0.33841	72
2.1365	5.4612	0.39122	73
0.184	5.248	0.035061	74
2.4143	8.4145	0.28693	75
-4.6833	3.8856	-1.2053	76
5.2025	8.3372	0.624	77
-0.41896	2.9784	-0.14066	78
0.30925	2.1903	0.14119	79
-2.2982	3.1111	-0.73868	80
-1.4662	1.3435	-1.0913	81
-5.2368	3.2839	-1.5947	82
-2.7586	3.4192	-0.8068	83
4.5633	10.684	0.42711	84
-2.8469	5.9441	-0.47895	85
-1.6331	4.2309	-0.386	86
-5.2628	6.6473	-0.79171	87
-3.2016	3.308	-0.96783	88
-9.0414	6.6663	-1.3563	89
-5.8552	7.0875	-0.82613	90
8.8278	12.803	0.6895	91
8.6313	11.352	0.76034	92
6.9485	11.995	0.57929	93
4.9354	7.8657	0.62746	94
4.0099	8.3143	0.48229	95
6.4881	11.983	0.54142	96
3.1643	5.6527	0.55978	97
0.2198	6.3869	0.034413	98
0.28744	3.2951	0.087231	99
-3.5585	3.228	-1.1024	100
-0.37226	6.5814	-0.05656	101
1.0502	4.9061	0.21406	102
0.83542	2.6947	0.31002	103
-2.2557	1.6675	-1.3528	104
0.53217	5.0006	0.10642	105
-1.2501	3.1466	-0.39727	106
-5.9746	4.6195	-1.2933	107
-2.7883	6.7079	-0.41568	108
-3.6544	2.1905	-1.6683	109
-1.6268	3.3331	-0.48807	110
-6.5665	5.1375	-1.2782	111

2.8467	3.8453	0.74031	112
10.053	10.47	0.96021	113
6.3357	6.3014	1.0054	114
6.3797	6.0275	1.0584	115
4.7982	5.2528	0.91345	116
3.6269	3.833	0.94624	117
2.3939	2.6606	0.89975	118
4.4215	5.0922	0.86827	119
10.412	12.122	0.85898	120
5.9483	7.231	0.82262	121
6.0398	6.5691	0.91942	122
4.0692	6.2239	0.6538	123
2.942	4.0283	0.73032	124
1.1306	2.672	0.42311	125
3.6087	6.1561	0.5862	126
13.901	14.469	0.9608	127
13.314	13.334	0.9985	128
12.364	13.538	0.9133	129
9.1751	9.7578	0.94028	130
9.9595	10.582	0.94119	131
11.987	13.419	0.89328	132
9.8778	9.3459	1.0569	133
8.3337	8.952	0.93094	134
5.8942	6.0823	0.96907	135
5.3949	5.4788	0.9847	136
7.8731	8.7846	0.89624	137
8.1865	8.1845	1.0002	138
5.9634	5.8247	1.0238	139
5.5418	5.2578	1.054	140
7.7721	7.9966	0.97193	141
4.5933	5.2199	0.87996	142
3.5157	4.2089	0.83531	143
5.9939	7.6993	0.77849	144
2.5589	2.8944	0.88408	145
4.2745	5.0949	0.83897	146
3.0553	4.0347	0.75726	147
6.5562	7.1094	0.92219	148
0.57052	2.1553	0.26471	149
1.2697	2.8069	0.45236	150
-1.5435	1.8283	-0.84426	151
-0.89375	1.8288	-0.4887	152
-4.8495	5.5582	-0.87248	153
-2.0616	1.8368	-1.1224	154
10.394	9.875	1.0526	155
10.073	9.2202	1.0925	156
8.7029	8.724	0.99759	157

6.3323	6.1948	1.0222	158
6.0582	5.7509	1.0534	159
8.2885	8.5408	0.97046	160
5.5341	5.216	1.061	161
3.2539	3.3395	0.97435	162
2.3045	2.8106	0.81993	163
-0.05208	3.9063	-0.01333	164
2.7358	2.9135	0.93902	165
3.6549	3.8198	0.95683	166
2.6552	3.2599	0.81451	167
0.71632	4.4032	0.16268	168
3.1945	3.4206	0.93388	169
0.89516	1.8716	0.4783	170
-2.1662	3.9417	-0.54955	171
0.62177	1.301	0.47791	172
-1.3088	3.3727	-0.38805	173
0.5498	1.5736	0.34939	174
-2.6842	3.8486	-0.69745	175
10.973	11.742	0.93454	176
10.516	10.548	0.997	177
8.859	10.496	0.844	178
6.0413	6.77	0.89236	179
5.5531	6.4597	0.85965	180
8.3412	10.359	0.80518	181
4.807	4.7506	1.0119	182
1.6456	3.0329	0.54258	183
1.1497	1.9819	0.58009	184
-2.7623	3.7886	-0.72911	185
0.95486	2.8564	0.33429	186
2.3909	3.0388	0.78682	187
1.6691	2.4127	0.69178	188
-1.3873	3.9481	-0.35137	189
1.7989	2.6782	0.67171	190
-0.54158	1.132	-0.47845	191
-5.5811	5.0082	-1.1144	192
-1.8639	2.5127	-0.74178	193
-3.1863	3.4418	-0.92577	194
-0.956	1.0649	-0.89774	195
-6.2718	5.2432	-1.1962	196
14.781	13.659	1.0821	197
13.657	13.742	0.99376	198
9.2397	9.049	1.0211	199
10.35	9.8466	1.0512	200
13.138	13.539	0.97044	201
12.902	12.374	1.0427	202
9.0565	8.53	1.0617	203

9.963	9.0586	1.0998	204
12.441	12.163	1.0229	205
7.8303	8.1091	0.96562	206
8.2366	8.4169	0.97858	207
11.025	12.252	0.89983	208
5.6262	5.5644	1.0111	209
7.4849	7.9652	0.9397	210
7.7184	8.1991	0.94137	211
7.8738	6.9341	1.1355	212
5.1581	4.7794	1.0792	213
4.0955	4.8798	0.83928	214
7.2819	6.5192	1.117	215
3.2963	3.3496	0.9841	216
0.81541	2.5833	0.31565	217
4.5327	4.9793	0.91029	218
0.65158	2.6038	0.25024	219
2.8819	3.0574	0.94261	220
0.12472	2.0712	0.060217	221
3.6206	3.5915	1.0081	222
1.6794	3.5414	0.47423	223
4.8656	4.6893	1.0376	224
1.2163	3.2046	0.37954	225
3.2439	3.2903	0.98588	226
1.0874	3.081	0.35293	227
-1.0397	2.2681	-0.45839	228
1.1907	1.7848	0.66713	229
-2.694	2.2919	-1.1755	230
-1.4541	2.1244	-0.68448	231

Table 2.3: Parameters associated with each portfolio for three line case

3. Four Line Combination

-1.0	-1.0	-1.0	21.4	-1.0	-1.0	-1.0	3.3	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	44.6	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	27.6	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	53.3	-1.0	-1.0	-1.0	11.1	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	34.9	-1.0	-1.0	-1.0	6.2	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	30.5	-1.0	-1.0	-1.0	6.8	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	32.6	-1.0	-1.0	-1.0	4.0	-0.6	-0.6	-0.6	-0.6

-1.0	-1.0	-1.0	21.9	-1.0	-1.0	-1.0	3.5	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	1.3	-3.3	-3.3	-3.3	-3.3
-1.0	-1.0	-1.0	32.8	-1.0	-1.0	-1.0	3.4	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	59.5	-1.0	-1.0	-1.0	11.8	11.8	11.8	11.8	11.8
-1.0	-1.0	-1.0	54.0	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	57.5	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	42.5	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	45.6	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	57.6	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	39.8	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	39.9	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	35.1	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	35.2	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	2.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	37.7	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	15.2	-1.0	-1.0	-1.0	0.4	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	23.7	-1.0	-1.0	-1.0	-0.8	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	32.6	-1.0	-1.0	-1.0	7.4	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	8.7	-1.0	-1.0	-1.0	1.4	-3.5	-3.5	-3.5	-3.5
-1.0	-1.0	-1.0	6.1	-1.0	-1.0	-1.0	2.4	-2.1	-2.1	-2.1	-2.1
-1.0	-1.0	-1.0	6.2	-1.0	-1.0	-1.0	-1.1	-6.0	-6.0	-6.0	-6.0
-1.0	-1.0	-1.0	1.9	-1.0	-1.0	-1.0	-0.2	-3.8	-3.8	-3.8	-3.8
-1.0	-1.0	-1.0	-9.0	-1.0	-1.0	-1.0	-4.0	-9.0	-9.0	-9.0	-9.0
-1.0	-1.0	-1.0	6.4	-1.0	-1.0	-1.0	-1.7	-6.7	-6.7	-6.7	-6.7
-1.0	-1.0	-1.0	39.2	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	34.8	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	37.2	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	13.3	-1.0	-1.0	-1.0	3.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	14.1	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	7.6	-1.0	-1.0	-1.0	0.4	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-3.2	-3.2	-3.2	-3.2	-3.2
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	11.1	-1.0	-1.0	-1.0	1.0	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	1.3	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	-2.9	-1.0	-1.0	-1.0	-1.7	-1.7	-1.7	-1.7	-1.7
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	0.4	0.4	0.4	0.4	0.4

-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	-1.4	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	-3.6	-1.0	-1.0	-1.0	-5.7	-5.7	-5.7	-5.7	-5.7
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	-3.4	-3.4	-3.4	-3.4	-3.4
-1.0	-1.0	-1.0	-5.4	-1.0	-1.0	-1.0	-3.6	-3.6	-3.6	-3.6	-3.6
-1.0	-1.0	-1.0	5.9	-1.0	-1.0	-1.0	-1.9	-1.9	-1.9	-1.9	-1.9
-1.0	-1.0	-1.0	-3.5	-1.0	-1.0	-1.0	-6.3	-6.3	-6.3	-6.3	-6.3
-1.0	-1.0	-1.0	49.2	-1.0	-1.0	-1.0	11.3	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	43.3	-1.0	-1.0	-1.0	11.5	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	46.8	-1.0	-1.0	-1.0	8.8	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	31.6	-1.0	-1.0	-1.0	7.1	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	31.6	-1.0	-1.0	-1.0	5.9	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	46.9	-1.0	-1.0	-1.0	8.2	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	19.2	-1.0	-1.0	-1.0	5.8	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	1.8	-4.2	-4.2	-4.2	-4.2
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	1.9	-2.2	-2.2	-2.2	-2.2
-1.0	-1.0	-1.0	2.2	-1.0	-1.0	-1.0	-1.8	-7.8	-7.8	-7.8	-7.8
-1.0	-1.0	-1.0	20.9	-1.0	-1.0	-1.0	1.0	-5.0	-5.0	-5.0	-5.0
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	3.1	-2.3	-2.3	-2.3	-2.3
-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	2.8	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	-0.2	-1.0	-1.0	-1.0	-0.2	-5.6	-5.6	-5.6	-5.6
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	2.3	-3.1	-3.1	-3.1	-3.1
-1.0	-1.0	-1.0	9.2	-1.0	-1.0	-1.0	-0.2	-4.3	-4.3	-4.3	-4.3
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	-4.8	-10.8	-10.8	-10.8	-10.8
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	-2.0	-8.0	-8.0	-8.0	-8.0
-1.0	-1.0	-1.0	-3.7	-1.0	-1.0	-1.0	-2.7	-6.8	-6.8	-6.8	-6.8
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	-0.7	-4.9	-4.9	-4.9	-4.9
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	-5.6	-11.6	-11.6	-11.6	-11.6
-1.0	-1.0	-1.0	50.5	-1.0	-1.0	-1.0	12.3	12.3	12.3	12.3	12.3
-1.0	-1.0	-1.0	54.6	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	37.3	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	39.4	-1.0	-1.0	-1.0	6.7	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	54.8	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	48.2	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	33.6	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	48.4	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	35.5	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	36.9	-1.0	-1.0	-1.0	4.3	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	52.3	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	35.6	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	8.4	-1.0	-1.0	-1.0	0.8	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	25.3	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3

-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	0.6	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	8.7	-1.0	-1.0	-1.0	-3.7	-3.7	-3.7	-3.7	-3.7
-1.0	-1.0	-1.0	27.5	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	2.9	-1.0	-1.0	-1.0	-1.9	-1.9	-1.9	-1.9	-1.9
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	-4.6	-4.6	-4.6	-4.6	-4.6
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	22.6	-1.0	-1.0	-1.0	0.6	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	1.1	-1.0	-1.0	-1.0	-0.8	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	1.0	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	-2.7	-2.7	-2.7	-2.7	-2.7
-1.0	-1.0	-1.0	0.8	-1.0	-1.0	-1.0	-4.0	-4.0	-4.0	-4.0	-4.0
-1.0	-1.0	-1.0	13.8	-1.0	-1.0	-1.0	-2.1	-2.1	-2.1	-2.1	-2.1
-1.0	-1.0	-1.0	5.9	-1.0	-1.0	-1.0	-7.6	-7.6	-7.6	-7.6	-7.6
-1.0	-1.0	-1.0	1.0	-1.0	-1.0	-1.0	-4.6	-4.6	-4.6	-4.6	-4.6
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	14.1	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	10.0	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	14.8	-1.0	-1.0	-1.0	10.3	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	15.5	-1.0	-1.0	-1.0	8.0	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	6.6	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	2.7	-1.0	-1.0	-1.0	5.5	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	7.4	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	42.9	-1.0	-1.0	-1.0	14.7	14.7	14.7	14.7	14.7
-1.0	-1.0	-1.0	38.8	-1.0	-1.0	-1.0	14.7	14.7	14.7	14.7	14.7
-1.0	-1.0	-1.0	41.1	-1.0	-1.0	-1.0	12.9	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	10.6	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	41.2	-1.0	-1.0	-1.0	12.4	12.4	12.4	12.4	12.4
-1.0	-1.0	-1.0	20.9	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	19.0	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	12.5	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	7.1	-1.0	-1.0	-1.0	6.7	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	13.0	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	7.2	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	3.1	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	13.0	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	7.3	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	51.9	-1.0	-1.0	-1.0	18.4	14.3	14.3	14.3	14.3
-1.0	-1.0	-1.0	46.6	-1.0	-1.0	-1.0	18.1	14.3	14.3	14.3	14.3

-1.0	-1.0	-1.0	49.8	-1.0	-1.0	-1.0	16.4	12.2	12.2	12.2	12.2
-1.0	-1.0	-1.0	35.7	-1.0	-1.0	-1.0	13.0	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	37.0	-1.0	-1.0	-1.0	13.9	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	49.9	-1.0	-1.0	-1.0	15.8	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	14.4	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	29.1	-1.0	-1.0	-1.0	12.0	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	9.4	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	9.0	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	29.2	-1.0	-1.0	-1.0	11.3	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	12.2	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	16.1	-1.0	-1.0	-1.0	9.7	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	10.9	-1.0	-1.0	-1.0	9.5	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	25.0	-1.0	-1.0	-1.0	11.6	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	16.8	-1.0	-1.0	-1.0	7.6	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	11.4	-1.0	-1.0	-1.0	6.6	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	8.9	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	5.4	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	7.1	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	11.6	-1.0	-1.0	-1.0	5.9	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	52.8	-1.0	-1.0	-1.0	18.8	18.8	18.8	18.8	18.8
-1.0	-1.0	-1.0	56.5	-1.0	-1.0	-1.0	17.1	17.1	17.1	17.1	17.1
-1.0	-1.0	-1.0	40.8	-1.0	-1.0	-1.0	13.6	13.6	13.6	13.6	13.6
-1.0	-1.0	-1.0	43.6	-1.0	-1.0	-1.0	14.6	14.6	14.6	14.6	14.6
-1.0	-1.0	-1.0	56.6	-1.0	-1.0	-1.0	16.5	16.5	16.5	16.5	16.5
-1.0	-1.0	-1.0	50.9	-1.0	-1.0	-1.0	16.9	16.9	16.9	16.9	16.9
-1.0	-1.0	-1.0	37.3	-1.0	-1.0	-1.0	13.6	13.6	13.6	13.6	13.6
-1.0	-1.0	-1.0	38.9	-1.0	-1.0	-1.0	14.5	14.5	14.5	14.5	14.5
-1.0	-1.0	-1.0	51.0	-1.0	-1.0	-1.0	16.3	16.3	16.3	16.3	16.3
-1.0	-1.0	-1.0	39.2	-1.0	-1.0	-1.0	12.0	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	41.5	-1.0	-1.0	-1.0	12.5	12.5	12.5	12.5	12.5
-1.0	-1.0	-1.0	54.5	-1.0	-1.0	-1.0	14.4	14.4	14.4	14.4	14.4
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	39.3	-1.0	-1.0	-1.0	11.5	11.5	11.5	11.5	11.5
-1.0	-1.0	-1.0	41.6	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	12.9	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	21.5	-1.0	-1.0	-1.0	10.2	10.2	10.2	10.2	10.2
-1.0	-1.0	-1.0	18.1	-1.0	-1.0	-1.0	10.2	10.2	10.2	10.2	10.2
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	12.3	12.3	12.3	12.3	12.3
-1.0	-1.0	-1.0	22.6	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	19.3	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	34.6	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	11.4	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0

-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	20.9	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	4.3	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	15.0	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	15.0	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	12.8	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	10.1	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	10.1	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	12.2	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	0.2	-1.0	-1.0	-1.0	10.3	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	-0.3	-1.0	-1.0	-1.0	7.2	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	-3.1	-1.0	-1.0	-1.0	5.8	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	-17.0	-1.0	-1.0	-1.0	4.0	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	-0.1	-1.0	-1.0	-1.0	6.5	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	-2.2	-1.0	-1.0	-1.0	7.9	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	-4.4	-1.0	-1.0	-1.0	6.3	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	-17.5	-1.0	-1.0	-1.0	4.9	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-2.1	-1.0	-1.0	-1.0	7.2	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	-5.0	-1.0	-1.0	-1.0	3.9	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-19.7	-1.0	-1.0	-1.0	1.3	-4.1	-4.1	-4.1	-4.1
-1.0	-1.0	-1.0	-2.8	-1.0	-1.0	-1.0	3.8	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	-17.0	-1.0	-1.0	-1.0	1.5	-2.3	-2.3	-2.3	-2.3
-1.0	-1.0	-1.0	-4.9	-1.0	-1.0	-1.0	3.3	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	-19.6	-1.0	-1.0	-1.0	0.6	-4.8	-4.8	-4.8	-4.8
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	15.7	15.7	15.7	15.7	15.7
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	13.5	13.5	13.5	13.5	13.5
-1.0	-1.0	-1.0	23.2	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	34.4	-1.0	-1.0	-1.0	12.9	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	13.6	13.6	13.6	13.6	13.6
-1.0	-1.0	-1.0	20.5	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	30.1	-1.0	-1.0	-1.0	13.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	21.5	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	18.1	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	11.0	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	5.6	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	1.4	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0

-1.0	-1.0	-1.0	-9.6	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	1.1	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	-11.1	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	-10.8	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	1.2	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	-10.9	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	-0.4	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	-12.1	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	-11.6	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	-0.3	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	-11.9	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	-12.8	-1.0	-1.0	-1.0	0.3	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	-13.6	-1.0	-1.0	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	-12.7	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	40.8	-1.0	-1.0	-1.0	20.3	15.3	15.3	15.3	15.3
-1.0	-1.0	-1.0	44.3	-1.0	-1.0	-1.0	18.2	12.8	12.8	12.8	12.8
-1.0	-1.0	-1.0	28.7	-1.0	-1.0	-1.0	13.6	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	27.6	-1.0	-1.0	-1.0	14.9	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	44.5	-1.0	-1.0	-1.0	17.4	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	38.3	-1.0	-1.0	-1.0	17.8	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	13.6	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	14.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	38.4	-1.0	-1.0	-1.0	17.1	12.2	12.2	12.2	12.2
-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	11.7	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	12.2	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	41.8	-1.0	-1.0	-1.0	14.7	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	14.9	-1.0	-1.0	-1.0	9.3	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	11.1	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	25.0	-1.0	-1.0	-1.0	11.5	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	12.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	4.1	-1.0	-1.0	-1.0	9.5	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	-8.2	-1.0	-1.0	-1.0	9.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	10.6	-1.0	-1.0	-1.0	12.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	4.0	-1.0	-1.0	-1.0	6.9	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	-9.9	-1.0	-1.0	-1.0	5.2	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	8.3	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	-10.0	-1.0	-1.0	-1.0	4.2	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	4.1	-1.0	-1.0	-1.0	6.3	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	-9.7	-1.0	-1.0	-1.0	4.3	-2.5	-2.5	-2.5	-2.5
-1.0	-1.0	-1.0	2.0	-1.0	-1.0	-1.0	7.4	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	-11.2	-1.0	-1.0	-1.0	6.2	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	7.6	-1.0	-1.0	-1.0	9.0	3.0	3.0	3.0	3.0

-1.0	-1.0	-1.0	-10.9	-1.0	-1.0	-1.0	4.9	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	2.1	-1.0	-1.0	-1.0	6.9	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	-11.0	-1.0	-1.0	-1.0	5.4	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	-12.2	-1.0	-1.0	-1.0	1.9	-2.6	-2.6	-2.6	-2.6
-1.0	-1.0	-1.0	1.8	-1.0	-1.0	-1.0	4.0	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	-13.1	-1.0	-1.0	-1.0	0.9	-5.9	-5.9	-5.9	-5.9
-1.0	-1.0	-1.0	-12.1	-1.0	-1.0	-1.0	1.3	-3.2	-3.2	-3.2	-3.2
-1.0	-1.0	-1.0	46.1	-1.0	-1.0	-1.0	18.6	18.6	18.6	18.6	18.6
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	14.2	14.2	14.2	14.2	14.2
-1.0	-1.0	-1.0	30.9	-1.0	-1.0	-1.0	15.7	15.7	15.7	15.7	15.7
-1.0	-1.0	-1.0	46.3	-1.0	-1.0	-1.0	18.0	18.0	18.0	18.0	18.0
-1.0	-1.0	-1.0	33.0	-1.0	-1.0	-1.0	12.3	12.3	12.3	12.3	12.3
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	13.1	13.1	13.1	13.1	13.1
-1.0	-1.0	-1.0	50.4	-1.0	-1.0	-1.0	15.7	15.7	15.7	15.7	15.7
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	11.8	11.8	11.8	11.8	11.8
-1.0	-1.0	-1.0	33.7	-1.0	-1.0	-1.0	12.4	12.4	12.4	12.4	12.4
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	12.4	12.4	12.4	12.4	12.4
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	13.2	13.2	13.2	13.2	13.2
-1.0	-1.0	-1.0	43.8	-1.0	-1.0	-1.0	15.5	15.5	15.5	15.5	15.5
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	29.4	-1.0	-1.0	-1.0	12.0	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	28.6	-1.0	-1.0	-1.0	12.6	12.6	12.6	12.6	12.6
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	30.9	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	19.2	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	8.6	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	-1.6	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	-4.3	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	8.7	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	-1.5	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	-5.0	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	9.0	-1.0	-1.0	-1.0	4.8	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	-2.3	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	-4.9	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	-6.3	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	6.7	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	-4.5	-1.0	-1.0	-1.0	3.4	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	-6.2	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	-7.2	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2

Table 3.1: Rate of Return for four line portfolio over first 24 hours

0.7	0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
10.4	10.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
5.3	5.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
5.8	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.4	3.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
0.6	0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
2.9	2.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
9.3	9.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
3.1	3.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
3.9	3.9	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
0.9	0.9	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
1.1	1.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
-2.4	-2.4	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-1.0	-1.0	-1.0
0.3	0.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
13.9	13.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	-1.0	-1.0	-1.0
13.8	13.8	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0
12.0	12.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
9.7	9.7	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
9.2	9.2	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
11.5	11.5	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
8.8	8.8	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
6.2	6.2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
5.6	5.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.7	6.7	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
5.5	5.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
3.7	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
6.2	6.2	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
3.4	3.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
0.7	0.7	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
1.0	1.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
3.0	3.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
0.1	0.1	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
4.3	4.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
-3.3	-3.3	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-1.0	-1.0	-1.0
-2.0	-2.0	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-1.0	-1.0	-1.0
-5.8	-5.8	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-1.0	-1.0	-1.0
-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-1.0	-1.0	-1.0
-9.3	-9.3	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	-1.0	-1.0	-1.0
-6.4	-6.4	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-1.0	-1.0	-1.0
9.3	9.3	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
9.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
7.2	7.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0

5.9	5.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.2	4.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
6.7	6.7	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
3.4	3.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
0.1	0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-3.5	-3.5	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-1.0	-1.0	-1.0
-0.6	-0.6	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-2.1	-2.1	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.0	-1.0	-1.0
0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
-5.9	-5.9	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-1.0	-1.0	-1.0
-3.0	-3.0	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-1.0	-1.0	-1.0
-3.9	-3.9	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-1.0	-1.0	-1.0
-1.8	-1.8	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.0	-1.0	-1.0
-6.6	-6.6	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-1.0	-1.0	-1.0
7.6	7.6	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
8.1	8.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
5.2	5.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
4.2	4.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
4.5	4.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-4.0	-4.0	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-1.0	-1.0	-1.0
-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-1.0	-1.0	-1.0
-8.3	-8.3	-7.8	-7.8	-7.8	-7.8	-7.8	-7.8	-7.8	-1.0	-1.0	-1.0
-4.8	-4.8	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-1.0	-1.0	-1.0
-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-1.0	-1.0	-1.0
-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
-6.2	-6.2	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-1.0	-1.0	-1.0
-3.0	-3.0	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-1.0	-1.0	-1.0
-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-1.0	-1.0	-1.0
-11.3	-11.3	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-1.0	-1.0	-1.0
-7.8	-7.8	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-1.0	-1.0	-1.0
-7.3	-7.3	-6.8	-6.8	-6.8	-6.8	-6.8	-6.8	-6.8	-1.0	-1.0	-1.0
-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-1.0	-1.0	-1.0
-12.1	-12.1	-11.6	-11.6	-11.6	-11.6	-11.6	-11.6	-11.6	-1.0	-1.0	-1.0
13.4	13.4	12.3	12.3	12.3	12.3	12.3	12.3	12.3	-1.0	-1.0	-1.0
11.0	11.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.5	7.5	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
10.4	10.4	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
11.2	11.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
8.8	8.8	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0

7.9	7.9	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
10.6	10.6	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
6.7	6.7	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
7.9	7.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
4.1	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
6.3	6.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
0.2	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-4.2	-4.2	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-1.0	-1.0	-1.0
-0.6	-0.6	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
-2.4	-2.4	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.0	-1.0	-1.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-5.0	-5.0	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-1.0	-1.0	-1.0
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-2.5	-2.5	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-1.3	-1.3	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
-3.2	-3.2	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-1.0	-1.0	-1.0
-4.5	-4.5	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-1.0	-1.0	-1.0
-2.0	-2.0	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-1.0	-1.0	-1.0
-8.0	-8.0	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-1.0	-1.0	-1.0
-5.0	-5.0	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-1.0	-1.0	-1.0
12.5	12.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
7.3	7.3	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
7.7	7.7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
5.2	5.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
4.4	4.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.2	2.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
4.7	4.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
16.8	16.8	14.7	14.7	14.7	14.7	14.7	14.7	14.7	-1.0	-1.0	-1.0
16.6	16.6	14.7	14.7	14.7	14.7	14.7	14.7	14.7	-1.0	-1.0	-1.0
15.0	15.0	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
12.2	12.2	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
12.4	12.4	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
14.5	14.5	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-1.0	-1.0	-1.0
12.3	12.3	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
10.2	10.2	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
8.2	8.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.2	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
9.6	9.6	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0

10.4	10.4	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
8.4	8.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.6	7.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
9.9	9.9	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
6.6	6.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
7.6	7.6	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
6.2	6.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.6	4.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
16.6	16.6	14.3	14.3	14.3	14.3	14.3	14.3	14.3	-1.0	-1.0	-1.0
16.3	16.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	-1.0	-1.0	-1.0
14.5	14.5	12.2	12.2	12.2	12.2	12.2	12.2	12.2	-1.0	-1.0	-1.0
11.5	11.5	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
11.5	11.5	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
14.0	14.0	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
11.3	11.3	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
8.7	8.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
6.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
5.2	5.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
8.1	8.1	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
9.0	9.0	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
8.5	8.5	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
2.7	2.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
5.6	5.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
2.4	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
4.6	4.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
2.1	2.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
20.9	20.9	18.8	18.8	18.8	18.8	18.8	18.8	18.8	-1.0	-1.0	-1.0
19.4	19.4	17.1	17.1	17.1	17.1	17.1	17.1	17.1	-1.0	-1.0	-1.0
15.3	15.3	13.6	13.6	13.6	13.6	13.6	13.6	13.6	-1.0	-1.0	-1.0
16.4	16.4	14.6	14.6	14.6	14.6	14.6	14.6	14.6	-1.0	-1.0	-1.0
18.9	18.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	-1.0	-1.0	-1.0
19.0	19.0	16.9	16.9	16.9	16.9	16.9	16.9	16.9	-1.0	-1.0	-1.0
15.1	15.1	13.6	13.6	13.6	13.6	13.6	13.6	13.6	-1.0	-1.0	-1.0
16.2	16.2	14.5	14.5	14.5	14.5	14.5	14.5	14.5	-1.0	-1.0	-1.0
18.5	18.5	16.3	16.3	16.3	16.3	16.3	16.3	16.3	-1.0	-1.0	-1.0
13.7	13.7	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
14.4	14.4	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-1.0	-1.0	-1.0
16.8	16.8	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-1.0	-1.0	-1.0
11.4	11.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
13.3	13.3	11.5	11.5	11.5	11.5	11.5	11.5	11.5	-1.0	-1.0	-1.0
13.8	13.8	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0

14.4	14.4	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
11.2	11.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	-1.0	-1.0	-1.0
11.1	11.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	-1.0	-1.0	-1.0
13.8	13.8	12.3	12.3	12.3	12.3	12.3	12.3	12.3	-1.0	-1.0	-1.0
9.3	9.3	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
11.4	11.4	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
6.7	6.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.9	7.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
9.5	9.5	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
8.9	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
11.6	11.6	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
7.1	7.1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
9.1	9.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
8.3	8.3	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
7.0	7.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.4	5.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
11.8	11.8	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
11.9	11.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
9.5	9.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
7.6	7.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
9.0	9.0	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
5.6	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
2.2	2.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
-1.7	-1.7	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
1.5	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
2.5	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-4.4	-4.4	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-1.0	-1.0	-1.0
-1.2	-1.2	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
-2.7	-2.7	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-1.0	-1.0	-1.0
-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-5.1	-5.1	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-1.0	-1.0	-1.0
16.8	16.8	15.7	15.7	15.7	15.7	15.7	15.7	15.7	-1.0	-1.0	-1.0
14.9	14.9	13.5	13.5	13.5	13.5	13.5	13.5	13.5	-1.0	-1.0	-1.0
11.6	11.6	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
11.6	11.6	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
14.3	14.3	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0

14.7	14.7	13.6	13.6	13.6	13.6	13.6	13.6	13.6	-1.0	-1.0	-1.0
11.7	11.7	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
11.7	11.7	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
14.2	14.2	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
9.9	9.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
9.4	9.4	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
12.1	12.1	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
7.5	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
9.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.8	8.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
9.0	9.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
5.4	5.4	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
8.3	8.3	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
4.7	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
2.0	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
5.2	5.2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
1.9	1.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
4.2	4.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.0	3.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
5.9	5.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
2.6	2.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
2.3	2.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
-0.5	-0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
16.5	16.5	15.3	15.3	15.3	15.3	15.3	15.3	15.3	-1.0	-1.0	-1.0
14.2	14.2	12.8	12.8	12.8	12.8	12.8	12.8	12.8	-1.0	-1.0	-1.0
10.6	10.6	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
10.3	10.3	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
13.5	13.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
14.1	14.1	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
10.8	10.8	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
10.6	10.6	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
13.5	13.5	12.2	12.2	12.2	12.2	12.2	12.2	12.2	-1.0	-1.0	-1.0
8.7	8.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
7.6	7.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
10.8	10.8	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
5.9	5.9	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
8.2	8.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
6.9	6.9	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0

5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
2.6	2.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
6.1	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
-2.1	-2.1	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
1.9	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
-0.8	-0.8	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
-3.0	-3.0	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.0	-1.0	-1.0
3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
-0.4	-0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
0.2	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
-1.2	-1.2	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
-3.1	-3.1	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-1.0	-1.0	-1.0
-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-6.3	-6.3	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-1.0	-1.0	-1.0
-3.7	-3.7	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-1.0	-1.0	-1.0
19.9	19.9	18.6	18.6	18.6	18.6	18.6	18.6	18.6	-1.0	-1.0	-1.0
15.1	15.1	14.2	14.2	14.2	14.2	14.2	14.2	14.2	-1.0	-1.0	-1.0
16.4	16.4	15.7	15.7	15.7	15.7	15.7	15.7	15.7	-1.0	-1.0	-1.0
19.3	19.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	-1.0	-1.0	-1.0
13.3	13.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	-1.0	-1.0	-1.0
14.0	14.0	13.1	13.1	13.1	13.1	13.1	13.1	13.1	-1.0	-1.0	-1.0
17.2	17.2	15.7	15.7	15.7	15.7	15.7	15.7	15.7	-1.0	-1.0	-1.0
10.5	10.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
12.8	12.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	-1.0	-1.0	-1.0
13.3	13.3	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-1.0	-1.0	-1.0
13.3	13.3	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-1.0	-1.0	-1.0
13.9	13.9	13.2	13.2	13.2	13.2	13.2	13.2	13.2	-1.0	-1.0	-1.0
16.8	16.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	-1.0	-1.0	-1.0
10.7	10.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
12.8	12.8	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
13.3	13.3	12.6	12.6	12.6	12.6	12.6	12.6	12.6	-1.0	-1.0	-1.0
8.6	8.6	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
10.9	10.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
10.6	10.6	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
8.1	8.1	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
6.7	6.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
10.3	10.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
5.2	5.2	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
5.9	5.9	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
2.3	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0

4.9	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
1.7	1.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
1.7	1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
3.1	3.1	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
2.9	2.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
-0.6	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0

Table 3.2: Rate of Return for four line portfolios over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
0.45151	4.4702	0.101	232
6.6061	9.2186	0.71661	233
3.1929	5.6646	0.56365	234
3.4376	5.1682	0.66513	235
1.9848	5.1851	0.38279	236
1.634	3.6881	0.44304	237
0.095698	2.8778	0.033254	238
1.6888	5.1999	0.32478	239
6.3958	10.683	0.59871	240
2.3786	7.011	0.33926	241
2.7236	6.1788	0.44079	242
0.96918	6.6807	0.14507	243
0.82835	4.5078	0.18376	244
-1.2348	4.3327	-0.285	245
0.62382	6.7648	0.092215	246
9.137	12.221	0.74762	247
8.9857	11.322	0.79363	248
7.9291	11.642	0.68105	249
6.2573	8.7815	0.71255	250
6.04	9.2517	0.65285	251
7.6332	11.608	0.65755	252
5.6758	7.7796	0.72957	253
4.1675	7.9658	0.52316	254
3.2271	5.6141	0.57481	255
1.9635	5.2132	0.37664	256
3.8221	7.9617	0.48006	257
4.3748	7.1496	0.6119	258
3.4409	5.1818	0.66404	259
2.3404	4.5769	0.51135	260
4.056	7.1193	0.56973	261
2.17	5.1795	0.41896	262
0.55411	4.8329	0.11465	263
2.4127	7.5117	0.3212	264

0.51705	3.1342	0.16497	265
1.911	5.1845	0.3686	266
0.20875	4.9146	0.042476	267
3.1207	6.5857	0.47386	268
-1.8571	2.615	-0.71019	269
-1.1304	1.7911	-0.63114	270
-3.3946	3.1366	-1.0823	271
-2.3812	1.6711	-1.4249	272
-5.799	3.8457	-1.5079	273
-3.7714	3.4298	-1.0996	274
6.073	8.2076	0.73993	275
6.1295	7.5638	0.81037	276
4.7721	7.5721	0.63022	277
3.7447	5.509	0.67975	278
2.7377	4.9984	0.54771	279
4.4532	7.5386	0.59072	280
2.0679	3.1009	0.66685	281
0.094392	2.9422	0.032083	282
0.17744	1.6885	0.10509	283
-2.3099	1.0986	-2.1026	284
-0.28235	3.026	-0.09331	285
0.65848	2.3705	0.27778	286
0.59531	1.5226	0.39099	287
-1.5455	0.48242	-3.2036	288
0.31311	2.3659	0.13234	289
-0.95008	1.4215	-0.66836	290
-3.8474	2.2454	-1.7134	291
-1.8198	3.0415	-0.59833	292
-2.7132	1.373	-1.9761	293
-1.2263	1.5461	-0.79317	294
-4.2241	2.5628	-1.6483	295
5.7083	9.8813	0.57769	296
5.8046	8.8572	0.65535	297
4.1708	9.3103	0.44798	298
3.1668	6.3969	0.49505	299
1.7665	6.3919	0.27637	300
3.7941	9.3315	0.40659	301
0.86567	4.0558	0.21344	302
-1.6799	4.9975	-0.33616	303
-1.0382	2.7249	-0.381	304
-4.6185	3.5907	-1.2862	305
-2.1404	5.2311	-0.40916	306
-0.82558	3.792	-0.21772	307
-0.47375	2.0949	-0.22615	308
-3.4703	2.4188	-1.4347	309
-1.24	3.9597	-0.31315	310

-2.3391	2.9155	-0.80228	311
-6.4977	4.8137	-1.3498	312
-4.0195	5.6618	-0.70994	313
-4.3735	2.8041	-1.5597	314
-2.6579	3.1274	-0.84988	315
-6.9584	5.2054	-1.3368	316
9.003	10.787	0.83464	317
7.6598	11.09	0.69071	318
5.7254	7.819	0.73224	319
5.2555	8.0471	0.65309	320
7.283	11.043	0.65951	321
7.5937	10.031	0.75699	322
5.7966	7.2768	0.79658	323
5.3895	7.2508	0.7433	324
7.2481	9.9659	0.72729	325
4.5979	7.2664	0.63277	326
3.718	7.3914	0.50302	327
5.7456	10.397	0.55264	328
2.8348	5.0356	0.56294	329
4.3217	7.2352	0.59731	330
3.3413	7.3911	0.45207	331
3.0123	5.1948	0.57987	332
2.2676	3.4083	0.66533	333
0.36758	1.8581	0.19783	334
2.5979	5.1538	0.50408	335
0.61313	3.2523	0.18852	336
-2.2333	2.656	-0.84088	337
0.24481	5.6862	0.043053	338
-1.4213	1.0303	-1.3795	339
0.29437	3.292	0.08942	340
-2.6938	2.9744	-0.90565	341
1.0596	2.785	0.38047	342
-1.3237	1.547	-0.85562	343
0.90667	4.5799	0.19797	344
-0.82952	0.438	-1.8939	345
0.76358	2.7668	0.27598	346
-1.7381	1.7915	-0.97017	347
-2.7222	1.6537	-1.6462	348
-1.0066	3.1355	-0.32103	349
-4.573	3.8452	-1.1893	350
-3.041	1.9309	-1.5749	351
7.6024	8.4597	0.89866	352
4.0796	4.5969	0.88748	353
4.2784	4.4443	0.96268	354
2.7787	3.7704	0.73696	355
2.2203	2.8128	0.78937	356

0.74425	1.5953	0.46652	357
2.4599	3.6663	0.67094	358
10.161	10.258	0.99051	359
9.9547	9.717	1.0245	360
9.0333	9.5337	0.94751	361
7.2167	7.4389	0.97014	362
7.2701	7.427	0.97887	363
8.757	9.4285	0.92879	364
7.02	6.5131	1.0778	365
5.7309	5.848	0.97998	366
4.4779	4.4874	0.9979	367
3.6965	3.6943	1.0006	368
5.4121	5.6923	0.95077	369
5.8118	5.6275	1.0328	370
4.6104	4.4573	1.0343	371
3.9227	3.8198	1.0269	372
5.5158	5.4586	1.0105	373
3.4831	3.7671	0.92461	374
2.3955	2.7077	0.88469	375
4.1111	4.8381	0.84974	376
1.9274	2.2775	0.84624	377
3.2393	3.6358	0.89094	378
2.0767	2.5041	0.82932	379
10.481	11.545	0.90787	380
10.223	10.755	0.95049	381
9.18	10.788	0.85098	382
7.1157	8.0724	0.88149	383
7.1458	8.2672	0.86436	384
8.8615	10.701	0.82813	385
6.8433	6.9683	0.98207	386
5.304	6.5384	0.81121	387
3.9978	4.6431	0.86102	388
2.8997	3.6621	0.79181	389
4.9273	6.4299	0.76631	390
5.434	6.0402	0.89963	391
4.177	4.473	0.93382	392
3.23	3.5641	0.90627	393
5.0886	5.9041	0.86187	394
2.8703	3.9445	0.72767	395
1.3622	2.7631	0.493	396
3.3897	5.6414	0.60087	397
1.1072	1.911	0.57938	398
2.5941	3.8605	0.67195	399
0.98544	2.693	0.36593	400
12.964	12.708	1.0202	401
12.133	12.775	0.94973	402

9.3731	9.6478	0.97153	403
10.098	10.31	0.97948	404
11.813	12.661	0.93306	405
11.756	11.921	0.98616	406
9.2339	9.1904	1.0047	407
9.8669	9.6794	1.0194	408
11.46	11.802	0.97099	409
8.3786	9.0162	0.92928	410
8.7969	9.4855	0.92741	411
10.513	11.888	0.88436	412
6.8226	7.1433	0.95511	413
8.1344	8.9262	0.91129	414
8.4784	9.3713	0.90472	415
8.6324	8.3476	1.0341	416
6.5759	6.2684	1.0491	417
6.4285	5.9567	1.0792	418
8.287	8.1768	1.0135	419
5.4289	5.724	0.94846	420
4.8512	5.0927	0.95259	421
6.8788	7.8167	0.88001	422
3.6658	3.7665	0.97324	423
5.1527	5.5983	0.92039	424
4.4745	4.912	0.91094	425
5.5186	5.5093	1.0017	426
5.0189	4.9102	1.0221	427
6.8777	7.235	0.95061	428
3.8656	3.81	1.0146	429
5.2596	5.3715	0.97916	430
4.6736	4.7063	0.99305	431
2.5383	2.9389	0.86369	432
4.0252	4.8764	0.82543	433
2.937	3.9301	0.74732	434
2.262	2.7867	0.81171	435
7.2738	7.4131	0.98122	436
7.2419	7.0171	1.032	437
5.8643	6.4925	0.90325	438
4.4997	4.7997	0.93749	439
3.6604	3.9755	0.92072	440
5.519	6.3594	0.86785	441
3.0136	3.4356	0.87717	442
0.93733	1.9036	0.4924	443
0.78547	1.8941	0.4147	444
-1.7074	3.3688	-0.50684	445
0.52292	1.6184	0.3231	446
1.4761	2.4118	0.61204	447
1.1907	2.3427	0.50825	448

-0.92826	3.6387	-0.25511	449
1.0993	2.1121	0.52051	450
-0.42256	1.3692	-0.30861	451
-3.3987	3.808	-0.89252	452
-1.1683	1.1157	-1.0472	453
-2.3116	3.203	-0.72172	454
-0.71857	1.2157	-0.59105	455
-3.8131	3.8389	-0.99328	456
10.195	9.2456	1.1026	457
9.0624	8.7908	1.0309	458
6.8983	6.5883	1.047	459
6.8585	6.365	1.0775	460
8.717	8.6238	1.0108	461
8.8933	8.3077	1.0705	462
6.8965	6.4003	1.0775	463
6.8588	6.1995	1.1063	464
8.5747	8.1343	1.0541	465
5.8414	5.836	1.0009	466
5.4492	5.3306	1.0223	467
7.3077	7.6895	0.95034	468
4.1884	4.0963	1.0225	469
5.5824	5.7019	0.97904	470
5.1039	5.1351	0.99392	471
4.9651	4.6628	1.0648	472
3.7493	3.84	0.97636	473
2.5608	4.0944	0.62543	474
4.5883	4.3543	1.0537	475
2.3188	2.658	0.87239	476
0.43925	2.8474	0.15426	477
2.6696	2.8516	0.93616	478
0.42968	2.7918	0.15391	479
2.0228	2.4059	0.84077	480
0.024833	2.5728	0.009652	481
2.6218	3.0138	0.86993	482
1.0233	3.4077	0.30028	483
3.0508	3.173	0.9615	484
0.85858	3.2058	0.26782	485
2.3455	2.7727	0.84592	486
0.64653	3.1396	0.20593	487
-0.77835	2.5686	-0.30303	488
0.81478	1.5106	0.53938	489
-1.6664	2.5011	-0.66627	490
-1.0744	2.44	-0.4403	491
10.579	10.271	1.03	492
9.2593	10.081	0.91847	493
6.7298	7.0656	0.95247	494

6.6146	6.9222	0.95557	495
8.8449	9.9386	0.88995	496
9.0417	9.2498	0.97751	497
6.7386	6.7211	1.0026	498
6.6372	6.4963	1.0217	499
8.665	9.0924	0.95299	500
5.5217	6.2923	0.87753	501
4.9233	5.8463	0.84213	502
7.1537	8.9728	0.79726	503
3.6326	4.078	0.89078	504
5.2257	6.1848	0.84493	505
4.5089	5.7065	0.79014	506
4.2732	4.2972	0.99442	507
3.0832	3.2823	0.93935	508
1.3345	3.1744	0.42041	509
3.8127	3.9942	0.95455	510
1.3588	2.0461	0.66409	511
-1.4706	2.2143	-0.66416	512
1.3173	2.8683	0.45926	513
-0.84514	2.1546	-0.39224	514
1.0135	1.8366	0.55183	515
-1.9886	2.158	-0.92152	516
1.7823	2.3269	0.76595	517
-0.54463	2.6327	-0.20687	518
1.9335	2.687	0.71958	519
-0.25216	2.5586	-0.09856	520
1.4635	2.0844	0.70211	521
-1.0051	2.4396	-0.412	522
-2.2545	2.3606	-0.95505	523
-0.39591	1.0768	-0.36767	524
-4.1027	3.1379	-1.3075	525
-2.5999	2.3707	-1.0967	526
12.53	11.788	1.063	527
9.2971	8.6364	1.0765	528
10.126	9.122	1.1101	529
12.154	11.604	1.0474	530
8.263	8.2414	1.0026	531
8.7612	8.5521	1.0245	532
10.992	11.522	0.95398	533
6.374	6.1078	1.0436	534
7.9672	8.1056	0.98292	535
8.3468	8.3546	0.99907	536
8.1696	7.837	1.0424	537
8.5889	8.0063	1.0728	538
10.616	10.573	1.004	539
6.4065	5.9418	1.0782	540

7.8934	7.6942	1.0259	541
8.2122	7.7984	1.0531	542
5.166	5.2432	0.98528	543
6.7591	7.3197	0.9234	544
6.6556	7.2489	0.91816	545
4.8699	5.0894	0.95688	546
4.7345	4.4429	1.0656	547
3.7197	4.0457	0.91944	548
6.198	5.7491	1.0781	549
2.7001	3.4631	0.77967	550
4.4157	4.2011	1.0511	551
3.2593	3.6412	0.89511	552
0.94375	2.1362	0.44179	553
2.8024	3.0615	0.91536	554
0.69469	1.5629	0.44448	555
0.5984	1.8477	0.32387	556
1.3991	2.6893	0.52026	557
3.1147	3.1953	0.9748	558
1.3801	2.4026	0.57441	559
1.0803	2.4241	0.44566	560
-0.81097	1.3792	-0.58798	561

Table 3.3: Parameters associated with each portfolio for four line case

4. Five Line Combination:

-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	9.0	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	5.0	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	5.6	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	3.3	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	3.1	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	10.2	-1.0	-1.0	-1.0	1.3	-2.1	-2.1	-2.1	-2.1
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	2.9	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	42.9	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	39.4	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	41.4	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	41.4	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	3.9	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	18.8	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	26.1	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	23.2	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5

-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	0.2	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	1.8	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	0.6	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	1.8	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	14.0	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	50.2	-1.0	-1.0	-1.0	11.9	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	46.0	-1.0	-1.0	-1.0	12.0	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	48.5	-1.0	-1.0	-1.0	10.2	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	36.8	-1.0	-1.0	-1.0	8.6	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	8.1	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	48.6	-1.0	-1.0	-1.0	9.7	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	8.2	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	5.8	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	5.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	20.1	-1.0	-1.0	-1.0	3.5	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	5.3	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	28.4	-1.0	-1.0	-1.0	6.4	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	5.5	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	17.3	-1.0	-1.0	-1.0	4.2	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	28.6	-1.0	-1.0	-1.0	5.9	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	3.5	0.5	0.5	0.5	0.5
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	1.6	-2.3	-2.3	-2.3	-2.3
-1.0	-1.0	-1.0	30.2	-1.0	-1.0	-1.0	3.4	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	1.7	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	3.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	1.1	-2.8	-2.8	-2.8	-2.8
-1.0	-1.0	-1.0	51.0	-1.0	-1.0	-1.0	12.5	12.5	12.5	12.5	12.5
-1.0	-1.0	-1.0	53.9	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	41.1	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	43.5	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	54.0	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	49.5	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	39.6	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	49.5	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	39.7	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	41.8	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	52.3	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	31.4	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	39.8	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	41.9	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	34.2	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0

-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	2.3	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	36.4	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	16.7	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	1.7	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	32.5	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	2.9	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	23.5	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	21.3	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	15.1	-1.0	-1.0	-1.0	0.7	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	24.5	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	22.5	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	15.2	-1.0	-1.0	-1.0	0.3	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	8.7	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	28.7	-1.0	-1.0	-1.0	9.0	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	30.2	-1.0	-1.0	-1.0	6.9	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	21.7	-1.0	-1.0	-1.0	5.9	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	4.7	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	6.4	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	9.4	-1.0	-1.0	-1.0	4.5	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	1.7	-2.4	-2.4	-2.4	-2.4
-1.0	-1.0	-1.0	5.0	-1.0	-1.0	-1.0	1.8	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	-3.2	-1.0	-1.0	-1.0	-0.8	-4.9	-4.9	-4.9	-4.9
-1.0	-1.0	-1.0	9.8	-1.0	-1.0	-1.0	1.2	-3.0	-3.0	-3.0	-3.0
-1.0	-1.0	-1.0	7.4	-1.0	-1.0	-1.0	2.6	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	3.5	-1.0	-1.0	-1.0	2.5	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	-4.5	-1.0	-1.0	-1.0	0.3	-3.6	-3.6	-3.6	-3.6
-1.0	-1.0	-1.0	7.5	-1.0	-1.0	-1.0	2.1	-1.8	-1.8	-1.8	-1.8
-1.0	-1.0	-1.0	3.4	-1.0	-1.0	-1.0	0.2	-3.0	-3.0	-3.0	-3.0
-1.0	-1.0	-1.0	-5.3	-1.0	-1.0	-1.0	-2.9	-7.0	-7.0	-7.0	-7.0
-1.0	-1.0	-1.0	7.7	-1.0	-1.0	-1.0	-0.9	-5.1	-5.1	-5.1	-5.1
-1.0	-1.0	-1.0	-6.4	-1.0	-1.0	-1.0	-1.7	-4.9	-4.9	-4.9	-4.9
-1.0	-1.0	-1.0	3.5	-1.0	-1.0	-1.0	-0.2	-3.4	-3.4	-3.4	-3.4
-1.0	-1.0	-1.0	-5.2	-1.0	-1.0	-1.0	-3.4	-7.6	-7.6	-7.6	-7.6
-1.0	-1.0	-1.0	34.1	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	36.1	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	32.4	-1.0	-1.0	-1.0	7.9	7.9	7.9	7.9	7.9

-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	21.9	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	32.5	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	3.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	8.3	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	1.6	-1.0	-1.0	-1.0	1.0	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	2.8	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	8.5	-1.0	-1.0	-1.0	0.8	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	1.4	-1.0	-1.0	-1.0	-2.1	-2.1	-2.1	-2.1	-2.1
-1.0	-1.0	-1.0	14.4	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	-1.4	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	8.6	-1.0	-1.0	-1.0	0.3	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	1.5	-1.0	-1.0	-1.0	-2.7	-2.7	-2.7	-2.7	-2.7
-1.0	-1.0	-1.0	6.8	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	-0.3	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	0.8	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	-2.5	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	6.9	-1.0	-1.0	-1.0	1.1	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	-0.2	-1.0	-1.0	-1.0	-1.5	-1.5	-1.5	-1.5	-1.5
-1.0	-1.0	-1.0	-3.0	-1.0	-1.0	-1.0	-2.7	-2.7	-2.7	-2.7	-2.7
-1.0	-1.0	-1.0	7.0	-1.0	-1.0	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	-0.6	-1.0	-1.0	-1.0	-4.8	-4.8	-4.8	-4.8	-4.8
-1.0	-1.0	-1.0	-2.9	-1.0	-1.0	-1.0	-3.2	-3.2	-3.2	-3.2	-3.2
-1.0	-1.0	-1.0	41.2	-1.0	-1.0	-1.0	12.3	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	44.0	-1.0	-1.0	-1.0	10.1	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	31.2	-1.0	-1.0	-1.0	8.2	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	7.6	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	44.1	-1.0	-1.0	-1.0	9.6	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	39.3	-1.0	-1.0	-1.0	10.4	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	28.3	-1.0	-1.0	-1.0	8.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	8.1	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	39.4	-1.0	-1.0	-1.0	9.9	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	29.6	-1.0	-1.0	-1.0	6.6	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	29.0	-1.0	-1.0	-1.0	5.5	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	42.0	-1.0	-1.0	-1.0	7.5	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	4.7	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	29.7	-1.0	-1.0	-1.0	6.2	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	29.1	-1.0	-1.0	-1.0	5.0	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	18.5	-1.0	-1.0	-1.0	5.4	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	11.3	-1.0	-1.0	-1.0	4.6	1.2	1.2	1.2	1.2

-1.0	-1.0	-1.0	4.6	-1.0	-1.0	-1.0	2.7	-1.8	-1.8	-1.8	-1.8
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	4.8	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	11.7	-1.0	-1.0	-1.0	2.2	-1.5	-1.5	-1.5	-1.5
-1.0	-1.0	-1.0	4.5	-1.0	-1.0	-1.0	-0.8	-5.7	-5.7	-5.7	-5.7
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	1.5	-3.4	-3.4	-3.4	-3.4
-1.0	-1.0	-1.0	0.6	-1.0	-1.0	-1.0	0.0	-3.6	-3.6	-3.6	-3.6
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	1.7	-1.9	-1.9	-1.9	-1.9
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	-1.4	-6.4	-6.4	-6.4	-6.4
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	2.9	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	2.3	-1.0	-1.0	-1.0	0.5	-4.1	-4.1	-4.1	-4.1
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	2.6	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	0.9	-2.5	-2.5	-2.5	-2.5
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	2.5	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	2.4	-1.0	-1.0	-1.0	-0.1	-4.7	-4.7	-4.7	-4.7
-1.0	-1.0	-1.0	-1.2	-1.0	-1.0	-1.0	-1.8	-5.4	-5.4	-5.4	-5.4
-1.0	-1.0	-1.0	10.0	-1.0	-1.0	-1.0	-0.1	-3.7	-3.7	-3.7	-3.7
-1.0	-1.0	-1.0	2.2	-1.0	-1.0	-1.0	-3.9	-8.8	-8.8	-8.8	-8.8
-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-2.3	-5.9	-5.9	-5.9	-5.9
-1.0	-1.0	-1.0	45.4	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	45.5	-1.0	-1.0	-1.0	10.6	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	34.7	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	35.7	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	48.7	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	34.8	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	35.8	-1.0	-1.0	-1.0	5.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	31.6	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	31.5	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	43.6	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	31.7	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	31.7	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	33.2	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	33.7	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	1.2	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	4.6	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	15.1	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	0.6	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	4.5	-1.0	-1.0	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	0.5	0.5	0.5	0.5	0.5

-1.0	-1.0	-1.0	10.0	-1.0	-1.0	-1.0	-3.1	-3.1	-3.1	-3.1	-3.1
-1.0	-1.0	-1.0	4.6	-1.0	-1.0	-1.0	-1.7	-1.7	-1.7	-1.7	-1.7
-1.0	-1.0	-1.0	2.9	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	1.3	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	7.4	-1.0	-1.0	-1.0	-1.6	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	3.0	-1.0	-1.0	-1.0	-0.7	-0.7	-0.7	-0.7	-0.7
-1.0	-1.0	-1.0	2.8	-1.0	-1.0	-1.0	-3.5	-3.5	-3.5	-3.5	-3.5
-1.0	-1.0	-1.0	36.1	-1.0	-1.0	-1.0	14.4	11.3	11.3	11.3	11.3
-1.0	-1.0	-1.0	32.9	-1.0	-1.0	-1.0	14.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	34.5	-1.0	-1.0	-1.0	12.9	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	10.8	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	24.7	-1.0	-1.0	-1.0	10.9	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	34.6	-1.0	-1.0	-1.0	12.4	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	11.2	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	17.3	-1.0	-1.0	-1.0	9.2	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	7.7	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	6.1	-1.0	-1.0	-1.0	7.0	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	8.7	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	14.8	-1.0	-1.0	-1.0	9.5	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	9.8	-1.0	-1.0	-1.0	8.0	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	4.4	-1.0	-1.0	-1.0	7.5	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	14.9	-1.0	-1.0	-1.0	9.0	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	6.3	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	4.3	-1.0	-1.0	-1.0	5.2	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	6.9	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	1.3	-1.0	-1.0	-1.0	4.6	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	5.9	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	4.4	-1.0	-1.0	-1.0	4.7	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	37.7	-1.0	-1.0	-1.0	14.9	14.9	14.9	14.9	14.9
-1.0	-1.0	-1.0	39.6	-1.0	-1.0	-1.0	13.4	13.4	13.4	13.4	13.4
-1.0	-1.0	-1.0	30.1	-1.0	-1.0	-1.0	11.3	11.3	11.3	11.3	11.3
-1.0	-1.0	-1.0	29.7	-1.0	-1.0	-1.0	11.5	11.5	11.5	11.5	11.5
-1.0	-1.0	-1.0	39.7	-1.0	-1.0	-1.0	13.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	36.2	-1.0	-1.0	-1.0	13.4	13.4	13.4	13.4	13.4
-1.0	-1.0	-1.0	27.7	-1.0	-1.0	-1.0	11.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	36.3	-1.0	-1.0	-1.0	13.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	28.1	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	11.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	8.4	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	28.9	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	28.2	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	14.1	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	9.8	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0

-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	21.3	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	10.2	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	12.8	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	8.1	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	7.9	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	4.4	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	12.9	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	8.2	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	4.4	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	13.3	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	8.4	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	4.5	-1.0	-1.0	-1.0	3.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	44.4	-1.0	-1.0	-1.0	18.0	14.6	14.6	14.6	14.6
-1.0	-1.0	-1.0	47.0	-1.0	-1.0	-1.0	16.5	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	35.0	-1.0	-1.0	-1.0	13.4	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	35.8	-1.0	-1.0	-1.0	14.3	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	47.1	-1.0	-1.0	-1.0	16.0	12.4	12.4	12.4	12.4
-1.0	-1.0	-1.0	42.7	-1.0	-1.0	-1.0	16.3	12.9	12.9	12.9	12.9
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	13.5	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	14.3	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	42.8	-1.0	-1.0	-1.0	15.9	12.5	12.5	12.5	12.5
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	12.0	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	34.0	-1.0	-1.0	-1.0	12.5	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	45.3	-1.0	-1.0	-1.0	14.2	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	24.7	-1.0	-1.0	-1.0	10.3	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	33.6	-1.0	-1.0	-1.0	11.6	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	34.1	-1.0	-1.0	-1.0	12.0	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	12.9	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	10.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	10.6	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	25.5	-1.0	-1.0	-1.0	12.4	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	8.7	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	14.1	-1.0	-1.0	-1.0	8.2	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	10.1	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	8.4	-1.0	-1.0	-1.0	6.8	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	8.3	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	7.7	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	9.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	8.6	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	10.4	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	6.7	-1.0	-1.0	-1.0	7.2	4.2	4.2	4.2	4.2

-1.0	-1.0	-1.0	16.1	-1.0	-1.0	-1.0	8.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	11.6	-1.0	-1.0	-1.0	8.1	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	6.8	-1.0	-1.0	-1.0	5.2	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	16.7	-1.0	-1.0	-1.0	6.7	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	12.1	-1.0	-1.0	-1.0	5.6	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	6.9	-1.0	-1.0	-1.0	4.8	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	48.1	-1.0	-1.0	-1.0	16.9	16.9	16.9	16.9	16.9
-1.0	-1.0	-1.0	36.4	-1.0	-1.0	-1.0	13.9	13.9	13.9	13.9	13.9
-1.0	-1.0	-1.0	37.6	-1.0	-1.0	-1.0	14.9	14.9	14.9	14.9	14.9
-1.0	-1.0	-1.0	48.2	-1.0	-1.0	-1.0	16.4	16.4	16.4	16.4	16.4
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	12.5	12.5	12.5	12.5	12.5
-1.0	-1.0	-1.0	39.8	-1.0	-1.0	-1.0	13.1	13.1	13.1	13.1	13.1
-1.0	-1.0	-1.0	51.0	-1.0	-1.0	-1.0	14.8	14.8	14.8	14.8	14.8
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	38.2	-1.0	-1.0	-1.0	12.1	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	39.9	-1.0	-1.0	-1.0	12.6	12.6	12.6	12.6	12.6
-1.0	-1.0	-1.0	35.1	-1.0	-1.0	-1.0	12.6	12.6	12.6	12.6	12.6
-1.0	-1.0	-1.0	35.9	-1.0	-1.0	-1.0	13.2	13.2	13.2	13.2	13.2
-1.0	-1.0	-1.0	46.5	-1.0	-1.0	-1.0	14.8	14.8	14.8	14.8	14.8
-1.0	-1.0	-1.0	26.7	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	35.2	-1.0	-1.0	-1.0	12.2	12.2	12.2	12.2	12.2
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	12.7	12.7	12.7	12.7	12.7
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	9.4	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	36.7	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	38.1	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	27.9	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	29.7	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	20.9	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	5.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	10.0	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	19.3	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	15.2	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	13.4	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	19.0	-1.0	-1.0	-1.0	10.9	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	11.1	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	27.4	-1.0	-1.0	-1.0	12.9	9.0	9.0	9.0	9.0

-1.0	-1.0	-1.0	24.0	-1.0	-1.0	-1.0	13.4	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	16.8	-1.0	-1.0	-1.0	11.1	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	12.9	-1.0	-1.0	-1.0	11.3	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	24.1	-1.0	-1.0	-1.0	13.0	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	9.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	9.1	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	25.5	-1.0	-1.0	-1.0	10.9	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	8.2	-1.0	-1.0	-1.0	7.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	9.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	13.5	-1.0	-1.0	-1.0	8.6	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	2.5	-1.0	-1.0	-1.0	9.3	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	-0.5	-1.0	-1.0	-1.0	7.6	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	-10.4	-1.0	-1.0	-1.0	6.8	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	2.6	-1.0	-1.0	-1.0	8.7	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	5.5	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	-11.7	-1.0	-1.0	-1.0	3.9	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	2.4	-1.0	-1.0	-1.0	6.0	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	-11.3	-1.0	-1.0	-1.0	3.5	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	5.1	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	-11.5	-1.0	-1.0	-1.0	3.3	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	-2.1	-1.0	-1.0	-1.0	6.0	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-12.5	-1.0	-1.0	-1.0	4.7	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	0.5	-1.0	-1.0	-1.0	6.7	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	-11.9	-1.0	-1.0	-1.0	4.1	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	5.6	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	-12.3	-1.0	-1.0	-1.0	4.2	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-13.0	-1.0	-1.0	-1.0	1.8	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	-2.4	-1.0	-1.0	-1.0	3.4	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-13.8	-1.0	-1.0	-1.0	1.1	-3.4	-3.4	-3.4	-3.4
-1.0	-1.0	-1.0	-12.9	-1.0	-1.0	-1.0	1.3	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	29.8	-1.0	-1.0	-1.0	14.1	14.1	14.1	14.1	14.1
-1.0	-1.0	-1.0	21.4	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	13.6	13.6	13.6	13.6	13.6
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	19.6	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	31.6	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	13.0	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	16.8	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	28.1	-1.0	-1.0	-1.0	11.8	11.8	11.8	11.8	11.8
-1.0	-1.0	-1.0	11.1	-1.0	-1.0	-1.0	8.4	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6

-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	3.0	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	-5.8	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	7.2	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	-6.8	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	3.1	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	-5.7	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	-7.6	-1.0	-1.0	-1.0	2.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	3.0	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	-6.6	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	-7.5	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	-8.4	-1.0	-1.0	-1.0	3.1	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	1.5	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	-7.8	-1.0	-1.0	-1.0	2.8	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-8.3	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	-9.2	-1.0	-1.0	-1.0	0.2	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	36.8	-1.0	-1.0	-1.0	17.7	13.5	13.5	13.5	13.5
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	14.0	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	15.2	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	36.9	-1.0	-1.0	-1.0	17.1	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	12.3	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	25.5	-1.0	-1.0	-1.0	13.0	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	39.6	-1.0	-1.0	-1.0	15.1	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	10.3	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	11.9	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	12.4	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	12.4	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	13.1	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	34.8	-1.0	-1.0	-1.0	15.1	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	10.5	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	12.0	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	22.0	-1.0	-1.0	-1.0	12.6	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	14.9	-1.0	-1.0	-1.0	8.6	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	10.2	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	10.2	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	8.2	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	5.5	-1.0	-1.0	-1.0	8.7	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	-4.0	-1.0	-1.0	-1.0	8.2	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	11.4	-1.0	-1.0	-1.0	10.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	-5.6	-1.0	-1.0	-1.0	6.6	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	5.6	-1.0	-1.0	-1.0	8.2	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	-3.8	-1.0	-1.0	-1.0	7.5	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	-6.4	-1.0	-1.0	-1.0	4.1	0.2	0.2	0.2	0.2

-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	5.9	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	-4.7	-1.0	-1.0	-1.0	4.1	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	-6.3	-1.0	-1.0	-1.0	3.6	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	-7.4	-1.0	-1.0	-1.0	4.8	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	3.8	-1.0	-1.0	-1.0	6.4	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-6.3	-1.0	-1.0	-1.0	5.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	-7.3	-1.0	-1.0	-1.0	4.3	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	-8.2	-1.0	-1.0	-1.0	1.6	-2.2	-2.2	-2.2	-2.2
-1.0	-1.0	-1.0	29.2	-1.0	-1.0	-1.0	13.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	13.8	13.8	13.8	13.8	13.8
-1.0	-1.0	-1.0	41.5	-1.0	-1.0	-1.0	15.8	15.8	15.8	15.8	15.8
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	12.6	12.6	12.6	12.6	12.6
-1.0	-1.0	-1.0	28.6	-1.0	-1.0	-1.0	13.3	13.3	13.3	13.3	13.3
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	9.2	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	30.8	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	30.6	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	20.4	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	27.7	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	26.5	-1.0	-1.0	-1.0	11.2	11.2	11.2	11.2	11.2
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	-1.7	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	1.6	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	-1.6	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	-2.1	-1.0	-1.0	-1.0	2.3	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	-3.4	-1.0	-1.0	-1.0	3.1	3.1	3.1	3.1	3.1

Table 4.1: Rate of Return for five line portfolios for first 12 hours

7.7	7.7	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
2.8	2.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
3.4	3.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
1.2	1.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-1.3	-1.3	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-1.0	-1.0	-1.0
0.7	0.7	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
11.2	11.2	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
11.3	11.3	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
9.7	9.7	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.3	8.3	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
7.6	7.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
9.3	9.3	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0

7.2	7.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
5.1	5.1	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.7	2.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
4.7	4.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
5.6	5.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
4.8	4.8	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.3	3.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
5.2	5.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.1	3.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
1.1	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
0.6	0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
10.3	10.3	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
10.5	10.5	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
8.6	8.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
7.3	7.3	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
6.2	6.2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
8.2	8.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.3	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
2.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
0.5	0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
2.8	2.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
3.9	3.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
3.4	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
1.3	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
3.4	3.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
1.4	1.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
-1.5	-1.5	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-1.0	-1.0	-1.0
0.8	0.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-0.8	-0.8	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
1.0	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
-2.0	-2.0	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-1.0	-1.0	-1.0
14.3	14.3	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-1.0	-1.0	-1.0
12.7	12.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
10.5	10.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
10.2	10.2	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
12.2	12.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
12.7	12.7	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
10.6	10.6	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
10.4	10.4	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
12.3	12.3	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
9.1	9.1	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0

8.5	8.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
10.5	10.5	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
7.2	7.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
8.8	8.8	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
8.1	8.1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.2	8.2	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
6.8	6.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.6	5.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
7.7	7.7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.1	3.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
5.4	5.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
2.8	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
4.6	4.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.6	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
5.4	5.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.8	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
5.9	5.9	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
3.3	3.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
5.0	5.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
3.3	3.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
1.3	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
3.1	3.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
0.7	0.7	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
0.9	0.9	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
4.3	4.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
3.7	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
1.7	1.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
3.8	3.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
-2.2	-2.2	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-1.0	-1.0	-1.0
-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
-5.2	-5.2	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-1.0	-1.0	-1.0
-2.7	-2.7	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0
-1.1	-1.1	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-3.9	-3.9	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-1.0	-1.0	-1.0
-1.6	-1.6	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.0	-1.0	-1.0
-2.9	-2.9	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0
-7.3	-7.3	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-1.0	-1.0	-1.0
-4.8	-4.8	-5.1	-5.1	-5.1	-5.1	-5.1	-5.1	-5.1	-1.0	-1.0	-1.0
-5.2	-5.2	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9	-1.0	-1.0	-1.0
-3.3	-3.3	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-1.0	-1.0	-1.0
-7.8	-7.8	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-1.0	-1.0	-1.0

10.5	10.5	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
8.6	8.6	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.1	7.1	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.0	6.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
8.1	8.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
8.8	8.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.4	6.4	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
8.4	8.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
5.7	5.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
4.2	4.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
6.3	6.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.6	3.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
5.3	5.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.7	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
3.5	3.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
3.0	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
-2.3	-2.3	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-1.0	-1.0	-1.0
0.1	0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
-1.4	-1.4	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
-2.9	-2.9	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-1.0	-1.0	-1.0
1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
-0.6	-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
-1.7	-1.7	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.0	-1.0	-1.0
-3.0	-3.0	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-1.0	-1.0	-1.0
-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
-4.9	-4.9	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-1.0	-1.0	-1.0
-3.4	-3.4	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-1.0	-1.0	-1.0
9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
7.1	7.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.1	4.1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
6.5	6.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
7.5	7.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
6.2	6.2	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
4.7	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
7.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
4.2	4.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
2.0	2.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0

4.5	4.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
1.9	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
3.8	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
1.5	1.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
-2.2	-2.2	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.0	-1.0	-1.0
0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
-1.4	-1.4	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.0	-1.0	-1.0
-6.1	-6.1	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-1.0	-1.0	-1.0
-3.2	-3.2	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-1.0	-1.0	-1.0
-4.0	-4.0	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-1.0	-1.0	-1.0
-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.0	-1.0	-1.0
-6.7	-6.7	-6.4	-6.4	-6.4	-6.4	-6.4	-6.4	-6.4	-1.0	-1.0	-1.0
-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-4.5	-4.5	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-1.0	-1.0	-1.0
-1.8	-1.8	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
-2.9	-2.9	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.0	-1.0	-1.0
-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
-5.1	-5.1	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-1.0	-1.0	-1.0
-5.8	-5.8	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4	-1.0	-1.0	-1.0
-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-1.0	-1.0	-1.0
-9.2	-9.2	-8.8	-8.8	-8.8	-8.8	-8.8	-8.8	-8.8	-1.0	-1.0	-1.0
-6.3	-6.3	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-1.0	-1.0	-1.0
12.1	12.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
9.8	9.8	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.3	9.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
11.6	11.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
8.0	8.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
6.9	6.9	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
9.4	9.4	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
5.7	5.7	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.6	7.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
8.3	8.3	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
9.6	9.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
6.1	6.1	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
7.9	7.9	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
6.9	6.9	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
4.1	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
6.0	6.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
3.7	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
0.9	0.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0

3.5	3.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
1.1	1.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-1.5	-1.5	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
-3.3	-3.3	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-1.0	-1.0	-1.0
-2.0	-2.0	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.0	-1.0	-1.0
-0.6	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-2.0	-2.0	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
-1.1	-1.1	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-1.0	-1.0	-1.0
-3.8	-3.8	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-1.0	-1.0	-1.0
13.1	13.1	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-1.0	-1.0	-1.0
13.1	13.1	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
11.5	11.5	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
9.7	9.7	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
9.2	9.2	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
11.1	11.1	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
8.9	8.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
6.9	6.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
5.8	5.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
4.3	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
6.4	6.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.2	7.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
6.1	6.1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
4.8	4.8	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.8	6.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
4.4	4.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.5	2.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
4.6	4.6	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
2.3	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
2.0	2.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
16.7	16.7	14.9	14.9	14.9	14.9	14.9	14.9	14.9	-1.0	-1.0	-1.0
15.3	15.3	13.4	13.4	13.4	13.4	13.4	13.4	13.4	-1.0	-1.0	-1.0
12.7	12.7	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-1.0	-1.0	-1.0
13.0	13.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	-1.0	-1.0	-1.0
14.9	14.9	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
15.2	15.2	13.4	13.4	13.4	13.4	13.4	13.4	13.4	-1.0	-1.0	-1.0
12.7	12.7	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
13.0	13.0	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
14.8	14.8	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
11.4	11.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
11.4	11.4	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
13.3	13.3	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0

9.6	9.6	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
11.1	11.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
11.0	11.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
11.3	11.3	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
9.3	9.3	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.8	8.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
10.8	10.8	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
8.9	8.9	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
5.7	5.7	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.4	7.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.3	6.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
8.0	8.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.1	7.1	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
9.1	9.1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
6.0	6.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
7.6	7.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.7	6.7	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
3.9	3.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
16.5	16.5	14.6	14.6	14.6	14.6	14.6	14.6	14.6	-1.0	-1.0	-1.0
14.9	14.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
12.1	12.1	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
12.3	12.3	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
14.4	14.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-1.0	-1.0	-1.0
14.8	14.8	12.9	12.9	12.9	12.9	12.9	12.9	12.9	-1.0	-1.0	-1.0
12.2	12.2	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
12.3	12.3	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
14.3	14.3	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-1.0	-1.0	-1.0
10.7	10.7	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
10.5	10.5	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
12.6	12.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
8.6	8.6	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
10.3	10.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
10.0	10.0	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
10.3	10.3	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
8.4	8.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.5	7.5	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
9.8	9.8	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
6.5	6.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
7.4	7.4	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
4.2	4.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0

6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
6.8	6.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.5	5.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
7.8	7.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
4.7	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
2.6	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
2.4	2.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
2.2	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
18.8	18.8	16.9	16.9	16.9	16.9	16.9	16.9	16.9	-1.0	-1.0	-1.0
15.4	15.4	13.9	13.9	13.9	13.9	13.9	13.9	13.9	-1.0	-1.0	-1.0
16.4	16.4	14.9	14.9	14.9	14.9	14.9	14.9	14.9	-1.0	-1.0	-1.0
18.4	18.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	-1.0	-1.0	-1.0
14.1	14.1	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-1.0	-1.0	-1.0
14.8	14.8	13.1	13.1	13.1	13.1	13.1	13.1	13.1	-1.0	-1.0	-1.0
16.9	16.9	14.8	14.8	14.8	14.8	14.8	14.8	14.8	-1.0	-1.0	-1.0
12.0	12.0	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
13.7	13.7	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
14.3	14.3	12.6	12.6	12.6	12.6	12.6	12.6	12.6	-1.0	-1.0	-1.0
14.0	14.0	12.6	12.6	12.6	12.6	12.6	12.6	12.6	-1.0	-1.0	-1.0
14.7	14.7	13.2	13.2	13.2	13.2	13.2	13.2	13.2	-1.0	-1.0	-1.0
16.7	16.7	14.8	14.8	14.8	14.8	14.8	14.8	14.8	-1.0	-1.0	-1.0
12.1	12.1	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
13.7	13.7	12.2	12.2	12.2	12.2	12.2	12.2	12.2	-1.0	-1.0	-1.0
14.2	14.2	12.7	12.7	12.7	12.7	12.7	12.7	12.7	-1.0	-1.0	-1.0
10.6	10.6	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
12.3	12.3	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
12.5	12.5	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
10.2	10.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
10.4	10.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
10.1	10.1	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
12.4	12.4	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
8.3	8.3	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
10.0	10.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.6	9.6	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
8.3	8.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
7.3	7.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
6.0	6.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
6.8	6.8	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
8.5	8.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.4	6.4	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0

4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
12.6	12.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
10.7	10.7	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
8.7	8.7	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
7.9	7.9	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
10.2	10.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
10.8	10.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
8.9	8.9	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
8.2	8.2	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
10.4	10.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.0	6.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
8.3	8.3	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
5.0	5.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
6.8	6.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.5	5.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
5.4	5.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
4.8	4.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
-0.8	-0.8	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-0.2	-0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
0.6	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0
2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
-0.3	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-1.8	-1.8	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-3.6	-3.6	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-1.0	-1.0	-1.0
-2.3	-2.3	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
15.1	15.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	-1.0	-1.0	-1.0
12.3	12.3	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
12.5	12.5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0
14.6	14.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	-1.0	-1.0	-1.0
10.7	10.7	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
10.6	10.6	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
12.8	12.8	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
8.6	8.6	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
10.4	10.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
10.1	10.1	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0

10.9	10.9	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
10.7	10.7	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
12.8	12.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	-1.0	-1.0	-1.0
8.8	8.8	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
10.5	10.5	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
10.2	10.2	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
7.1	7.1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.9	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.1	8.1	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
6.7	6.7	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
5.2	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
7.7	7.7	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
4.4	4.4	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
6.3	6.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
4.7	4.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
2.2	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
4.2	4.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
1.7	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
2.8	2.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
2.6	2.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
14.6	14.6	13.5	13.5	13.5	13.5	13.5	13.5	13.5	-1.0	-1.0	-1.0
11.6	11.6	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
11.6	11.6	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
14.1	14.1	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
9.8	9.8	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
9.3	9.3	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
11.9	11.9	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
7.4	7.4	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.7	8.7	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
10.0	10.0	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
9.5	9.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
12.0	12.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
7.7	7.7	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
9.6	9.6	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
9.0	9.0	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
5.3	5.3	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0

2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
5.8	5.8	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
2.2	2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
-0.1	-0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
-1.6	-1.6	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
-0.6	-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
0.7	0.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
-0.2	-0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
-2.6	-2.6	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-1.0	-1.0	-1.0
13.8	13.8	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
14.5	14.5	13.8	13.8	13.8	13.8	13.8	13.8	13.8	-1.0	-1.0	-1.0
16.9	16.9	15.8	15.8	15.8	15.8	15.8	15.8	15.8	-1.0	-1.0	-1.0
11.5	11.5	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
13.4	13.4	12.6	12.6	12.6	12.6	12.6	12.6	12.6	-1.0	-1.0	-1.0
14.0	14.0	13.3	13.3	13.3	13.3	13.3	13.3	13.3	-1.0	-1.0	-1.0
9.7	9.7	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
11.7	11.7	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
11.8	11.8	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
9.3	9.3	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
9.9	9.9	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
11.8	11.8	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
11.9	11.9	11.2	11.2	11.2	11.2	11.2	11.2	11.2	-1.0	-1.0	-1.0
9.5	9.5	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
7.6	7.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
5.0	5.0	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
5.6	5.6	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.6	4.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
2.0	2.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
2.7	2.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0

Table 4.2: Rate of Return for five line portfolios over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
4.9467	7.7907	0.63495	562
1.7527	4.5881	0.38201	563
2.0533	4.1523	0.49449	564
0.69561	4.2695	0.16293	565
0.63767	3.0499	0.20908	566
-0.95732	2.4447	-0.3916	567

0.43664	4.3152	0.10119	568
7.0789	9.0604	0.7813	569
7.0676	8.5492	0.82669	570
6.1393	8.5738	0.71605	571
5.0968	6.8204	0.74729	572
4.67	6.7159	0.69536	573
5.9091	8.5345	0.69238	574
4.3109	5.5127	0.78199	575
3.0944	5.3768	0.5755	576
2.5566	4.0654	0.62887	577
1.4413	3.2856	0.43869	578
2.8353	5.3504	0.52993	579
3.316	4.9642	0.66799	580
2.7617	3.8458	0.71811	581
1.7603	3.0054	0.58571	582
3.0723	4.9166	0.62487	583
1.711	3.6534	0.46833	584
0.38432	2.8929	0.13285	585
1.7783	4.943	0.35977	586
0.38862	1.9829	0.19599	587
1.5038	3.6364	0.41354	588
0.1253	2.9276	0.042801	589
6.9539	10.232	0.67961	590
6.9485	9.5295	0.72916	591
5.8969	9.7612	0.60411	592
4.7987	7.5378	0.63662	593
4.2439	7.683	0.55238	594
5.6379	9.7443	0.57859	595
3.8085	6.2606	0.60833	596
2.3823	6.4493	0.36938	597
1.943	4.6483	0.41801	598
0.49314	4.1881	0.11775	599
2.0862	6.4732	0.32229	600
2.681	5.7837	0.46354	601
2.202	4.2646	0.51635	602
0.91785	3.6137	0.25399	603
2.4047	5.7827	0.41585	604
1.0035	4.338	0.23132	605
-0.71485	4.0314	-0.17732	606
0.8782	6.189	0.1419	607
-0.46582	2.6373	-0.17663	608
0.77323	4.3674	0.17704	609
-1.0109	4.1467	-0.24378	610
9.2063	10.939	0.84163	611
8.2957	11.121	0.74594	612
6.7177	8.6823	0.77372	613

6.6426	9.0312	0.73552	614
8.0365	11.076	0.7256	615
8.2113	10.395	0.7899	616
6.7246	8.2357	0.81652	617
6.6556	8.4376	0.7888	618
7.9676	10.342	0.77043	619
5.872	8.245	0.71219	620
5.5856	8.517	0.65581	621
6.9795	10.577	0.65986	622
4.5496	6.5729	0.69218	623
5.6648	8.2093	0.69005	624
5.3266	8.4863	0.62766	625
5.2396	7.2001	0.72771	626
4.222	5.4846	0.76979	627
3.4764	4.9778	0.69838	628
4.9633	7.1459	0.69457	629
3.1356	5.3648	0.58448	630
2.0265	4.9264	0.41135	631
3.6196	7.2869	0.49672	632
1.6663	3.5053	0.47538	633
2.9054	5.3392	0.54417	634
1.7305	4.9328	0.35081	635
3.3319	4.9979	0.66666	636
2.3489	4.4142	0.53213	637
3.8358	6.615	0.57987	638
1.9399	3.2439	0.59801	639
3.1137	4.9553	0.62836	640
2.0727	4.3883	0.47231	641
0.72677	3.1323	0.23203	642
1.9658	4.9631	0.39609	643
0.52244	4.6097	0.11333	644
0.49651	3.1493	0.15766	645
4.1527	6.6262	0.62672	646
4.3222	6.1177	0.7065	647
3.0252	6.1398	0.49273	648
2.4738	4.5519	0.54346	649
1.2621	3.9576	0.31891	650
2.749	6.1344	0.44813	651
0.58262	2.1926	0.26572	652
-1.2015	2.4677	-0.48687	653
-0.82329	1.3671	-0.6022	654
-3.2359	1.9421	-1.6662	655
-1.5203	2.6196	-0.58034	656
-0.62541	1.8409	-0.33974	657
-0.39625	1.0621	-0.37307	658
-2.5145	1.4253	-1.7642	659

-0.92144	1.9315	-0.47707	660
-1.8181	1.5007	-1.2116	661
-4.5369	2.8771	-1.5769	662
-2.8212	2.9479	-0.95703	663
-3.3739	1.9774	-1.7063	664
-2.0619	1.668	-1.2361	665
-4.8557	3.1281	-1.5523	666
6.7209	7.6706	0.87619	667
5.5839	7.5712	0.73752	668
4.4938	5.7779	0.77775	669
3.8207	5.3496	0.71421	670
5.3076	7.516	0.70618	671
5.6639	7.051	0.80328	672
4.6122	5.4935	0.83958	673
4.0109	4.9979	0.80253	674
5.4049	6.981	0.77423	675
3.6036	5.2907	0.68112	676
2.6932	4.7811	0.56331	677
4.1801	6.9799	0.59888	678
2.2117	3.5374	0.62523	679
3.3855	5.2474	0.64519	680
2.417	4.7515	0.50867	681
2.1159	3.1528	0.67112	682
1.7359	2.3608	0.73533	683
0.22685	0.96315	0.23552	684
1.82	3.0663	0.59354	685
0.43946	1.8836	0.23332	686
-1.5846	0.83145	-1.9058	687
0.13104	2.9936	0.043772	688
-1.1163	0.11705	-9.5367	689
0.19569	1.8658	0.10488	690
-1.9034	1.0852	-1.7539	691
0.79632	1.7373	0.45838	692
-0.98119	0.15744	-6.2322	693
0.61191	2.4879	0.24595	694
-0.67296	0.50383	-1.3357	695
0.56611	1.6621	0.34061	696
-1.2772	0.34595	-3.6919	697
-2.1111	0.86392	-2.4437	698
-0.79915	1.6272	-0.49113	699
-3.2043	1.8983	-1.688	700
-2.3549	1.0532	-2.2359	701
6.5269	8.6722	0.75262	702
5.2001	8.8682	0.58638	703
4.072	6.466	0.62976	704
3.1656	6.3223	0.50071	705

4.8813	8.8498	0.55157	706
5.3189	8.0729	0.65886	707
4.2271	6.0235	0.70176	708
3.4297	5.6979	0.60193	709
5.0229	8.0354	0.62509	710
3.0771	6.0288	0.5104	711
1.8647	5.8722	0.31754	712
3.5803	8.3759	0.42746	713
1.5214	4.0921	0.37179	714
2.8334	6.0198	0.47068	715
1.5459	5.9072	0.2617	716
1.1222	3.8833	0.28897	717
0.94309	2.5516	0.36961	718
-1.0818	1.5087	-0.71706	719
0.7768	3.9079	0.19878	720
-0.57911	2.6679	-0.21706	721
-3.3416	2.8431	-1.1753	722
-1.314	4.623	-0.28424	723
-2.3423	1.4952	-1.5665	724
-0.85538	2.7612	-0.30978	725
-3.7183	3.1404	-1.184	726
-0.11396	2.1717	-0.05247	727
-2.4912	1.899	-1.3118	728
-0.63258	3.6685	-0.17243	729
-1.7669	0.95718	-1.8459	730
-0.37296	2.2165	-0.16827	731
-2.8365	2.1586	-1.314	732
-3.4698	2.1942	-1.5813	733
-1.9829	2.8621	-0.69281	734
-5.2558	4.0368	-1.302	735
-3.746	2.4232	-1.5459	736
8.06	9.7396	0.82755	737
6.3592	7.3976	0.85963	738
6.1712	7.3826	0.8359	739
7.7642	9.6632	0.80348	740
5.3347	7.3031	0.73047	741
4.8169	7.3302	0.65713	742
6.5325	9.8621	0.66238	743
3.779	5.3426	0.70734	744
5.091	7.2546	0.70176	745
4.4981	7.2886	0.61715	746
5.4197	6.8526	0.79089	747
4.9631	6.7069	0.74	748
6.5562	9.0304	0.72601	749
3.9504	5.023	0.78646	750
5.1895	6.7921	0.76405	751

4.6671	6.6433	0.70253	752
2.7842	4.8406	0.57516	753
4.0961	6.7787	0.60426	754
3.1972	6.7494	0.4737	755
2.5404	4.8117	0.52796	756
2.2848	3.415	0.66904	757
0.70709	2.1096	0.33517	758
2.5657	4.8501	0.52899	759
0.63177	1.4145	0.44664	760
2.0257	3.3443	0.60572	761
0.36174	2.0751	0.17432	762
-0.91117	1.1454	-0.79548	763
0.57574	3.2545	0.17691	764
-1.7668	2.6585	-0.66459	765
-1.1874	1.2661	-0.93787	766
-0.42526	0.77549	-0.54837	767
0.96872	2.8314	0.34213	768
-1.0476	1.7874	-0.58613	769
-0.68427	0.78019	-0.87706	770
-2.3149	1.6185	-1.4303	771
7.9855	8.4896	0.94063	772
7.9232	8.0884	0.97957	773
6.9907	7.8701	0.88826	774
5.7364	6.2713	0.91471	775
5.435	5.9904	0.90729	776
6.747	7.7864	0.86651	777
5.1013	5.0502	1.0101	778
3.8562	4.4316	0.87018	779
3.1299	3.4815	0.89899	780
2.0931	2.5434	0.82295	781
3.58	4.313	0.83005	782
4.0442	4.2937	0.94189	783
3.3165	3.4882	0.9508	784
2.3913	2.7114	0.88192	785
3.7852	4.1564	0.91069	786
2.2397	2.861	0.78285	787
0.9656	1.7455	0.5532	788
2.4525	3.6288	0.67585	789
0.84774	1.5457	0.54845	790
2.0216	2.7571	0.73325	791
0.68931	1.6003	0.43074	792
10.055	9.6541	1.0415	793
9.2485	9.4551	0.97815	794
7.5638	7.5945	0.99596	795
7.6925	7.6257	1.0088	796
9.0048	9.3537	0.96269	797

9.1158	9.015	1.0112	798
7.5324	7.3465	1.0253	799
7.6467	7.334	1.0426	800
8.8858	8.9091	0.99738	801
6.7587	7.0563	0.95783	802
6.6977	6.9547	0.96305	803
8.0098	8.7259	0.91794	804
5.4993	5.5937	0.98312	805
6.5613	6.9707	0.94127	806
6.454	6.8475	0.94252	807
6.4429	6.0993	1.0563	808
5.2355	4.9566	1.0563	809
4.79	4.5007	1.0643	810
6.1839	5.9471	1.0398	811
4.2597	4.3558	0.97794	812
3.5242	3.6045	0.97773	813
5.0111	5.3867	0.93028	814
2.8677	3.0034	0.95482	815
4.0416	4.2322	0.95496	816
3.248	3.4264	0.94792	817
4.3899	4.3208	1.016	818
3.7329	3.6854	1.0129	819
5.1269	5.189	0.98803	820
3.0675	3.1625	0.96997	821
4.1827	4.1895	0.99836	822
3.4739	3.4976	0.99322	823
1.9776	2.3161	0.85382	824
3.1514	3.6058	0.87399	825
2.1205	2.5991	0.81583	826
1.7595	2.1557	0.81621	827
10.302	10.513	0.97998	828
9.4041	10.466	0.89853	829
7.5099	8.1341	0.92326	830
7.641	8.3105	0.91943	831
9.1278	10.377	0.87963	832
9.2456	9.8416	0.93944	833
7.4776	7.782	0.96088	834
7.5925	7.8596	0.96602	835
8.9865	9.7454	0.92212	836
6.6197	7.5861	0.87261	837
6.5136	7.6247	0.85427	838
8.0003	9.7335	0.82194	839
5.2278	5.8934	0.88705	840
6.4016	7.5135	0.85202	841
6.2373	7.5383	0.82741	842
6.2092	6.4542	0.96204	843

4.9196	5.0019	0.98356	844
4.3202	4.3738	0.98774	845
5.9133	6.3199	0.93566	846
3.8104	4.4967	0.84738	847
2.8235	3.61	0.78214	848
4.5392	5.9673	0.76068	849
2.2547	2.7423	0.82218	850
3.5666	4.3993	0.81072	851
2.5047	3.486	0.71852	852
3.98	4.3443	0.91614	853
3.1121	3.5061	0.88762	854
4.7052	5.5493	0.8479	855
2.5107	2.8167	0.89135	856
3.7498	4.2315	0.88616	857
2.816	3.3481	0.8411	858
1.2598	2.0563	0.61264	859
2.5718	3.8074	0.67547	860
1.2038	2.7742	0.43392	861
1.016	1.9474	0.52172	862
11.644	11.547	1.0084	863
9.3965	9.1814	1.0234	864
9.9911	9.6121	1.0394	865
11.385	11.436	0.99555	866
8.6399	8.9945	0.96057	867
9.0724	9.3936	0.96581	868
10.559	11.435	0.92346	869
7.2477	7.3435	0.98695	870
8.4214	8.9064	0.94554	871
8.7961	9.2825	0.9476	872
8.5509	8.6126	0.99284	873
8.9342	8.8951	1.0044	874
10.328	10.758	0.96001	875
7.2285	7.0816	1.0208	876
8.3437	8.5204	0.97926	877
8.675	8.7777	0.9883	878
6.3576	6.7523	0.94155	879
7.5314	8.3509	0.90187	880
7.6686	8.5833	0.89343	881
6.1394	6.6605	0.92177	882
6.1122	5.9351	1.0298	883
5.8535	5.5563	1.0535	884
7.4465	7.4931	0.99377	885
4.6429	4.4334	1.0473	886
5.8819	5.8073	1.0129	887
5.5575	5.3767	1.0336	888
3.5174	3.6988	0.95095	889

4.8293	5.3426	0.90393	890
4.156	4.6815	0.88776	891
3.2736	3.5565	0.92047	892
3.7033	3.7178	0.99609	893
4.9424	5.1473	0.96018	894
4.3494	4.5031	0.96586	895
3.4731	3.5643	0.97439	896
2.2788	2.8531	0.7987	897
7.7245	7.32	1.0553	898
6.5781	6.8373	0.96209	899
5.2064	5.289	0.98439	900
4.689	4.7263	0.99212	901
6.2821	6.7059	0.93679	902
6.5971	6.5224	1.0115	903
5.2937	5.1737	1.0232	904
4.8339	4.6728	1.0345	905
6.3208	6.3804	0.99066	906
4.2669	4.6374	0.9201	907
3.481	3.8686	0.8998	908
5.074	5.9404	0.85415	909
2.7976	3.0702	0.91121	910
4.0367	4.5277	0.89155	911
3.185	3.7176	0.85673	912
2.9198	3.1976	0.91312	913
2.3283	2.8407	0.81963	914
0.88544	3.1108	0.28463	915
2.6011	2.9408	0.88449	916
0.98789	1.7932	0.5509	917
-1.0221	2.418	-0.42271	918
0.83653	1.6765	0.49898	919
-0.66508	2.4008	-0.27702	920
0.72885	1.5848	0.45989	921
-1.3674	2.302	-0.59402	922
1.3335	2.1657	0.61574	923
-0.41549	2.7836	-0.14926	924
1.3001	2.0104	0.64668	925
-0.22224	2.7171	-0.08179	926
1.0897	1.9612	0.55562	927
-0.7343	2.628	-0.27941	928
-1.7221	2.4516	-0.70245	929
-0.32817	0.99458	-0.32996	930
-2.7768	2.6669	-1.0412	931
-1.9811	2.4063	-0.82329	932
9.1559	8.448	1.0838	933
7.3139	6.7207	1.0883	934
7.3927	6.6327	1.1146	935

8.8796	8.2928	1.0708	936
6.3991	6.2222	1.0284	937
6.2224	5.913	1.0523	938
7.8153	7.8779	0.99205	939
4.9298	4.6909	1.0509	940
6.1688	6.0973	1.0117	941
5.9263	5.7391	1.0326	942
6.4233	6.0629	1.0594	943
6.2652	5.7793	1.0841	944
7.7521	7.4944	1.0344	945
5.0315	4.7022	1.07	946
6.2054	5.9332	1.0459	947
5.9888	5.5993	1.0696	948
3.9902	3.9811	1.0023	949
5.2293	5.4429	0.96076	950
4.7183	4.8757	0.96772	951
3.76	3.8332	0.98088	952
3.5911	3.626	0.99036	953
2.5367	3.5229	0.72008	954
4.2524	4.0696	1.0449	955
2.0353	3.2633	0.62371	956
3.3473	3.4217	0.97827	957
2.218	3.2477	0.68294	958
0.67656	2.3525	0.2876	959
2.0705	2.3876	0.86719	960
0.42147	1.9962	0.21114	961
0.41758	2.1544	0.19383	962
1.0405	2.7603	0.37695	963
2.3525	2.6668	0.88214	964
0.917	2.5572	0.3586	965
0.79673	2.5706	0.30993	966
-0.63948	1.8745	-0.34115	967
9.3217	9.2117	1.0119	968
7.2234	7.0157	1.0296	969
7.2872	6.9247	1.0524	970
9.0026	9.0654	0.99308	971
6.1891	6.6084	0.93656	972
5.9129	6.3318	0.93384	973
7.7715	8.8565	0.87749	974
4.5362	4.7138	0.96233	975
5.9301	6.4995	0.9124	976
5.5676	6.1854	0.90011	977
6.2288	6.3244	0.98488	978
5.986	6.0022	0.9973	979
7.7019	8.2208	0.93688	980
4.673	4.6294	1.0094	981

5.985	6.2059	0.96439	982
5.6673	5.8386	0.97065	983
3.4791	3.9833	0.87343	984
4.8731	5.8415	0.83422	985
4.1582	5.3239	0.78104	986
3.2201	3.8633	0.83352	987
2.9927	3.1732	0.94313	988
1.5291	2.6473	0.57759	989
3.5566	3.8136	0.93262	990
1.2296	2.5526	0.48169	991
2.7165	2.9682	0.91517	992
1.1523	2.3465	0.49108	993
-0.3809	1.6297	-0.23373	994
1.2122	1.9865	0.6102	995
-1.11	1.3145	-0.8444	996
-0.6769	1.4726	-0.45966	997
0.10207	2.0645	0.049443	998
1.589	2.1319	0.74534	999
-0.38515	1.7185	-0.22412	1000
-0.17422	1.8855	-0.0924	1001
-1.8849	1.6049	-1.1745	1002
8.4864	8.0093	1.0596	1003
8.9381	8.2173	1.0877	1004
10.654	10.341	1.0303	1005
6.9308	6.3554	1.0905	1006
8.2426	7.8783	1.0462	1007
8.6195	8.0353	1.0727	1008
5.8778	5.7539	1.0215	1009
7.2718	7.52	0.96699	1010
7.3566	7.5308	0.97688	1011
5.6188	5.6117	1.0013	1012
5.9358	5.614	1.0573	1013
7.2477	7.1852	1.0087	1014
7.3183	7.1107	1.0292	1015
5.692	5.4648	1.0416	1016
4.5618	4.8749	0.93575	1017
2.6607	3.1558	0.84311	1018
4.1476	4.018	1.0323	1019
3.1039	3.2911	0.94311	1020
2.3844	2.9129	0.81855	1021
0.85641	1.6728	0.51197	1022
1.2569	2.1608	0.58169	1023

Table 4.3: Parameters associated with each portfolio for five line case

5. Six Line Combination

-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	9.8	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	10.0	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	35.8	-1.0	-1.0	-1.0	8.4	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	28.1	-1.0	-1.0	-1.0	7.4	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	27.4	-1.0	-1.0	-1.0	6.8	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	35.8	-1.0	-1.0	-1.0	8.1	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	6.8	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	21.5	-1.0	-1.0	-1.0	4.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	4.4	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	3.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	4.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	19.2	-1.0	-1.0	-1.0	5.4	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	14.1	-1.0	-1.0	-1.0	4.8	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	3.7	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	19.3	-1.0	-1.0	-1.0	5.0	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	3.1	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	10.7	-1.0	-1.0	-1.0	1.6	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	20.1	-1.0	-1.0	-1.0	3.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	6.9	-1.0	-1.0	-1.0	1.7	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	2.8	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	10.8	-1.0	-1.0	-1.0	1.2	-1.8	-1.8	-1.8	-1.8
-1.0	-1.0	-1.0	38.4	-1.0	-1.0	-1.0	10.4	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	40.1	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	31.7	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	31.7	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	40.2	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	29.6	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	29.2	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	37.2	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	30.6	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	30.4	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	38.8	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	30.6	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	30.4	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	23.8	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	18.5	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	15.5	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5

-1.0	-1.0	-1.0	10.8	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	18.5	-1.0	-1.0	-1.0	3.2	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	1.7	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	16.7	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	4.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	9.4	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	16.8	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	2.3	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	0.9	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	17.3	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	14.1	-1.0	-1.0	-1.0	0.2	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	0.5	0.5	0.5	0.5	0.5
-1.0	-1.0	-1.0	44.1	-1.0	-1.0	-1.0	12.5	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	46.3	-1.0	-1.0	-1.0	10.9	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	9.3	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	37.0	-1.0	-1.0	-1.0	9.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	46.4	-1.0	-1.0	-1.0	10.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	42.7	-1.0	-1.0	-1.0	11.1	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	9.5	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	33.9	-1.0	-1.0	-1.0	9.4	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	42.8	-1.0	-1.0	-1.0	10.7	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	34.8	-1.0	-1.0	-1.0	8.1	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	35.5	-1.0	-1.0	-1.0	7.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	44.9	-1.0	-1.0	-1.0	9.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	6.6	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	34.9	-1.0	-1.0	-1.0	7.8	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	35.6	-1.0	-1.0	-1.0	7.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	7.7	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	6.6	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	5.8	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	28.6	-1.0	-1.0	-1.0	7.2	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	21.9	-1.0	-1.0	-1.0	4.9	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	19.5	-1.0	-1.0	-1.0	3.5	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	30.0	-1.0	-1.0	-1.0	5.1	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	13.5	-1.0	-1.0	-1.0	3.3	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	22.0	-1.0	-1.0	-1.0	4.5	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	19.6	-1.0	-1.0	-1.0	3.1	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	5.3	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	17.0	-1.0	-1.0	-1.0	4.2	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	5.6	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	3.8	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	5.0	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	3.7	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	1.9	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	3.2	0.5	0.5	0.5	0.5

-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	1.4	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	12.3	-1.0	-1.0	-1.0	1.5	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	47.3	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	37.3	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	38.4	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	47.3	-1.0	-1.0	-1.0	11.2	11.2	11.2	11.2	11.2
-1.0	-1.0	-1.0	38.7	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	40.3	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	49.7	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	38.8	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	40.4	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	36.1	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	37.0	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	45.9	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	36.2	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	37.6	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	38.9	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	30.0	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	22.1	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	24.0	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	4.3	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	2.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	3.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	2.9	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	2.6	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	15.2	-1.0	-1.0	-1.0	0.7	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	28.7	-1.0	-1.0	-1.0	9.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	30.0	-1.0	-1.0	-1.0	8.1	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	6.9	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	6.2	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	30.1	-1.0	-1.0	-1.0	7.7	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	8.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	20.4	-1.0	-1.0	-1.0	7.3	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	6.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	8.0	5.0	5.0	5.0	5.0

-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	5.7	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	4.6	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	6.1	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	4.1	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	5.3	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	4.2	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	4.4	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	6.0	-1.0	-1.0	-1.0	4.0	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	-0.4	-1.0	-1.0	-1.0	2.4	-1.0	-1.0	-1.0	-1.0
-1.0	-1.0	-1.0	10.2	-1.0	-1.0	-1.0	4.0	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	6.1	-1.0	-1.0	-1.0	2.0	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	-0.2	-3.8	-3.8	-3.8	-3.8
-1.0	-1.0	-1.0	10.5	-1.0	-1.0	-1.0	1.5	-2.1	-2.1	-2.1	-2.1
-1.0	-1.0	-1.0	-2.7	-1.0	-1.0	-1.0	0.3	-2.5	-2.5	-2.5	-2.5
-1.0	-1.0	-1.0	6.1	-1.0	-1.0	-1.0	1.6	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	-0.7	-4.3	-4.3	-4.3	-4.3
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	2.6	-0.1	-0.1	-0.1	-0.1
-1.0	-1.0	-1.0	-2.1	-1.0	-1.0	-1.0	0.7	-2.7	-2.7	-2.7	-2.7
-1.0	-1.0	-1.0	8.5	-1.0	-1.0	-1.0	2.3	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	-3.7	-1.0	-1.0	-1.0	1.0	-1.7	-1.7	-1.7	-1.7
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	2.3	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	0.3	-3.1	-3.1	-3.1	-3.1
-1.0	-1.0	-1.0	-4.2	-1.0	-1.0	-1.0	-1.1	-4.0	-4.0	-4.0	-4.0
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	0.2	-2.6	-2.6	-2.6	-2.6
-1.0	-1.0	-1.0	-2.5	-1.0	-1.0	-1.0	-2.5	-6.1	-6.1	-6.1	-6.1
-1.0	-1.0	-1.0	-4.1	-1.0	-1.0	-1.0	-1.5	-4.4	-4.4	-4.4	-4.4
-1.0	-1.0	-1.0	31.9	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	22.6	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	25.2	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	23.7	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	33.6	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	17.2	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	25.3	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	23.8	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	30.5	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	15.4	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	24.0	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	3.1	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	2.9	2.9	2.9	2.9	2.9

-1.0	-1.0	-1.0	9.0	-1.0	-1.0	-1.0	3.1	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	1.3	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	2.9	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	0.6	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	3.4	-1.0	-1.0	-1.0	0.8	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	0.4	-1.0	-1.0	-1.0	-0.6	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	0.7	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	3.3	-1.0	-1.0	-1.0	-1.9	-1.9	-1.9	-1.9	-1.9
-1.0	-1.0	-1.0	0.5	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	0.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	7.7	-1.0	-1.0	-1.0	1.4	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	1.7	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	-0.7	-1.0	-1.0	-1.0	-0.3	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.4	-2.4	-2.4	-2.4	-2.4
-1.0	-1.0	-1.0	37.9	-1.0	-1.0	-1.0	11.3	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	28.3	-1.0	-1.0	-1.0	9.4	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	27.5	-1.0	-1.0	-1.0	9.2	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	38.0	-1.0	-1.0	-1.0	10.8	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	29.5	-1.0	-1.0	-1.0	7.8	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	29.0	-1.0	-1.0	-1.0	7.1	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	40.2	-1.0	-1.0	-1.0	8.8	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	6.0	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	29.6	-1.0	-1.0	-1.0	7.4	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	29.1	-1.0	-1.0	-1.0	6.6	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	8.1	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	7.5	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	36.3	-1.0	-1.0	-1.0	9.1	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	6.5	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	7.7	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	7.1	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	19.3	-1.0	-1.0	-1.0	4.6	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	28.2	-1.0	-1.0	-1.0	5.9	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	4.8	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	4.2	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	4.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	6.1	-1.0	-1.0	-1.0	2.8	-1.0	-1.0	-1.0	-1.0
-1.0	-1.0	-1.0	18.1	-1.0	-1.0	-1.0	4.6	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	2.5	-1.0	-1.0	-1.0	2.7	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	4.1	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	6.2	-1.0	-1.0	-1.0	2.3	-1.5	-1.5	-1.5	-1.5
-1.0	-1.0	-1.0	2.3	-1.0	-1.0	-1.0	0.4	-2.8	-2.8	-2.8	-2.8
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	1.9	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	6.3	-1.0	-1.0	-1.0	-0.7	-4.8	-4.8	-4.8	-4.8
-1.0	-1.0	-1.0	2.4	-1.0	-1.0	-1.0	0.0	-3.2	-3.2	-3.2	-3.2
-1.0	-1.0	-1.0	0.9	-1.0	-1.0	-1.0	1.2	-1.8	-1.8	-1.8	-1.8

-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	2.6	-0.4	-0.4	-0.4	-0.4
-1.0	-1.0	-1.0	4.2	-1.0	-1.0	-1.0	0.4	-3.5	-3.5	-3.5	-3.5
-1.0	-1.0	-1.0	1.0	-1.0	-1.0	-1.0	0.8	-2.2	-2.2	-2.2	-2.2
-1.0	-1.0	-1.0	0.8	-1.0	-1.0	-1.0	-1.6	-4.8	-4.8	-4.8	-4.8
-1.0	-1.0	-1.0	31.3	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	31.2	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	41.7	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	22.9	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	31.4	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	31.3	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	23.8	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	32.7	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	33.0	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	30.0	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	29.6	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	22.5	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	1.7	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	15.1	-1.0	-1.0	-1.0	3.1	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	1.1	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	5.8	-1.0	-1.0	-1.0	1.3	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	5.9	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	4.3	-1.0	-1.0	-1.0	-0.2	-0.2	-0.2	-0.2	-0.2
-1.0	-1.0	-1.0	32.5	-1.0	-1.0	-1.0	14.7	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	33.9	-1.0	-1.0	-1.0	13.3	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	26.2	-1.0	-1.0	-1.0	11.4	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	11.6	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	34.0	-1.0	-1.0	-1.0	12.9	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	13.3	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	11.5	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	11.7	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	31.2	-1.0	-1.0	-1.0	13.0	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	25.0	-1.0	-1.0	-1.0	10.2	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	23.7	-1.0	-1.0	-1.0	10.2	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	32.5	-1.0	-1.0	-1.0	11.5	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	8.8	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	9.9	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	23.7	-1.0	-1.0	-1.0	9.8	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	10.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	8.9	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	7.1	-1.0	-1.0	-1.0	8.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	9.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	7.3	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	7.2	-1.0	-1.0	-1.0	6.6	3.4	3.4	3.4	3.4

-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	8.1	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	3.9	-1.0	-1.0	-1.0	5.8	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	7.0	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	7.3	-1.0	-1.0	-1.0	6.2	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	7.6	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	5.5	-1.0	-1.0	-1.0	7.0	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	14.9	-1.0	-1.0	-1.0	8.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	2.7	-1.0	-1.0	-1.0	6.1	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	7.3	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	5.6	-1.0	-1.0	-1.0	6.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	2.6	-1.0	-1.0	-1.0	4.5	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	10.6	-1.0	-1.0	-1.0	5.7	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	4.6	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	2.6	-1.0	-1.0	-1.0	4.1	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	35.4	-1.0	-1.0	-1.0	13.8	13.8	13.8	13.8	13.8
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	12.2	12.2	12.2	12.2	12.2
-1.0	-1.0	-1.0	35.5	-1.0	-1.0	-1.0	13.4	13.4	13.4	13.4	13.4
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	10.6	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	28.2	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	37.1	-1.0	-1.0	-1.0	12.0	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	21.5	-1.0	-1.0	-1.0	9.2	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	28.9	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	28.3	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	26.7	-1.0	-1.0	-1.0	10.7	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	34.1	-1.0	-1.0	-1.0	12.1	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	9.4	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	26.7	-1.0	-1.0	-1.0	10.4	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	27.7	-1.0	-1.0	-1.0	9.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	20.4	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	6.6	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	6.7	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	10.7	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	6.8	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	5.4	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5

-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	5.4	-1.0	-1.0	-1.0	5.0	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	5.5	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	41.1	-1.0	-1.0	-1.0	16.4	13.4	13.4	13.4	13.4
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	13.8	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	14.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	41.2	-1.0	-1.0	-1.0	16.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	12.5	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	33.4	-1.0	-1.0	-1.0	13.0	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	43.3	-1.0	-1.0	-1.0	14.5	11.3	11.3	11.3	11.3
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	11.0	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	12.2	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	12.6	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	30.6	-1.0	-1.0	-1.0	12.6	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	13.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	39.7	-1.0	-1.0	-1.0	14.5	11.5	11.5	11.5	11.5
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	11.1	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	30.6	-1.0	-1.0	-1.0	12.3	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	30.4	-1.0	-1.0	-1.0	12.7	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	23.8	-1.0	-1.0	-1.0	9.7	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	10.9	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	31.9	-1.0	-1.0	-1.0	11.0	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	9.3	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	17.2	-1.0	-1.0	-1.0	9.8	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	9.7	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	11.3	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	8.2	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	17.3	-1.0	-1.0	-1.0	9.4	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	9.2	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	6.4	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	18.0	-1.0	-1.0	-1.0	7.8	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	7.1	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	6.1	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	7.5	-1.0	-1.0	-1.0	6.8	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	16.0	-1.0	-1.0	-1.0	8.1	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	12.0	-1.0	-1.0	-1.0	7.6	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	7.6	-1.0	-1.0	-1.0	6.5	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	7.7	-1.0	-1.0	-1.0	4.6	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	34.5	-1.0	-1.0	-1.0	13.0	13.0	13.0	13.0	13.0
-1.0	-1.0	-1.0	35.1	-1.0	-1.0	-1.0	13.6	13.6	13.6	13.6	13.6
-1.0	-1.0	-1.0	44.5	-1.0	-1.0	-1.0	15.0	15.0	15.0	15.0	15.0
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	11.5	11.5	11.5	11.5	11.5
-1.0	-1.0	-1.0	34.6	-1.0	-1.0	-1.0	12.7	12.7	12.7	12.7	12.7
-1.0	-1.0	-1.0	35.2	-1.0	-1.0	-1.0	13.2	13.2	13.2	13.2	13.2
-1.0	-1.0	-1.0	27.9	-1.0	-1.0	-1.0	10.1	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	36.0	-1.0	-1.0	-1.0	11.3	11.3	11.3	11.3	11.3

-1.0	-1.0	-1.0	37.0	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6
-1.0	-1.0	-1.0	28.0	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	33.3	-1.0	-1.0	-1.0	11.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	33.7	-1.0	-1.0	-1.0	11.7	11.7	11.7	11.7	11.7
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	26.7	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	12.3	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	10.6	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	13.9	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	11.6	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	12.0	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	13.5	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	10.2	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	10.1	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	11.7	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	10.2	-1.0	-1.0	-1.0	8.5	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	18.7	-1.0	-1.0	-1.0	9.8	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	15.4	-1.0	-1.0	-1.0	9.7	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	10.4	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	10.4	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	11.9	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	8.7	-1.0	-1.0	-1.0	8.8	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	16.7	-1.0	-1.0	-1.0	10.0	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	10.0	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	7.2	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	17.3	-1.0	-1.0	-1.0	8.4	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	8.0	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	8.9	-1.0	-1.0	-1.0	6.8	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	1.2	-1.0	-1.0	-1.0	7.2	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	-7.0	-1.0	-1.0	-1.0	6.4	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	4.3	-1.0	-1.0	-1.0	8.1	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	-7.7	-1.0	-1.0	-1.0	5.5	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	1.2	-1.0	-1.0	-1.0	6.8	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	-6.9	-1.0	-1.0	-1.0	5.9	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	-8.4	-1.0	-1.0	-1.0	3.5	0.5	0.5	0.5	0.5
-1.0	-1.0	-1.0	1.0	-1.0	-1.0	-1.0	4.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	-7.7	-1.0	-1.0	-1.0	3.4	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	-8.3	-1.0	-1.0	-1.0	3.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	-9.1	-1.0	-1.0	-1.0	4.1	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	-0.2	-1.0	-1.0	-1.0	5.4	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	-8.7	-1.0	-1.0	-1.0	4.1	0.5	0.5	0.5	0.5

-1.0	-1.0	-1.0	-9.0	-1.0	-1.0	-1.0	3.7	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	-9.8	-1.0	-1.0	-1.0	1.6	-1.4	-1.4	-1.4	-1.4
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	10.8	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	28.1	-1.0	-1.0	-1.0	12.4	12.4	12.4	12.4	12.4
-1.0	-1.0	-1.0	12.8	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	21.6	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	8.6	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	11.5	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	19.5	-1.0	-1.0	-1.0	9.2	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	16.7	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	11.6	-1.0	-1.0	-1.0	7.6	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	-4.5	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	4.3	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	-2.9	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	-4.5	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	-5.0	-1.0	-1.0	-1.0	2.1	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	-5.9	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	12.9	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	13.7	10.1	10.1	10.1	10.1
-1.0	-1.0	-1.0	34.0	-1.0	-1.0	-1.0	15.3	11.7	11.7	11.7	11.7
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	11.2	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	24.7	-1.0	-1.0	-1.0	12.6	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	22.8	-1.0	-1.0	-1.0	13.2	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	9.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	11.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	24.1	-1.0	-1.0	-1.0	11.2	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	9.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	14.4	-1.0	-1.0	-1.0	9.8	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	11.1	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	11.4	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	9.4	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	7.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	-3.2	-1.0	-1.0	-1.0	6.2	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	6.7	-1.0	-1.0	-1.0	7.7	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	-0.9	-1.0	-1.0	-1.0	6.9	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	-3.1	-1.0	-1.0	-1.0	5.8	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	-3.6	-1.0	-1.0	-1.0	3.6	0.2	0.2	0.2	0.2
-1.0	-1.0	-1.0	-4.7	-1.0	-1.0	-1.0	4.2	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	18.9	-1.0	-1.0	-1.0	10.3	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	11.6	11.6	11.6	11.6	11.6

-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	12.0	12.0	12.0	12.0	12.0
-1.0	-1.0	-1.0	19.0	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	8.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	0.4	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7

Table 5.1: Rate of Return for six line portfolios over first 12 hours

8.6	8.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
8.8	8.8	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.3	7.3	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
6.4	6.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
5.3	5.3	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.9	6.9	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.9	4.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
2.9	2.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
2.7	2.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
0.8	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
2.6	2.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
3.5	3.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.4	1.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
3.1	3.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
1.5	1.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
-0.7	-0.7	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-0.3	-0.3	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
1.2	1.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
-1.1	-1.1	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.0	-1.0	-1.0
11.9	11.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
10.5	10.5	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
9.0	9.0	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
8.6	8.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
10.2	10.2	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
10.6	10.6	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.2	9.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.8	8.8	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
10.3	10.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
7.9	7.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
7.2	7.2	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
8.8	8.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
6.3	6.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.6	7.6	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
6.9	6.9	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
6.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0

5.9	5.9	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.8	4.8	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.5	6.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
4.6	4.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
2.6	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
4.1	4.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
4.8	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.4	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
5.1	5.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.1	3.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
4.5	4.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
3.0	3.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0
2.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
1.1	1.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
11.2	11.2	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
9.6	9.6	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
8.2	8.2	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
7.5	7.5	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
9.3	9.3	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
9.8	9.8	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
8.4	8.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
7.8	7.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
9.4	9.4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
7.0	7.0	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
6.0	6.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
7.7	7.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.2	5.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
6.6	6.6	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
5.6	5.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
4.8	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.2	3.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.0	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
0.9	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
2.9	2.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
1.1	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
0.5	0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
3.5	3.5	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0

3.5	3.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-0.3	-0.3	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
1.3	1.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
-1.2	-1.2	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
-0.6	-0.6	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
13.2	13.2	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
11.2	11.2	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
11.1	11.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
12.8	12.8	11.2	11.2	11.2	11.2	11.2	11.2	11.2	-1.0	-1.0	-1.0
9.9	9.9	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
9.5	9.5	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
11.3	11.3	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
8.1	8.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
9.6	9.6	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
9.2	9.2	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
10.0	10.0	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
9.7	9.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
11.4	11.4	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
8.3	8.3	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
9.7	9.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
9.3	9.3	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
6.9	6.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
8.3	8.3	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
7.6	7.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
6.6	6.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
6.5	6.5	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
5.4	5.4	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
7.3	7.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
4.7	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
6.2	6.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
2.9	2.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
4.5	4.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
2.6	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
3.4	3.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
4.9	4.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.4	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
3.1	3.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
1.2	1.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
7.7	7.7	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
5.9	5.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0

3.6	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
5.4	5.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
6.2	6.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
5.4	5.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
4.1	4.1	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
3.8	3.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
2.0	2.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
3.9	3.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
3.4	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
-4.0	-4.0	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-3.8	-1.0	-1.0	-1.0
-1.8	-1.8	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-1.0	-1.0	-1.0
-2.8	-2.8	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.0	-1.0	-1.0
-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
-4.4	-4.4	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-1.0	-1.0	-1.0
0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-1.0	-1.0	-1.0
-2.9	-2.9	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-1.0	-1.0	-1.0
-0.9	-0.9	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
-2.0	-2.0	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.0	-1.0	-1.0
-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-3.3	-3.3	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-1.0	-1.0	-1.0
-4.2	-4.2	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-1.0	-1.0	-1.0
-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-1.0	-1.0	-1.0
-6.2	-6.2	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-1.0	-1.0	-1.0
-4.6	-4.6	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-1.0	-1.0	-1.0
9.8	9.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
8.3	8.3	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.6	7.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
6.8	6.8	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
5.7	5.7	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.6	7.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
5.0	5.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
6.5	6.5	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
5.3	5.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
7.1	7.1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
6.1	6.1	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.9	7.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0

6.8	6.8	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
5.8	5.8	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.7	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
5.2	5.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
3.7	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
3.4	3.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
1.1	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
-0.8	-0.8	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.0	-1.0	-1.0
-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
-0.5	-0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
-2.6	-2.6	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-1.0	-1.0	-1.0
8.8	8.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
7.3	7.3	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
6.3	6.3	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
8.3	8.3	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
5.6	5.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
4.1	4.1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
6.2	6.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.6	3.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
5.3	5.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
3.6	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
6.0	6.0	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.6	4.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
6.6	6.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
4.0	4.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
4.2	4.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
2.2	2.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
3.8	3.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-1.3	-1.3	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
-0.7	-0.7	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0

-1.8	-1.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.0	-1.0	-1.0
-3.1	-3.1	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-1.0	-1.0	-1.0
-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
-5.0	-5.0	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-1.0	-1.0	-1.0
-3.5	-3.5	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-1.0	-1.0	-1.0
-2.2	-2.2	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.0	-1.0	-1.0
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-1.0	-1.0	-1.0
-3.8	-3.8	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-1.0	-1.0	-1.0
-2.6	-2.6	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-1.0	-1.0	-1.0
-5.1	-5.1	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-1.0	-1.0	-1.0
9.2	9.2	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.6	8.6	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
10.6	10.6	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
7.2	7.2	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
8.8	8.8	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
8.2	8.2	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
5.5	5.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.1	6.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
5.2	5.2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
5.9	5.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.5	7.5	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.5	6.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.5	5.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.7	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
1.4	1.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
0.8	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
1.0	1.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
-0.5	-0.5	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
13.5	13.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
12.2	12.2	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
10.3	10.3	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
10.1	10.1	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
11.8	11.8	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
12.2	12.2	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
10.4	10.4	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
10.3	10.3	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
11.8	11.8	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
9.2	9.2	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
8.7	8.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
10.4	10.4	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
7.5	7.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
8.9	8.9	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
8.3	8.3	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0

8.4	8.4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.2	6.2	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
8.0	8.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
5.6	5.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.3	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
6.1	6.1	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
3.8	3.8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
5.3	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.8	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
5.9	5.9	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.7	4.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
6.5	6.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.2	4.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
5.6	5.6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.5	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
4.0	4.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
2.3	2.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
2.1	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
15.4	15.4	13.8	13.8	13.8	13.8	13.8	13.8	13.8	-1.0	-1.0	-1.0
13.1	13.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0
13.5	13.5	12.2	12.2	12.2	12.2	12.2	12.2	12.2	-1.0	-1.0	-1.0
15.1	15.1	13.4	13.4	13.4	13.4	13.4	13.4	13.4	-1.0	-1.0	-1.0
12.0	12.0	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
12.1	12.1	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
13.8	13.8	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
10.3	10.3	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
11.7	11.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
11.7	11.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
12.0	12.0	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
12.1	12.1	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
13.7	13.7	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
10.4	10.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
11.7	11.7	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
11.8	11.8	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
9.1	9.1	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
10.5	10.5	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
10.3	10.3	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
8.9	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.3	8.3	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
10.1	10.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
7.1	7.1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.9	7.9	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0

5.5	5.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
7.1	7.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
6.0	6.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
5.2	5.2	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
5.9	5.9	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.3	7.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
6.4	6.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
3.9	3.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
15.1	15.1	13.4	13.4	13.4	13.4	13.4	13.4	13.4	-1.0	-1.0	-1.0
12.7	12.7	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
12.9	12.9	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
14.7	14.7	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
11.4	11.4	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
11.3	11.3	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
13.2	13.2	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-1.0	-1.0	-1.0
9.5	9.5	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
11.0	11.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
10.9	10.9	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
11.4	11.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
11.4	11.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
13.2	13.2	11.5	11.5	11.5	11.5	11.5	11.5	11.5	-1.0	-1.0	-1.0
9.7	9.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
11.1	11.1	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
11.0	11.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
8.2	8.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
9.7	9.7	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
9.3	9.3	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
7.9	7.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
7.9	7.9	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.0	7.0	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
9.0	9.0	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
6.0	6.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
7.6	7.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
6.6	6.6	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.2	4.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.9	5.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
4.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
3.8	3.8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
4.6	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.2	6.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
4.3	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
2.4	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
14.3	14.3	13.0	13.0	13.0	13.0	13.0	13.0	13.0	-1.0	-1.0	-1.0
15.0	15.0	13.6	13.6	13.6	13.6	13.6	13.6	13.6	-1.0	-1.0	-1.0

16.8	16.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	-1.0	-1.0	-1.0
12.6	12.6	11.5	11.5	11.5	11.5	11.5	11.5	11.5	-1.0	-1.0	-1.0
14.0	14.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	-1.0	-1.0	-1.0
14.6	14.6	13.2	13.2	13.2	13.2	13.2	13.2	13.2	-1.0	-1.0	-1.0
11.3	11.3	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
12.8	12.8	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-1.0	-1.0	-1.0
13.1	13.1	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
10.9	10.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
11.3	11.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
12.8	12.8	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
13.1	13.1	11.7	11.7	11.7	11.7	11.7	11.7	11.7	-1.0	-1.0	-1.0
11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
9.6	9.6	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
7.8	7.8	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
9.4	9.4	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
8.9	8.9	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
7.5	7.5	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
6.1	6.1	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
11.6	11.6	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
9.7	9.7	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.3	9.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
11.2	11.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
8.2	8.2	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
9.4	9.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
6.3	6.3	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
7.9	7.9	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.0	7.0	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
8.4	8.4	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
7.7	7.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
9.6	9.6	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
6.6	6.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
8.1	8.1	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.3	7.3	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
4.9	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
6.5	6.5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
5.3	5.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
4.6	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
2.6	2.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
4.7	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
2.1	2.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0

2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
-1.6	-1.6	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0
11.5	11.5	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
11.5	11.5	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
13.4	13.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-1.0	-1.0	-1.0
9.6	9.6	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
11.2	11.2	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
11.1	11.1	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
8.1	8.1	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
9.7	9.7	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
9.3	9.3	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
7.8	7.8	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
8.4	8.4	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
9.9	9.9	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
9.5	9.5	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
8.0	8.0	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
6.4	6.4	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.4	4.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.0	4.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
10.8	10.8	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
10.6	10.6	10.1	10.1	10.1	10.1	10.1	10.1	10.1	-1.0	-1.0	-1.0
12.8	12.8	11.7	11.7	11.7	11.7	11.7	11.7	11.7	-1.0	-1.0	-1.0
8.7	8.7	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
10.4	10.4	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
10.2	10.2	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
7.0	7.0	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.8	8.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.0	8.0	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
6.6	6.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
7.3	7.3	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
9.0	9.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
8.4	8.4	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
6.9	6.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
5.1	5.1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
2.7	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0

2.5	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
2.3	2.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0	-1.0	-1.0
0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
10.7	10.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
12.4	12.4	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-1.0	-1.0	-1.0
12.6	12.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-1.0	-1.0	-1.0
10.3	10.3	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
8.7	8.7	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
8.9	8.9	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
4.5	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0

Table 5.2: Rate of Return for six line portfolios over next 12 hours

5.5381	7.7593	0.71374	1024
5.6013	7.3377	0.76335	1025
4.6925	7.3485	0.63857	1026
3.9781	5.9241	0.67151	1027
3.3701	5.6803	0.5933	1028
4.4853	7.3233	0.61247	1029
2.9804	4.5064	0.66137	1030
1.8251	4.435	0.41151	1031
1.567	3.3711	0.46484	1032
0.35581	2.6328	0.13515	1033
1.5949	4.4343	0.35966	1034
2.0903	4.0658	0.51411	1035
1.7973	3.1609	0.56862	1036
0.6983	2.3336	0.29924	1037
1.8721	4.0432	0.46303	1038
0.79828	3.0579	0.26106	1039
-0.5838	2.4355	-0.2397	1040
0.65529	4.1554	0.1577	1041
-0.40386	1.6194	-0.24939	1042
0.60991	3.0647	0.19901	1043
-0.81404	2.5116	-0.32411	1044
7.4288	8.532	0.87071	1045
6.6115	8.499	0.77791	1046
5.5772	6.9301	0.80477	1047
5.2891	6.8372	0.77358	1048
6.4043	8.4517	0.75775	1049
6.6235	8.0647	0.82129	1050
5.6286	6.6504	0.84636	1051
5.364	6.4967	0.82566	1052
6.4261	8.0104	0.80222	1053
4.8725	6.5394	0.7451	1054

4.4435	6.387	0.6957	1055
5.5586	8.0216	0.69295	1056
3.7705	5.1552	0.7314	1057
4.6998	6.4997	0.72308	1058
4.2362	6.3484	0.66729	1059
4.1102	5.2969	0.77597	1060
3.466	4.2605	0.81351	1061
2.7182	3.58	0.75929	1062
3.8921	5.2342	0.74359	1063
2.5428	4.0086	0.63433	1064
1.5484	3.2946	0.46997	1065
2.7875	5.1273	0.54366	1066
1.3407	2.4981	0.53667	1067
2.3544	3.9692	0.59317	1068
1.3182	3.2708	0.40301	1069
2.7306	3.8126	0.71621	1070
1.8281	3.0529	0.59882	1071
3.002	4.7589	0.63082	1072
1.5807	2.4043	0.65746	1073
2.5505	3.7588	0.67854	1074
1.61	3.0005	0.53657	1075
0.57189	2.1061	0.27154	1076
1.5856	3.6076	0.43953	1077
0.37858	2.9351	0.12898	1078
0.38352	2.0923	0.1833	1079
7.3604	9.3495	0.78725	1080
6.4484	9.4709	0.68087	1081
5.3498	7.5336	0.71012	1082
4.9791	7.6155	0.65382	1083
6.2182	9.4402	0.65869	1084
6.4702	8.8859	0.72814	1085
5.4156	7.1578	0.75659	1086
5.0783	7.1312	0.71212	1087
6.2521	8.8467	0.70672	1088
4.581	7.1591	0.63989	1089
4.0395	7.1962	0.56134	1090
5.2786	9.0283	0.58467	1091
3.3789	5.6418	0.59889	1092
4.3927	7.1353	0.61562	1093
3.8093	7.1825	0.53036	1094
3.6434	5.9199	0.61544	1095
3.0267	4.5773	0.66124	1096
2.0876	3.9672	0.52621	1097
3.3996	5.8891	0.57727	1098
1.9892	4.5083	0.44123	1099
0.73209	4.0284	0.18173	1100

2.126	6.0483	0.35151	1101
0.66683	2.8703	0.23232	1102
1.782	4.503	0.39574	1103
0.47308	4.0681	0.11629	1104
2.2213	4.1772	0.53177	1105
1.0927	3.5562	0.30728	1106
2.4047	5.4793	0.43887	1107
0.96191	2.6023	0.36964	1108
2.024	4.1548	0.48715	1109
0.84897	3.5653	0.23812	1110
-0.17879	2.6413	-0.06769	1111
0.93637	4.2288	0.22143	1112
-0.58395	3.9181	-0.14904	1113
-0.386	2.6905	-0.14347	1114
8.4904	10.151	0.83638	1115
7.0843	8.2443	0.85929	1116
7.0982	8.4135	0.84367	1117
8.2723	10.093	0.81957	1118
6.3255	8.2062	0.77082	1119
6.1717	8.4086	0.73398	1120
7.4108	10.224	0.72485	1121
5.1234	6.6947	0.76529	1122
6.1372	8.1636	0.75177	1123
5.9415	8.3651	0.71026	1124
6.3489	7.8205	0.81183	1125
6.2081	7.9128	0.78456	1126
7.3819	9.615	0.76775	1127
5.199	6.3867	0.81404	1128
6.1687	7.7719	0.79372	1129
5.99	7.8602	0.76206	1130
4.3546	6.2869	0.69265	1131
5.3684	7.7727	0.69067	1132
5.0019	7.917	0.63179	1133
4.1662	6.2517	0.66641	1134
4.0489	5.292	0.7651	1135
3.3504	4.7983	0.69824	1136
4.6623	6.7077	0.69507	1137
2.7895	3.7316	0.74752	1138
3.8515	5.237	0.73545	1139
3.1066	4.7424	0.65506	1140
1.7402	3.4927	0.49823	1141
2.8553	5.1406	0.55545	1142
1.8148	4.7146	0.38492	1143
1.533	3.4685	0.44197	1144
1.9841	3.2638	0.60791	1145
3.0462	4.8091	0.63342	1146

2.1117	4.264	0.49524	1147
1.7868	3.2179	0.55526	1148
0.68733	3.1447	0.21857	1149
5.0487	6.3358	0.79685	1150
3.9471	6.2434	0.6322	1151
3.2726	4.8413	0.67597	1152
2.3914	4.289	0.55756	1153
3.7033	6.2108	0.59627	1154
4.1091	5.8182	0.70625	1155
3.4358	4.5974	0.74735	1156
2.6398	3.985	0.66245	1157
3.8789	5.77	0.67225	1158
2.4672	4.4384	0.55589	1159
1.3965	3.8654	0.36129	1160
2.7085	5.7924	0.46759	1161
1.2078	2.8607	0.42221	1162
2.2699	4.414	0.51425	1163
1.1527	3.8682	0.298	1164
0.8104	2.3208	0.3492	1165
0.72946	1.6979	0.42963	1166
-0.8426	0.69002	-1.2211	1167
0.55135	2.2907	0.24069	1168
-0.48351	1.4857	-0.32543	1169
-2.4838	1.4622	-1.6987	1170
-0.99694	2.5291	-0.39419	1171
-1.8755	0.88876	-2.1102	1172
-0.70162	1.5324	-0.45786	1173
-2.7601	1.6777	-1.6452	1174
-0.11617	1.2477	-0.0931	1175
-1.8996	0.97306	-1.9522	1176
-0.50565	1.9874	-0.25443	1177
-1.4385	0.76936	-1.8698	1178
-0.32338	1.2349	-0.26187	1179
-2.1586	1.1372	-1.8983	1180
-2.7656	1.4834	-1.8644	1181
-1.5917	1.5827	-1.0057	1182
-3.8876	2.4411	-1.5926	1183
-2.9837	1.6386	-1.8209	1184
6.2413	7.2032	0.86646	1185
5.1803	5.7904	0.89463	1186
4.772	5.4113	0.88186	1187
6.011	7.127	0.84342	1188
4.2948	5.5574	0.77281	1189
3.6541	5.1264	0.71282	1190
4.9661	7.0346	0.70595	1191
3.0354	3.996	0.75961	1192

4.0974	5.5025	0.74465	1193
3.4103	5.0699	0.67266	1194
4.4115	5.3087	0.831	1195
3.8324	4.8273	0.7939	1196
5.0715	6.5893	0.76965	1197
3.2094	3.8536	0.83282	1198
4.2232	5.2439	0.80535	1199
3.6022	4.7534	0.75781	1200
2.23	3.5294	0.63184	1201
3.2921	5.0736	0.64887	1202
2.4154	4.5861	0.52669	1203
2.0327	3.483	0.5836	1204
1.8028	2.4619	0.73229	1205
0.49906	1.2301	0.40569	1206
1.893	3.1151	0.6077	1207
0.48042	1.1596	0.4143	1208
1.5956	2.3659	0.6744	1209
0.24005	1.0889	0.22045	1210
-0.74566	0.28697	-2.5983	1211
0.4282	2.0163	0.21237	1212
-1.329	1.0489	-1.2671	1213
-0.96374	0.29856	-3.228	1214
-0.36521	0.52098	-0.701	1215
0.74996	1.842	0.40715	1216
-0.81698	0.53221	-1.5351	1217
-0.57242	0.34429	-1.6626	1218
-1.8539	0.72517	-2.5565	1219
6.0117	8.0165	0.74991	1220
4.8905	6.2263	0.78545	1221
4.3586	5.9459	0.73305	1222
5.7526	7.9626	0.72246	1223
3.8965	6.1411	0.6345	1224
3.0642	5.9155	0.51799	1225
4.5511	8.1077	0.56133	1226
2.5045	4.3903	0.57046	1227
3.6784	6.1107	0.60196	1228
2.7879	5.903	0.47228	1229
4.0448	5.7636	0.70179	1230
3.3016	5.4062	0.61071	1231
4.6956	7.4504	0.63025	1232
2.7225	4.1102	0.66237	1233
3.8376	5.7205	0.67086	1234
3.0426	5.3714	0.56645	1235
1.6144	4.0009	0.4035	1236
2.7883	5.7286	0.48672	1237
1.6604	5.5212	0.30073	1238

1.3963	3.9973	0.3493	1239
1.1054	2.6342	0.41965	1240
-0.58373	1.5912	-0.36686	1241
1.0093	3.7819	0.26689	1242
-0.36384	0.93714	-0.38825	1243
0.87525	2.6035	0.33618	1244
-0.87976	1.6682	-0.52736	1245
-1.7838	1.3044	-1.3676	1246
-0.47187	2.7212	-0.1734	1247
-2.7763	2.6699	-1.0399	1248
-2.0276	1.4732	-1.3763	1249
-1.3034	0.83104	-1.5684	1250
-0.06437	2.2788	-0.02825	1251
-2.0878	1.8667	-1.1185	1252
-1.5337	0.95533	-1.6054	1253
-3.0224	1.9977	-1.5129	1254
5.9638	7.0044	0.85144	1255
5.7003	6.8927	0.82701	1256
7.0943	8.8869	0.79828	1257
4.6414	5.3838	0.86211	1258
5.7566	6.9379	0.82972	1259
5.4413	6.8162	0.7983	1260
3.6343	5.1432	0.70663	1261
4.8082	6.8513	0.70178	1262
4.219	6.7663	0.62353	1263
3.4162	5.0937	0.67067	1264
3.7958	4.8672	0.77988	1265
4.911	6.4582	0.76043	1266
4.3843	6.2418	0.70241	1267
3.5886	4.8035	0.74708	1268
2.5261	4.6588	0.54222	1269
0.82876	1.6318	0.50787	1270
2.0679	3.3563	0.61611	1271
0.65358	2.2513	0.29032	1272
0.5985	1.5338	0.39021	1273
-0.76485	1.3848	-0.55232	1274
-0.34107	1.0392	-0.32821	1275
8.217	8.1853	1.0039	1276
7.3982	7.9579	0.92966	1277
6.1821	6.5041	0.9505	1278
6.0061	6.3028	0.95294	1279
7.1801	7.8737	0.91191	1280
7.3714	7.6207	0.96729	1281
6.2105	6.3104	0.98417	1282
6.049	6.09	0.99328	1283
7.1642	7.5307	0.95133	1284

5.4467	6.0241	0.90415	1285
5.116	5.7199	0.89443	1286
6.2899	7.3301	0.85809	1287
4.2968	4.6721	0.91967	1288
5.2666	5.9517	0.88489	1289
4.8979	5.6326	0.86956	1290
4.8016	4.8469	0.99065	1291
4.0024	4.0226	0.99496	1292
3.3323	3.4171	0.97518	1293
4.5714	4.7181	0.96891	1294
3.0608	3.4597	0.8847	1295
2.1297	2.5943	0.82092	1296
3.4417	4.2053	0.81843	1297
1.8014	2.2311	0.8074	1298
2.8634	3.3555	0.85336	1299
1.886	2.4491	0.77008	1300
3.2336	3.4527	0.93653	1301
2.3927	2.7059	0.88427	1302
3.6318	4.063	0.89387	1303
2.0315	2.4106	0.84272	1304
3.0452	3.3381	0.91226	1305
2.1625	2.544	0.85004	1306
0.99606	1.6308	0.61076	1307
2.0581	2.8133	0.73157	1308
0.89113	1.7738	0.50238	1309
0.79867	1.4936	0.53472	1310
9.2904	9.0267	1.0292	1311
7.8096	7.5065	1.0404	1312
7.968	7.5328	1.0578	1313
9.0832	8.9268	1.0175	1314
7.1155	7.2298	0.9842	1315
7.136	7.1794	0.99395	1316
8.3096	8.7312	0.95171	1317
5.9655	5.9137	1.0088	1318
6.9352	7.1467	0.97041	1319
6.9179	7.0765	0.9776	1320
7.1051	7.0141	1.013	1321
7.1224	6.9334	1.0273	1322
8.2375	8.3597	0.98539	1323
6.003	5.7904	1.0367	1324
6.9322	6.9274	1.0007	1325
6.9152	6.8256	1.0131	1326
5.2302	5.3991	0.96872	1327
6.1999	6.6632	0.93046	1328
6.0277	6.488	0.92906	1329
5.05	5.3095	0.95112	1330

4.9781	4.7871	1.0399	1331
4.5249	4.3166	1.0483	1332
5.7641	5.6497	1.0202	1333
3.776	3.7021	1.02	1334
4.7897	4.667	1.0263	1335
4.2947	4.1534	1.034	1336
2.8236	2.9845	0.94608	1337
3.8857	4.1441	0.93763	1338
3.1487	3.3976	0.92676	1339
2.6263	2.8438	0.92348	1340
3.0072	3.1072	0.96784	1341
4.021	4.0981	0.98117	1342
3.3551	3.4367	0.97625	1343
2.8189	2.9624	0.95153	1344
1.8209	2.2299	0.81662	1345
9.425	9.7263	0.96902	1346
7.785	7.8929	0.98633	1347
7.9555	7.9889	0.99582	1348
9.1945	9.6331	0.95448	1349
7.0236	7.6875	0.91364	1350
7.0251	7.7378	0.90788	1351
8.3371	9.5629	0.87182	1352
5.7642	6.1785	0.93295	1353
6.8263	7.6136	0.89659	1354
6.7813	7.6487	0.8866	1355
7.0162	7.3857	0.94998	1356
7.016	7.3658	0.95252	1357
8.2551	9.0462	0.91255	1358
5.8142	5.9785	0.97251	1359
6.828	7.3067	0.93448	1360
6.7858	7.2687	0.93357	1361
4.9589	5.6592	0.87626	1362
6.021	7.127	0.84481	1363
5.7864	7.0573	0.81992	1364
4.7615	5.5837	0.85276	1365
4.6681	4.8305	0.96638	1366
4.0807	4.2223	0.96647	1367
5.4746	5.9551	0.91933	1368
3.3457	3.4634	0.96601	1369
4.4609	4.7215	0.94479	1370
3.8217	4.0741	0.93804	1371
2.2704	2.789	0.81408	1372
3.4443	4.2964	0.80166	1373
2.4914	3.4711	0.71774	1374
2.0523	2.6731	0.76777	1375
2.5001	2.831	0.88311	1376

3.6153	4.145	0.8722	1377
2.7647	3.3396	0.82785	1378
2.2929	2.699	0.84954	1379
1.1622	2.0882	0.55656	1380
8.7608	8.6552	1.0122	1381
9.1481	8.9197	1.0256	1382
10.387	10.547	0.98485	1383
7.5589	7.2808	1.0382	1384
8.5724	8.567	1.0006	1385
8.9181	8.8097	1.0123	1386
6.7864	6.9683	0.9739	1387
7.8485	8.3867	0.93583	1388
8.0442	8.5963	0.93577	1389
6.5892	6.8789	0.95788	1390
6.7901	6.743	1.007	1391
7.8036	8.0572	0.96853	1392
7.9786	8.1829	0.97504	1393
6.6016	6.6488	0.9929	1394
5.7838	6.354	0.91026	1395
4.419	4.2909	1.0299	1396
5.5342	5.5586	0.99561	1397
5.1633	5.1103	1.0104	1398
4.2118	4.1534	1.0141	1399
3.1822	3.5286	0.90182	1400
3.3662	3.52	0.9563	1401
7.0988	6.845	1.0371	1402
5.8239	5.5746	1.0447	1403
5.543	5.2253	1.0608	1404
6.855	6.7137	1.0211	1405
4.9263	5.0912	0.96761	1406
4.4034	4.537	0.97056	1407
5.7974	6.2941	0.92108	1408
3.6039	3.6958	0.97514	1409
4.7191	4.9849	0.94667	1410
4.1444	4.394	0.9432	1411
5.0185	4.9871	1.0063	1412
4.5481	4.4818	1.0148	1413
5.8601	6.0241	0.97278	1414
3.7591	3.7463	1.0034	1415
4.8212	4.874	0.98918	1416
4.3044	4.3284	0.99444	1417
2.7583	3.0685	0.89889	1418
3.8735	4.4131	0.87773	1419
3.0874	3.6677	0.84177	1420
2.5511	2.942	0.86713	1421
2.3363	2.7282	0.85637	1422

1.088	2.6476	0.41094	1423
2.5749	2.859	0.90063	1424
0.94438	2.618	0.36072	1425
2.1182	2.5464	0.83187	1426
0.81172	2.4335	0.33357	1427
-0.32403	1.9545	-0.16579	1428
0.91506	1.6109	0.56805	1429
-0.82857	1.6718	-0.49561	1430
-0.55426	1.825	-0.3037	1431
0.054257	2.2919	0.023673	1432
1.2281	1.9049	0.64471	1433
-0.31578	2.0575	-0.15348	1434
-0.16386	2.1535	-0.07609	1435
-1.4938	1.8325	-0.81521	1436
6.846	6.3836	1.0724	1437
6.8058	6.2119	1.0956	1438
8.1176	7.7061	1.0534	1439
5.5867	5.149	1.085	1440
6.6486	6.2645	1.0613	1441
6.5621	6.0531	1.0841	1442
4.6772	4.5286	1.0328	1443
5.7924	5.8213	0.99504	1444
5.4861	5.4314	1.0101	1445
4.47	4.395	1.0171	1446
4.7813	4.5316	1.0551	1447
5.8434	5.6782	1.0291	1448
5.5671	5.3108	1.0483	1449
4.584	4.3944	1.0432	1450
3.6244	3.7676	0.962	1451
2.0742	2.978	0.69652	1452
3.2481	3.305	0.98278	1453
2.2428	2.9281	0.76596	1454
1.8561	2.7884	0.66565	1455
0.63833	1.8881	0.33809	1456
0.96598	2.2803	0.42362	1457
6.7164	6.6271	1.0135	1458
6.636	6.436	1.0311	1459
8.1229	8.3108	0.97739	1460
5.3244	5.1294	1.038	1461
6.4982	6.5151	0.99742	1462
6.3597	6.2857	1.0118	1463
4.2993	4.5558	0.9437	1464
5.5384	6.158	0.89937	1465
5.1157	5.789	0.88369	1466
4.0691	4.4378	0.91691	1467
4.4343	4.4754	0.9908	1468

5.6081	5.9087	0.94913	1469
5.2322	5.5059	0.95029	1470
4.2161	4.3475	0.96978	1471
3.1295	3.809	0.82161	1472
1.3678	2.318	0.59007	1473
2.6798	2.9441	0.91022	1474
1.345	2.1425	0.62776	1475
1.124	2.1138	0.53175	1476
-0.29171	1.1772	-0.2478	1477
0.12917	1.5895	0.081265	1478
6.4543	6.0174	1.0726	1479
7.628	7.4006	1.0307	1480
7.7907	7.4035	1.0523	1481
6.236	5.8823	1.0601	1482
5.2617	5.3585	0.98193	1483
5.3459	5.2296	1.0223	1484
2.3868	2.7596	0.8649	1485

Table 5.3: Parameters associated with each portfolio for six line case

6. Seven Line Combination

-1.0	-1.0	-1.0	33.8	-1.0	-1.0	-1.0	10.6	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	35.1	-1.0	-1.0	-1.0	9.2	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	28.1	-1.0	-1.0	-1.0	8.1	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	27.5	-1.0	-1.0	-1.0	7.7	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	35.2	-1.0	-1.0	-1.0	8.9	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	32.6	-1.0	-1.0	-1.0	9.4	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	8.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	8.0	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	32.7	-1.0	-1.0	-1.0	9.1	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	7.1	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	6.5	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	34.0	-1.0	-1.0	-1.0	7.7	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	5.8	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	6.8	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	6.2	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	20.1	-1.0	-1.0	-1.0	6.5	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	5.8	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	4.9	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	6.1	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	15.7	-1.0	-1.0	-1.0	4.3	2.1	2.1	2.1	2.1
-1.0	-1.0	-1.0	12.5	-1.0	-1.0	-1.0	3.1	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	4.4	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	8.7	-1.0	-1.0	-1.0	3.0	0.7	0.7	0.7	0.7

-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	4.0	1.8	1.8	1.8	1.8
-1.0	-1.0	-1.0	12.6	-1.0	-1.0	-1.0	2.8	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	4.7	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	10.9	-1.0	-1.0	-1.0	3.6	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	18.9	-1.0	-1.0	-1.0	4.8	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	7.5	-1.0	-1.0	-1.0	3.4	1.2	1.2	1.2	1.2
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	4.4	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	11.0	-1.0	-1.0	-1.0	3.3	0.7	0.7	0.7	0.7
-1.0	-1.0	-1.0	7.6	-1.0	-1.0	-1.0	1.8	-0.4	-0.4	-0.4	-0.4
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	2.9	0.6	0.6	0.6	0.6
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	1.4	-1.3	-1.3	-1.3	-1.3
-1.0	-1.0	-1.0	7.7	-1.0	-1.0	-1.0	1.5	-0.7	-0.7	-0.7	-0.7
-1.0	-1.0	-1.0	36.4	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	29.5	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	29.1	-1.0	-1.0	-1.0	8.4	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	36.5	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	30.4	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	30.2	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	37.9	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	24.0	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	30.5	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	27.9	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	35.3	-1.0	-1.0	-1.0	8.3	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	28.0	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	22.9	-1.0	-1.0	-1.0	5.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	29.4	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	29.0	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	15.0	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	11.0	-1.0	-1.0	-1.0	3.8	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	4.8	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	15.1	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	3.3	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	15.6	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	11.3	-1.0	-1.0	-1.0	1.9	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	9.9	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	13.8	-1.0	-1.0	-1.0	2.5	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	9.9	-1.0	-1.0	-1.0	2.4	2.4	2.4	2.4	2.4

-1.0	-1.0	-1.0	10.1	-1.0	-1.0	-1.0	0.8	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	41.4	-1.0	-1.0	-1.0	11.7	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	10.2	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	33.4	-1.0	-1.0	-1.0	10.1	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	41.4	-1.0	-1.0	-1.0	11.3	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	34.3	-1.0	-1.0	-1.0	8.9	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	34.8	-1.0	-1.0	-1.0	8.6	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	43.3	-1.0	-1.0	-1.0	9.8	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	7.5	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	34.4	-1.0	-1.0	-1.0	8.6	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	34.9	-1.0	-1.0	-1.0	8.2	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	32.0	-1.0	-1.0	-1.0	9.1	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	8.8	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	40.2	-1.0	-1.0	-1.0	10.1	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	25.3	-1.0	-1.0	-1.0	7.8	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	32.1	-1.0	-1.0	-1.0	8.8	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	8.5	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	26.2	-1.0	-1.0	-1.0	6.4	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	33.2	-1.0	-1.0	-1.0	7.4	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	6.9	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	6.1	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	6.4	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	5.5	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	6.9	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	13.3	-1.0	-1.0	-1.0	4.9	2.6	2.6	2.6	2.6
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	6.0	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	5.2	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	3.3	0.8	0.8	0.8	0.8
-1.0	-1.0	-1.0	21.4	-1.0	-1.0	-1.0	4.4	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	3.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	13.7	-1.0	-1.0	-1.0	3.0	0.5	0.5	0.5	0.5
-1.0	-1.0	-1.0	12.1	-1.0	-1.0	-1.0	3.8	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	19.5	-1.0	-1.0	-1.0	4.9	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	3.7	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	3.4	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	12.5	-1.0	-1.0	-1.0	1.7	-0.7	-0.7	-0.7	-0.7
-1.0	-1.0	-1.0	35.5	-1.0	-1.0	-1.0	9.4	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	36.2	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	44.3	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	35.6	-1.0	-1.0	-1.0	9.2	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	36.3	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	29.8	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	36.8	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	37.9	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	29.8	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5

-1.0	-1.0	-1.0	27.7	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	34.5	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	35.0	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	28.7	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	23.2	-1.0	-1.0	-1.0	5.3	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	21.4	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	3.9	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	2.2	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	14.8	-1.0	-1.0	-1.0	2.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	9.3	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	8.1	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	18.9	-1.0	-1.0	-1.0	7.7	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	27.4	-1.0	-1.0	-1.0	8.9	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	21.7	-1.0	-1.0	-1.0	6.7	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	5.9	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	7.2	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	5.2	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	6.3	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	5.5	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	19.9	-1.0	-1.0	-1.0	7.0	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	6.3	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	7.6	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	12.9	-1.0	-1.0	-1.0	5.6	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	6.7	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	6.0	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	13.3	-1.0	-1.0	-1.0	4.1	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	5.2	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	4.1	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	3.8	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	6.8	-1.0	-1.0	-1.0	3.9	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	1.3	-1.0	-1.0	-1.0	2.5	-0.5	-0.5	-0.5	-0.5
-1.0	-1.0	-1.0	10.7	-1.0	-1.0	-1.0	3.9	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	-0.8	-1.0	-1.0	-1.0	2.5	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	6.9	-1.0	-1.0	-1.0	3.6	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	1.4	-1.0	-1.0	-1.0	2.1	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.6	-2.0	-2.0	-2.0	-2.0
-1.0	-1.0	-1.0	7.0	-1.0	-1.0	-1.0	1.8	-0.8	-0.8	-0.8	-0.8
-1.0	-1.0	-1.0	1.2	-1.0	-1.0	-1.0	-0.2	-3.3	-3.3	-3.3	-3.3
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.3	-2.3	-2.3	-2.3	-2.3
-1.0	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	1.2	-1.2	-1.2	-1.2	-1.2
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	2.4	-0.1	-0.1	-0.1	-0.1
-1.0	-1.0	-1.0	-0.1	-1.0	-1.0	-1.0	0.6	-2.4	-2.4	-2.4	-2.4
-1.0	-1.0	-1.0	-1.9	-1.0	-1.0	-1.0	0.9	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	-2.3	-1.0	-1.0	-1.0	-1.0	-3.6	-3.6	-3.6	-3.6

-1.0	-1.0	-1.0	23.5	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	21.9	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	30.3	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	7.1	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	22.0	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	17.0	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	24.4	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	22.9	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	4.2	4.2	4.2	4.2	4.2
-1.0	-1.0	-1.0	15.4	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	22.5	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	15.5	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	3.0	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	1.9	-1.0	-1.0	-1.0	1.7	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	9.6	-1.0	-1.0	-1.0	2.8	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	1.1	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	2.0	-1.0	-1.0	-1.0	1.3	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	1.8	-1.0	-1.0	-1.0	-0.6	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	0.8	-1.0	-1.0	-1.0	0.1	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	8.9	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	26.1	-1.0	-1.0	-1.0	8.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	35.5	-1.0	-1.0	-1.0	10.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	19.5	-1.0	-1.0	-1.0	7.4	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	8.6	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	26.2	-1.0	-1.0	-1.0	8.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	5.8	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	28.2	-1.0	-1.0	-1.0	7.0	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	27.4	-1.0	-1.0	-1.0	6.3	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	5.5	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	6.2	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	7.3	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	24.7	-1.0	-1.0	-1.0	6.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	5.9	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	19.0	-1.0	-1.0	-1.0	4.2	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	3.7	-1.0	-1.0	-1.0	2.8	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	4.0	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	7.3	-1.0	-1.0	-1.0	2.5	-0.9	-0.9	-0.9	-0.9
-1.0	-1.0	-1.0	3.8	-1.0	-1.0	-1.0	2.4	-0.3	-0.3	-0.3	-0.3
-1.0	-1.0	-1.0	3.7	-1.0	-1.0	-1.0	0.4	-2.5	-2.5	-2.5	-2.5
-1.0	-1.0	-1.0	2.4	-1.0	-1.0	-1.0	1.1	-1.6	-1.6	-1.6	-1.6
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	29.9	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	29.5	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3

-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	4.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	5.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	6.8	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	30.9	-1.0	-1.0	-1.0	13.7	11.2	11.2	11.2	11.2
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	11.9	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	12.2	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	30.9	-1.0	-1.0	-1.0	13.4	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	25.3	-1.0	-1.0	-1.0	10.7	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	24.1	-1.0	-1.0	-1.0	10.8	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	32.2	-1.0	-1.0	-1.0	12.0	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	9.4	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	10.5	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	10.5	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	23.5	-1.0	-1.0	-1.0	10.9	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	22.0	-1.0	-1.0	-1.0	11.0	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	29.7	-1.0	-1.0	-1.0	12.1	9.7	9.7	9.7	9.7
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	9.6	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	10.6	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	22.1	-1.0	-1.0	-1.0	10.7	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	8.4	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	9.4	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	22.9	-1.0	-1.0	-1.0	9.2	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	8.1	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	11.8	-1.0	-1.0	-1.0	8.4	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	7.9	-1.0	-1.0	-1.0	8.1	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	16.3	-1.0	-1.0	-1.0	9.3	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	4.8	-1.0	-1.0	-1.0	7.1	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	8.1	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	7.9	-1.0	-1.0	-1.0	7.7	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	4.8	-1.0	-1.0	-1.0	5.6	3.2	3.2	3.2	3.2
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	6.7	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	8.1	-1.0	-1.0	-1.0	5.9	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	4.9	-1.0	-1.0	-1.0	5.3	2.9	2.9	2.9	2.9
-1.0	-1.0	-1.0	3.7	-1.0	-1.0	-1.0	5.9	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	10.8	-1.0	-1.0	-1.0	7.0	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	6.6	-1.0	-1.0	-1.0	6.3	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	3.8	-1.0	-1.0	-1.0	5.6	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	3.7	-1.0	-1.0	-1.0	4.1	1.7	1.7	1.7	1.7
-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	11.2	11.2	11.2	11.2	11.2
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	11.4	11.4	11.4	11.4	11.4
-1.0	-1.0	-1.0	33.6	-1.0	-1.0	-1.0	12.6	12.6	12.6	12.6	12.6
-1.0	-1.0	-1.0	20.4	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	11.0	11.0	11.0	11.0	11.0
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	11.1	11.1	11.1	11.1	11.1
-1.0	-1.0	-1.0	21.0	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	9.7	9.7	9.7	9.7	9.7

-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	9.6	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	21.1	-1.0	-1.0	-1.0	8.4	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	7.3	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	14.4	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	10.9	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	7.4	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	7.5	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	6.3	-1.0	-1.0	-1.0	4.9	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	30.4	-1.0	-1.0	-1.0	13.0	10.7	10.7	10.7	10.7
-1.0	-1.0	-1.0	30.2	-1.0	-1.0	-1.0	13.5	10.8	10.8	10.8	10.8
-1.0	-1.0	-1.0	38.6	-1.0	-1.0	-1.0	14.8	12.1	12.1	12.1	12.1
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	11.6	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	30.5	-1.0	-1.0	-1.0	12.7	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	30.2	-1.0	-1.0	-1.0	13.2	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	10.3	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	31.6	-1.0	-1.0	-1.0	11.4	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	31.5	-1.0	-1.0	-1.0	11.7	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	10.0	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	10.5	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	11.5	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	28.9	-1.0	-1.0	-1.0	11.8	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	10.2	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	23.1	-1.0	-1.0	-1.0	8.8	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	9.4	-1.0	-1.0	-1.0	7.8	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	17.1	-1.0	-1.0	-1.0	8.9	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	8.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	7.4	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	5.8	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	8.3	-1.0	-1.0	-1.0	6.2	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	25.9	-1.0	-1.0	-1.0	10.9	10.9	10.9	10.9	10.9
-1.0	-1.0	-1.0	32.9	-1.0	-1.0	-1.0	11.9	11.9	11.9	11.9	11.9
-1.0	-1.0	-1.0	33.2	-1.0	-1.0	-1.0	12.3	12.3	12.3	12.3	12.3
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	10.6	10.6	10.6	10.6	10.6
-1.0	-1.0	-1.0	26.9	-1.0	-1.0	-1.0	9.2	9.2	9.2	9.2	9.2
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	9.4	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	12.2	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	10.9	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	14.7	-1.0	-1.0	-1.0	11.1	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	12.4	9.6	9.6	9.6	9.6
-1.0	-1.0	-1.0	10.4	-1.0	-1.0	-1.0	9.5	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	10.6	8.3	8.3	8.3	8.3

-1.0	-1.0	-1.0	14.8	-1.0	-1.0	-1.0	10.7	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	10.6	-1.0	-1.0	-1.0	8.1	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	18.3	-1.0	-1.0	-1.0	9.2	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	15.4	-1.0	-1.0	-1.0	9.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	10.7	-1.0	-1.0	-1.0	7.8	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	9.2	-1.0	-1.0	-1.0	8.4	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	16.6	-1.0	-1.0	-1.0	9.5	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	9.3	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	8.0	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	6.5	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	-5.5	-1.0	-1.0	-1.0	5.3	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	2.6	-1.0	-1.0	-1.0	6.5	3.9	3.9	3.9	3.9
-1.0	-1.0	-1.0	-4.3	-1.0	-1.0	-1.0	5.6	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	-5.4	-1.0	-1.0	-1.0	5.0	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	-5.9	-1.0	-1.0	-1.0	3.2	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	-6.7	-1.0	-1.0	-1.0	3.7	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	13.0	-1.0	-1.0	-1.0	8.8	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	9.9	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	9.8	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	8.4	8.4	8.4	8.4	8.4
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	11.9	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	-2.6	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	15.7	-1.0	-1.0	-1.0	10.5	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	23.8	-1.0	-1.0	-1.0	11.7	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	21.9	-1.0	-1.0	-1.0	12.1	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	10.2	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	16.3	-1.0	-1.0	-1.0	8.6	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	8.9	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	-1.2	-1.0	-1.0	-1.0	5.6	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3

Table 6.1: Rate of Return for seven line portfolios over first 12 hours

9.6	9.6	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
8.2	8.2	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
7.2	7.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
6.5	6.5	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.9	7.9	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
8.4	8.4	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.4	7.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
6.7	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
8.1	8.1	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.2	6.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
5.2	5.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0

6.7	6.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.7	4.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
5.9	5.9	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.9	4.9	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
4.8	4.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
3.0	3.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
4.5	4.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-1.0	-1.0	-1.0
1.1	1.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
2.7	2.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
1.2	1.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
2.5	2.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-1.0	-1.0	-1.0
0.8	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
3.2	3.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
1.7	1.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
3.2	3.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
1.7	1.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.0	-1.0	-1.0
2.9	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
1.3	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.0	-1.0	-1.0
0.1	0.1	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-1.0	-1.0	-1.0
1.4	1.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
-0.6	-0.6	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.0	-1.0	-1.0
-0.2	-0.2	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-1.0	-1.0	-1.0
11.2	11.2	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
9.8	9.8	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
9.5	9.5	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
10.9	10.9	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
8.6	8.6	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
8.1	8.1	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
9.6	9.6	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
7.2	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
8.4	8.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
7.8	7.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
8.3	8.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
9.7	9.7	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
7.4	7.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
8.0	8.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
6.1	6.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
7.3	7.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
6.6	6.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
5.8	5.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.7	4.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0

6.2	6.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
4.2	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
5.5	5.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
2.8	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
4.1	4.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
2.6	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
2.5	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
3.2	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
3.1	3.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
2.9	2.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.3	1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
10.5	10.5	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.1	9.1	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
8.7	8.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
10.2	10.2	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
7.8	7.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
7.1	7.1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
8.7	8.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
6.2	6.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.6	7.6	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
6.8	6.8	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
8.0	8.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
7.4	7.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
8.9	8.9	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.8	7.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
7.1	7.1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
6.4	6.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
5.4	5.4	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
4.8	4.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
4.7	4.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.3	3.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.0	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
2.9	2.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
1.3	1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
0.9	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.0	-1.0	-1.0
1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
3.2	3.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
1.5	1.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0

1.5	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
-0.2	-0.2	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-1.0	-1.0	-1.0
10.6	10.6	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
10.5	10.5	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
12.0	12.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
9.1	9.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
10.3	10.3	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
10.1	10.1	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
7.8	7.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
9.1	9.1	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
8.6	8.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
7.5	7.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
8.0	8.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
9.3	9.3	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.4	6.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
4.6	4.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
6.0	6.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
3.2	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
7.4	7.4	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
6.4	6.4	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
7.0	7.0	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
3.6	3.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
5.3	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.3	3.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
4.7	4.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0
3.2	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
5.3	5.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.1	4.1	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
5.7	5.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
3.7	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
5.0	5.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.7	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
2.1	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
3.5	3.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
1.8	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-1.0	-1.0	-1.0
1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0

-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
-2.1	-2.1	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0
-0.6	-0.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0
-3.4	-3.4	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-1.0	-1.0	-1.0
-2.4	-2.4	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-1.0	-1.0	-1.0
-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0
0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-1.0	-1.0	-1.0
-2.5	-2.5	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-1.0	-1.0	-1.0
-1.8	-1.8	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
-3.7	-3.7	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-1.0	-1.0	-1.0
8.0	8.0	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.3	7.3	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
8.9	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
6.4	6.4	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
7.7	7.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
6.9	6.9	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
4.9	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
5.2	5.2	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
4.6	4.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	-1.0	-1.0	-1.0
5.2	5.2	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
6.6	6.6	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
4.9	4.9	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.4	3.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
1.5	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.0	-1.0	-1.0
-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
7.0	7.0	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.1	6.1	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.8	7.8	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
6.7	6.7	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
3.6	3.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.7	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
3.3	3.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
4.0	4.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
5.5	5.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
4.2	4.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0

3.7	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
-0.2	-0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
-1.1	-1.1	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
-0.5	-0.5	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.0	-1.0	-1.0
-2.7	-2.7	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.0	-1.0	-1.0
-1.9	-1.9	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0
7.0	7.0	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.4	8.4	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
7.7	7.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
6.6	6.6	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
5.1	5.1	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
5.4	5.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
12.7	12.7	11.2	11.2	11.2	11.2	11.2	11.2	11.2	-1.0	-1.0	-1.0
11.0	11.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
10.9	10.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
12.4	12.4	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
9.8	9.8	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
9.5	9.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
11.1	11.1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
8.3	8.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
9.6	9.6	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
9.2	9.2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
10.0	10.0	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
9.7	9.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
11.1	11.1	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
8.5	8.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
9.7	9.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
9.4	9.4	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
7.2	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
8.5	8.5	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
7.9	7.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
6.9	6.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
6.9	6.9	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
6.0	6.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.6	7.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
5.3	5.3	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
6.6	6.6	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
3.8	3.8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-1.0	-1.0	-1.0
5.2	5.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
3.9	3.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
3.5	3.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-1.0	-1.0	-1.0
4.2	4.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0

5.5	5.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
3.9	3.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.3	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-1.0	-1.0	-1.0
12.4	12.4	11.2	11.2	11.2	11.2	11.2	11.2	11.2	-1.0	-1.0	-1.0
12.6	12.6	11.4	11.4	11.4	11.4	11.4	11.4	11.4	-1.0	-1.0	-1.0
14.1	14.1	12.6	12.6	12.6	12.6	12.6	12.6	12.6	-1.0	-1.0	-1.0
10.9	10.9	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
12.2	12.2	11.0	11.0	11.0	11.0	11.0	11.0	11.0	-1.0	-1.0	-1.0
12.3	12.3	11.1	11.1	11.1	11.1	11.1	11.1	11.1	-1.0	-1.0	-1.0
9.8	9.8	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
11.0	11.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-1.0	-1.0	-1.0
11.0	11.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
9.5	9.5	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
9.9	9.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
11.1	11.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
11.1	11.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
9.6	9.6	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
8.4	8.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
6.8	6.8	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
8.2	8.2	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.5	7.5	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.5	6.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.1	5.1	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
5.4	5.4	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
11.9	11.9	10.7	10.7	10.7	10.7	10.7	10.7	10.7	-1.0	-1.0	-1.0
12.0	12.0	10.8	10.8	10.8	10.8	10.8	10.8	10.8	-1.0	-1.0	-1.0
13.6	13.6	12.1	12.1	12.1	12.1	12.1	12.1	12.1	-1.0	-1.0	-1.0
10.3	10.3	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
11.6	11.6	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
11.7	11.7	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
9.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
10.4	10.4	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
10.2	10.2	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
8.7	8.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
9.2	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
10.5	10.5	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
10.3	10.3	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
8.9	8.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
7.5	7.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
5.8	5.8	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
7.3	7.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
3.8	3.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
4.3	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0

11.9	11.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	-1.0	-1.0	-1.0
13.2	13.2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	-1.0	-1.0	-1.0
13.5	13.5	12.3	12.3	12.3	12.3	12.3	12.3	12.3	-1.0	-1.0	-1.0
11.6	11.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	-1.0	-1.0	-1.0
10.3	10.3	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
10.4	10.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
7.2	7.2	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
9.2	9.2	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
8.8	8.8	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
10.5	10.5	9.6	9.6	9.6	9.6	9.6	9.6	9.6	-1.0	-1.0	-1.0
7.5	7.5	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
8.9	8.9	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
8.4	8.4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
6.1	6.1	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
7.5	7.5	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.7	6.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.8	5.8	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
6.4	6.4	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
7.8	7.8	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.0	7.0	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.1	6.1	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
4.5	4.5	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
4.1	4.1	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-1.0	-1.0	-1.0
2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
2.2	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
9.2	9.2	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
10.5	10.5	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
10.4	10.4	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
8.9	8.9	8.4	8.4	8.4	8.4	8.4	8.4	8.4	-1.0	-1.0	-1.0
7.4	7.4	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
7.7	7.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
8.3	8.3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
9.8	9.8	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
9.4	9.4	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
8.0	8.0	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
6.4	6.4	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
6.7	6.7	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
2.5	2.5	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
9.7	9.7	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0

Table 6.2: Rate of Return for seven line portfolios over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
6.0585	7.4087	0.81776	1486
5.2533	7.3647	0.7133	1487
4.5075	6.0739	0.74212	1488
4.0511	5.8504	0.69244	1489
5.0649	7.3295	0.69103	1490
5.3233	6.999	0.76057	1491
4.5948	5.8316	0.78791	1492
4.1734	5.5603	0.75057	1493
5.1431	6.9565	0.73933	1494
3.857	5.7312	0.67299	1495
3.2823	5.4702	0.60004	1496
4.2961	6.9628	0.61701	1497
2.8398	4.4506	0.63807	1498
3.6976	5.7016	0.64852	1499
3.094	5.4462	0.56809	1500
2.9256	4.4031	0.66443	1501
2.5224	3.5645	0.70766	1502
1.6662	2.8402	0.58664	1503
2.7282	4.3595	0.62581	1504
1.6368	3.3695	0.48578	1505
0.56067	2.6795	0.20924	1506
1.6758	4.3107	0.38876	1507
0.53486	1.9949	0.26811	1508
1.4642	3.3484	0.43728	1509
0.35346	2.6885	0.13147	1510
1.8459	3.1812	0.58025	1511
0.8608	2.4247	0.35501	1512
1.9229	3.9739	0.48387	1513
0.788	1.8776	0.41969	1514
1.6801	3.1444	0.53433	1515
0.66344	2.4038	0.27599	1516
-0.16983	1.7262	-0.09838	1517
0.75948	3.0701	0.24738	1518
-0.49217	2.5067	-0.19634	1519
-0.3425	1.7471	-0.19604	1520
6.9919	8.0913	0.86413	1521
6.0162	6.7957	0.88529	1522
5.8421	6.6756	0.87514	1523
6.8117	8.0342	0.84784	1524
5.3331	6.6634	0.80037	1525
5.0268	6.5297	0.76984	1526
6.0407	7.9962	0.75544	1527
4.3159	5.3983	0.79949	1528
5.1738	6.6188	0.78168	1529
4.8385	6.4822	0.74642	1530

5.3898	6.4143	0.84027	1531
5.1067	6.2329	0.8193	1532
6.0764	7.6146	0.798	1533
4.4103	5.2123	0.84613	1534
5.2363	6.3645	0.82273	1535
4.9265	6.1777	0.79746	1536
3.6655	5.0245	0.72951	1537
4.5233	6.2644	0.72206	1538
4.0697	6.0818	0.66917	1539
3.5061	4.9838	0.70349	1540
3.3811	4.196	0.80579	1541
2.6884	3.5682	0.75343	1542
3.7504	5.0651	0.74044	1543
2.3232	2.9343	0.79173	1544
3.2153	4.1348	0.77762	1545
2.491	3.4986	0.71201	1546
1.4293	2.5782	0.55438	1547
2.3586	3.9241	0.60107	1548
1.4268	3.2777	0.4353	1549
1.2567	2.5339	0.49594	1550
1.6467	2.4874	0.662	1551
2.5388	3.7349	0.67975	1552
1.6857	3.0422	0.55408	1553
1.4809	2.4242	0.61089	1554
0.55197	2.1933	0.25166	1555
6.8884	8.7869	0.78394	1556
5.8512	7.2356	0.80867	1557
5.629	7.2082	0.78092	1558
6.6911	8.7413	0.76546	1559
5.1043	7.1908	0.70984	1560
4.7217	7.1923	0.65649	1561
5.8368	8.8334	0.66077	1562
4.0023	5.8024	0.68978	1563
4.9316	7.1585	0.68892	1564
4.5145	7.1634	0.63021	1565
5.1747	6.8606	0.75427	1566
4.8236	6.7779	0.71167	1567
5.8857	8.3286	0.70669	1568
4.1168	5.5356	0.7437	1569
5.0089	6.8219	0.73424	1570
4.6263	6.7395	0.68645	1571
3.2977	5.4531	0.60473	1572
4.227	6.821	0.61969	1573
3.6688	6.7932	0.54008	1574
3.125	5.4302	0.57548	1575
2.9726	4.4771	0.66394	1576

2.1209	3.9031	0.5434	1577
3.2948	5.6219	0.58607	1578
1.8227	3.0448	0.59862	1579
2.7924	4.4379	0.62922	1580
1.9028	3.8732	0.49128	1581
0.82483	2.8987	0.28455	1582
1.8386	4.3877	0.41904	1583
0.68768	3.9403	0.17452	1584
0.63645	2.8997	0.21949	1585
1.0873	2.6654	0.40795	1586
2.0571	4.0833	0.50378	1587
1.0127	3.5181	0.28786	1588
0.90719	2.6437	0.34316	1589
-0.1323	2.6931	-0.04913	1590
6.7098	7.8619	0.85347	1591
6.6512	7.9421	0.83746	1592
7.713	9.4611	0.81523	1593
5.652	6.5562	0.86208	1594
6.5441	7.8105	0.83785	1595
6.4539	7.8845	0.81855	1596
4.8968	6.4247	0.76218	1597
5.8261	7.77	0.74982	1598
5.5878	7.8705	0.70996	1599
4.7242	6.3819	0.74024	1600
4.9755	6.1529	0.80863	1601
5.8676	7.4267	0.79007	1602
5.6486	7.4399	0.75922	1603
4.8097	6.1033	0.78804	1604
4.0194	6.0154	0.66819	1605
2.7561	3.7083	0.74321	1606
3.7257	5.0823	0.73307	1607
3.0327	4.6051	0.65855	1608
2.5759	3.6483	0.70604	1609
1.6122	3.4583	0.46619	1610
1.8405	3.2371	0.56857	1611
4.7843	6.0471	0.79117	1612
4.0545	4.9233	0.82354	1613
3.4619	4.4196	0.78331	1614
4.5771	5.9882	0.76435	1615
3.1971	4.7185	0.67756	1616
2.3928	4.1923	0.57075	1617
3.5666	5.9106	0.60343	1618
2.0472	3.285	0.62319	1619
3.0169	4.6788	0.64481	1620
2.1747	4.1605	0.52269	1621
3.3498	4.5013	0.74419	1622

2.6163	3.9286	0.66595	1623
3.7315	5.5343	0.67424	1624
2.2479	3.1535	0.71282	1625
3.1772	4.4509	0.71384	1626
2.4091	3.8775	0.62129	1627
1.3119	2.903	0.45191	1628
2.2816	4.321	0.52803	1629
1.2845	3.794	0.33857	1630
1.1317	2.8791	0.39308	1631
0.88175	1.8433	0.47834	1632
-0.4818	0.78631	-0.61274	1633
0.75727	2.3944	0.31627	1634
-0.32042	0.74378	-0.4308	1635
0.69338	1.7776	0.39007	1636
-0.71203	0.75877	-0.9384	1637
-1.4679	0.64557	-2.2738	1638
-0.40579	1.6372	-0.24786	1639
-2.1525	1.3854	-1.5537	1640
-1.6652	0.76234	-2.1843	1641
-1.0892	0.52999	-2.0551	1642
-0.07538	1.3973	-0.05395	1643
-1.6516	0.88362	-1.8692	1644
-1.2775	0.54706	-2.3353	1645
-2.4706	1.2701	-1.9451	1646
4.949	5.5951	0.88452	1647
4.5352	5.2147	0.8697	1648
5.6504	6.7608	0.83577	1649
3.847	4.2874	0.89729	1650
4.7764	5.5275	0.86411	1651
4.328	5.1345	0.84293	1652
2.9806	3.9496	0.75465	1653
3.9502	5.3247	0.74187	1654
3.3045	4.8984	0.67461	1655
2.8004	3.8903	0.71982	1656
3.1424	3.8185	0.82292	1657
4.0716	5.0956	0.79905	1658
3.4824	4.6245	0.75304	1659
2.9697	3.7475	0.79243	1660
2.0651	3.4794	0.59351	1661
0.65532	1.2843	0.51024	1662
1.6691	2.4627	0.67777	1663
0.48053	1.3458	0.35706	1664
0.46695	1.1452	0.40774	1665
-0.64297	0.55464	-1.1593	1666
-0.30178	0.55937	-0.5395	1667
4.6645	5.9739	0.7808	1668

4.1415	5.6666	0.73087	1669
5.3806	7.4576	0.72149	1670
3.4623	4.4888	0.77133	1671
4.4761	5.9217	0.75587	1672
3.9113	5.6121	0.69694	1673
2.495	4.2941	0.58103	1674
3.5571	5.8494	0.60811	1675
2.7428	5.5917	0.49051	1676
2.2977	4.2642	0.53883	1677
2.6936	4.0481	0.66539	1678
3.7073	5.5109	0.67273	1679
2.9717	5.1467	0.5774	1680
2.5052	4.0029	0.62585	1681
1.4923	3.9225	0.38045	1682
-0.087	1.1269	-0.0772	1683
1.0282	2.6717	0.38483	1684
-0.46922	1.7585	-0.26683	1685
-0.29421	1.0926	-0.26928	1686
-1.5611	1.3861	-1.1262	1687
-1.1398	0.95213	-1.1971	1688
4.4381	5.2083	0.85212	1689
5.4518	6.6222	0.82327	1690
5.1039	6.4433	0.79212	1691
4.2497	5.1387	0.82701	1692
3.3199	4.936	0.67258	1693
3.481	4.6816	0.74354	1694
0.77913	1.7252	0.45162	1695
7.6884	7.7494	0.99213	1696
6.5681	6.5324	1.0055	1697
6.4865	6.3768	1.0172	1698
7.5	7.6626	0.97879	1699
5.8799	6.2566	0.93979	1700
5.6631	6.0262	0.93975	1701
6.7252	7.4519	0.90248	1702
4.822	5.0319	0.95828	1703
5.7141	6.1844	0.92395	1704
5.4658	5.939	0.92032	1705
5.9177	6.0843	0.97261	1706
5.7177	5.8405	0.97897	1707
6.7315	7.1575	0.94048	1708
4.9005	4.942	0.9916	1709
5.7583	6.0079	0.95846	1710
5.5293	5.7472	0.9621	1711
4.1455	4.5681	0.90747	1712
5.0376	5.7507	0.876	1713
4.6604	5.4233	0.85934	1714

3.9797	4.491	0.88616	1715
3.8692	3.9461	0.98051	1716
3.2395	3.357	0.96502	1717
4.3547	4.575	0.95184	1718
2.7672	2.9525	0.93726	1719
3.6965	3.8393	0.96283	1720
3.0323	3.2132	0.94371	1721
1.8538	2.2758	0.81459	1722
2.8236	3.3525	0.84222	1723
1.9405	2.5245	0.76868	1724
1.6737	2.1513	0.77797	1725
2.0626	2.4144	0.85427	1726
2.9919	3.3267	0.89936	1727
2.1867	2.5811	0.8472	1728
1.8899	2.2832	0.82774	1729
0.93835	1.6104	0.58268	1730
7.394	7.1858	1.029	1731
7.4622	7.1485	1.0439	1732
8.4758	8.424	1.0062	1733
6.3766	6.0679	1.0509	1734
7.2343	7.1031	1.0185	1735
7.2739	7.0473	1.0322	1736
5.6806	5.7071	0.99536	1737
6.5728	6.8483	0.95978	1738
6.488	6.727	0.96447	1739
5.5149	5.6209	0.98113	1740
5.7261	5.596	1.0233	1741
6.584	6.6545	0.98941	1742
6.5051	6.5104	0.99918	1743
5.5667	5.5063	1.011	1744
4.8384	5.1557	0.93846	1745
3.6617	3.6181	1.0121	1746
4.591	4.5424	1.0107	1747
4.1057	4.0369	1.017	1748
3.489	3.4892	0.99995	1749
2.607	2.8564	0.91269	1750
2.7844	2.9456	0.94526	1751
7.3366	7.5189	0.97575	1752
7.4006	7.5295	0.98287	1753
8.5158	9.0141	0.94472	1754
6.2347	6.2461	0.99818	1755
7.1642	7.4419	0.96267	1756
7.1934	7.4355	0.96744	1757
5.4721	5.9383	0.9215	1758
6.4418	7.2517	0.88831	1759
6.3206	7.2066	0.87705	1760

5.2919	5.8619	0.90276	1761
5.53	5.7614	0.95985	1762
6.4593	6.984	0.92488	1763
6.3478	6.8849	0.92198	1764
5.3574	5.6794	0.94331	1765
4.5566	5.3976	0.84419	1766
3.2601	3.4219	0.95272	1767
4.274	4.5957	0.92998	1768
3.6642	3.9835	0.91985	1769
3.0718	3.3007	0.93064	1770
2.0859	2.7321	0.76346	1771
2.303	2.7373	0.84134	1772
7.1291	6.9518	1.0255	1773
8.0584	8.1373	0.9903	1774
8.2667	8.2689	0.99974	1775
6.9568	6.8625	1.0137	1776
6.2253	6.5783	0.94634	1777
6.2518	6.3766	0.98044	1778
4.0475	4.0591	0.99715	1779
5.5266	5.3681	1.0295	1780
5.2126	4.9978	1.043	1781
6.3865	6.3569	1.0046	1782
4.3767	4.232	1.0342	1783
5.3464	5.2624	1.016	1784
4.9945	4.8593	1.0278	1785
3.4949	3.6392	0.96034	1786
4.5087	4.8366	0.9322	1787
3.9511	4.2716	0.92497	1788
3.3065	3.5219	0.93886	1789
3.6414	3.6729	0.99141	1790
4.6111	4.7348	0.97387	1791
4.1044	4.2054	0.97599	1792
3.4611	3.5498	0.97503	1793
2.5378	2.964	0.85619	1794
1.0835	2.3672	0.4577	1795
2.1455	2.5077	0.85557	1796
0.99911	2.1628	0.46195	1797
0.88613	2.2062	0.40165	1798
-0.25837	1.5156	-0.17047	1799
0.080753	1.8531	0.043578	1800
5.31	4.9574	1.0711	1801
6.2797	6.0011	1.0464	1802
6.1243	5.7462	1.0658	1803
5.1298	4.8333	1.0614	1804
4.2823	4.2829	0.99987	1805
4.3945	4.275	1.028	1806

1.9083	2.6119	0.73064	1807
5.0463	4.9416	1.0212	1808
6.1084	6.2143	0.98295	1809
5.8944	5.9361	0.99296	1810
4.849	4.8233	1.0053	1811
3.9026	4.3287	0.90156	1812
4.0436	4.2427	0.95307	1813
1.2588	2.0082	0.62684	1814
5.8712	5.6278	1.0432	1815

Table 6.3: Parameters associated with each portfolio for seven line case

7. Eight Line Combination

-1.0	-1.0	-1.0	32.3	-1.0	-1.0	-1.0	10.0	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	26.4	-1.0	-1.0	-1.0	9.0	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	8.7	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	32.4	-1.0	-1.0	-1.0	9.8	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	27.2	-1.0	-1.0	-1.0	7.8	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	26.5	-1.0	-1.0	-1.0	7.4	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	33.5	-1.0	-1.0	-1.0	8.4	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	21.2	-1.0	-1.0	-1.0	6.6	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	27.3	-1.0	-1.0	-1.0	7.5	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	26.5	-1.0	-1.0	-1.0	7.1	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	25.5	-1.0	-1.0	-1.0	8.0	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	24.5	-1.0	-1.0	-1.0	7.7	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	31.3	-1.0	-1.0	-1.0	8.7	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	6.9	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	7.8	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	7.4	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	5.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	6.6	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	6.0	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	5.4	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	5.6	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	12.4	-1.0	-1.0	-1.0	4.8	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	5.9	3.6	3.6	3.6	3.6
-1.0	-1.0	-1.0	9.1	-1.0	-1.0	-1.0	4.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	5.4	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	12.5	-1.0	-1.0	-1.0	4.5	2.2	2.2	2.2	2.2
-1.0	-1.0	-1.0	9.2	-1.0	-1.0	-1.0	3.0	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	15.7	-1.0	-1.0	-1.0	4.0	1.9	1.9	1.9	1.9
-1.0	-1.0	-1.0	12.8	-1.0	-1.0	-1.0	2.8	0.4	0.4	0.4	0.4
-1.0	-1.0	-1.0	9.3	-1.0	-1.0	-1.0	2.7	0.6	0.6	0.6	0.6

-1.0	-1.0	-1.0	8.1	-1.0	-1.0	-1.0	3.4	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	4.4	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	11.3	-1.0	-1.0	-1.0	3.3	1.0	1.0	1.0	1.0
-1.0	-1.0	-1.0	8.1	-1.0	-1.0	-1.0	3.2	1.1	1.1	1.1	1.1
-1.0	-1.0	-1.0	8.2	-1.0	-1.0	-1.0	1.7	-0.4	-0.4	-0.4	-0.4
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	8.3	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	28.0	-1.0	-1.0	-1.0	8.0	8.0	8.0	8.0	8.0
-1.0	-1.0	-1.0	34.7	-1.0	-1.0	-1.0	9.0	9.0	9.0	9.0	9.0
-1.0	-1.0	-1.0	22.7	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	28.5	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	28.0	-1.0	-1.0	-1.0	7.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	29.4	-1.0	-1.0	-1.0	6.9	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	29.0	-1.0	-1.0	-1.0	6.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	5.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	6.3	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	27.6	-1.0	-1.0	-1.0	7.2	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	6.7	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	6.0	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	22.4	-1.0	-1.0	-1.0	4.8	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	11.3	-1.0	-1.0	-1.0	3.8	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	4.7	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	15.1	-1.0	-1.0	-1.0	3.7	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	11.3	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	11.6	-1.0	-1.0	-1.0	2.0	2.0	2.0	2.0	2.0
-1.0	-1.0	-1.0	10.3	-1.0	-1.0	-1.0	2.5	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	9.7	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	9.6	7.2	7.2	7.2	7.2
-1.0	-1.0	-1.0	39.2	-1.0	-1.0	-1.0	10.7	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	8.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	31.8	-1.0	-1.0	-1.0	9.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	31.9	-1.0	-1.0	-1.0	9.3	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	26.4	-1.0	-1.0	-1.0	7.2	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	32.9	-1.0	-1.0	-1.0	8.2	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	33.1	-1.0	-1.0	-1.0	7.8	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	26.4	-1.0	-1.0	-1.0	6.9	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	7.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	30.8	-1.0	-1.0	-1.0	8.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	30.7	-1.0	-1.0	-1.0	8.1	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	7.2	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	25.4	-1.0	-1.0	-1.0	5.9	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	13.4	-1.0	-1.0	-1.0	4.8	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	20.2	-1.0	-1.0	-1.0	5.8	3.7	3.7	3.7	3.7
-1.0	-1.0	-1.0	18.0	-1.0	-1.0	-1.0	5.0	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	13.5	-1.0	-1.0	-1.0	4.5	2.4	2.4	2.4	2.4
-1.0	-1.0	-1.0	13.9	-1.0	-1.0	-1.0	3.0	0.8	0.8	0.8	0.8

-1.0	-1.0	-1.0	12.4	-1.0	-1.0	-1.0	3.5	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	34.0	-1.0	-1.0	-1.0	8.7	8.7	8.7	8.7	8.7
-1.0	-1.0	-1.0	34.4	-1.0	-1.0	-1.0	8.5	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	27.8	-1.0	-1.0	-1.0	7.5	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	28.7	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	26.8	-1.0	-1.0	-1.0	6.5	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	15.9	-1.0	-1.0	-1.0	3.8	3.8	3.8	3.8	3.8
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	7.8	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	7.3	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	26.3	-1.0	-1.0	-1.0	8.5	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	6.5	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	20.7	-1.0	-1.0	-1.0	7.5	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	18.6	-1.0	-1.0	-1.0	7.0	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	14.5	-1.0	-1.0	-1.0	5.1	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	21.3	-1.0	-1.0	-1.0	6.1	4.0	4.0	4.0	4.0
-1.0	-1.0	-1.0	19.3	-1.0	-1.0	-1.0	5.3	2.8	2.8	2.8	2.8
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	4.8	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	13.1	-1.0	-1.0	-1.0	5.5	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	19.6	-1.0	-1.0	-1.0	6.4	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	5.7	3.3	3.3	3.3	3.3
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	5.2	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	13.5	-1.0	-1.0	-1.0	3.7	1.6	1.6	1.6	1.6
-1.0	-1.0	-1.0	0.6	-1.0	-1.0	-1.0	2.6	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	7.6	-1.0	-1.0	-1.0	3.6	1.4	1.4	1.4	1.4
-1.0	-1.0	-1.0	2.8	-1.0	-1.0	-1.0	2.3	-0.4	-0.4	-0.4	-0.4
-1.0	-1.0	-1.0	0.6	-1.0	-1.0	-1.0	2.3	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	0.4	-1.0	-1.0	-1.0	0.6	-1.8	-1.8	-1.8	-1.8
-1.0	-1.0	-1.0	-0.5	-1.0	-1.0	-1.0	1.1	-1.1	-1.1	-1.1	-1.1
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	22.9	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	21.3	-1.0	-1.0	-1.0	6.2	6.2	6.2	6.2	6.2
-1.0	-1.0	-1.0	16.5	-1.0	-1.0	-1.0	5.5	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	4.1	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	15.4	-1.0	-1.0	-1.0	4.5	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	3.1	-1.0	-1.0	-1.0	1.5	1.5	1.5	1.5	1.5
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	7.1	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	26.2	-1.0	-1.0	-1.0	8.2	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	7.7	5.0	5.0	5.0	5.0
-1.0	-1.0	-1.0	19.2	-1.0	-1.0	-1.0	6.8	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	5.3	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	18.1	-1.0	-1.0	-1.0	5.7	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	4.8	-1.0	-1.0	-1.0	2.5	0.1	0.1	0.1	0.1
-1.0	-1.0	-1.0	21.7	-1.0	-1.0	-1.0	6.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	11.3	9.4	9.4	9.4	9.4
-1.0	-1.0	-1.0	22.6	-1.0	-1.0	-1.0	11.5	9.2	9.2	9.2	9.2

-1.0	-1.0	-1.0	29.6	-1.0	-1.0	-1.0	12.6	10.3	10.3	10.3	10.3
-1.0	-1.0	-1.0	17.9	-1.0	-1.0	-1.0	10.2	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	11.1	9.1	9.1	9.1	9.1
-1.0	-1.0	-1.0	22.6	-1.0	-1.0	-1.0	11.2	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	18.4	-1.0	-1.0	-1.0	9.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	24.6	-1.0	-1.0	-1.0	9.9	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	23.4	-1.0	-1.0	-1.0	9.9	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	18.4	-1.0	-1.0	-1.0	8.7	6.7	6.7	6.7	6.7
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	9.2	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	23.0	-1.0	-1.0	-1.0	10.1	8.2	8.2	8.2	8.2
-1.0	-1.0	-1.0	21.5	-1.0	-1.0	-1.0	10.1	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	17.0	-1.0	-1.0	-1.0	8.9	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	17.4	-1.0	-1.0	-1.0	7.7	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	5.6	-1.0	-1.0	-1.0	6.8	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	12.1	-1.0	-1.0	-1.0	7.8	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	8.6	-1.0	-1.0	-1.0	7.3	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	6.5	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	5.7	-1.0	-1.0	-1.0	5.1	3.0	3.0	3.0	3.0
-1.0	-1.0	-1.0	4.7	-1.0	-1.0	-1.0	5.5	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	9.5	9.5	9.5	9.5	9.5
-1.0	-1.0	-1.0	26.0	-1.0	-1.0	-1.0	10.4	10.4	10.4	10.4	10.4
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	10.5	10.5	10.5	10.5	10.5
-1.0	-1.0	-1.0	20.1	-1.0	-1.0	-1.0	9.3	9.3	9.3	9.3	9.3
-1.0	-1.0	-1.0	20.6	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	19.1	-1.0	-1.0	-1.0	8.3	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	8.0	-1.0	-1.0	-1.0	5.8	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	22.8	-1.0	-1.0	-1.0	11.0	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	29.3	-1.0	-1.0	-1.0	12.0	9.9	9.9	9.9	9.9
-1.0	-1.0	-1.0	28.8	-1.0	-1.0	-1.0	12.3	9.8	9.8	9.8	9.8
-1.0	-1.0	-1.0	22.8	-1.0	-1.0	-1.0	10.7	8.6	8.6	8.6	8.6
-1.0	-1.0	-1.0	23.6	-1.0	-1.0	-1.0	9.5	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	9.7	7.6	7.6	7.6	7.6
-1.0	-1.0	-1.0	10.0	-1.0	-1.0	-1.0	7.1	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	10.0	10.0	10.0	10.0	10.0
-1.0	-1.0	-1.0	10.8	-1.0	-1.0	-1.0	9.1	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	17.5	-1.0	-1.0	-1.0	10.1	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	14.9	-1.0	-1.0	-1.0	10.0	7.5	7.5	7.5	7.5
-1.0	-1.0	-1.0	10.8	-1.0	-1.0	-1.0	8.8	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	11.1	-1.0	-1.0	-1.0	7.4	5.2	5.2	5.2	5.2
-1.0	-1.0	-1.0	9.8	-1.0	-1.0	-1.0	7.7	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	-3.6	-1.0	-1.0	-1.0	4.8	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	13.2	-1.0	-1.0	-1.0	8.1	8.1	8.1	8.1	8.1
-1.0	-1.0	-1.0	15.8	-1.0	-1.0	-1.0	9.6	7.2	7.2	7.2	7.2

Table 7.1: Rate of Return for eight line portfolio over first 12 hours

9.2	9.2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
8.1	8.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.6	7.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
8.9	8.9	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
7.0	7.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
6.3	6.3	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.6	7.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
5.6	5.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
6.7	6.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
6.0	6.0	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
7.2	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
6.5	6.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
7.8	7.8	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
7.0	7.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
6.2	6.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.6	4.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
5.8	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
4.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
4.3	4.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
3.1	3.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-1.0	-1.0	-1.0
2.8	2.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
4.0	4.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-1.0	-1.0	-1.0
1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0
2.7	2.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-1.0	-1.0	-1.0
1.1	1.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.0	-1.0	-1.0
1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0	-1.0	-1.0
1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
3.0	3.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
1.6	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0	-1.0	-1.0
0.1	0.1	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-1.0	-1.0	-1.0
9.4	9.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
9.1	9.1	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-1.0	-1.0	-1.0
10.4	10.4	9.0	9.0	9.0	9.0	9.0	9.0	9.0	-1.0	-1.0	-1.0
8.1	8.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
9.2	9.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
6.9	6.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
8.1	8.1	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
7.5	7.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.7	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
7.1	7.1	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0

8.2	8.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
7.7	7.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
6.9	6.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.7	5.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
4.2	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
5.4	5.4	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
2.6	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-1.0	-1.0	-1.0
3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
8.8	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
8.3	8.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0
9.7	9.7	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
7.3	7.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
8.0	8.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
7.3	7.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
6.5	6.5	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
5.8	5.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
6.3	6.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
7.5	7.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
6.8	6.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
6.1	6.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
4.7	4.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
3.1	3.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
4.4	4.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	-1.0	-1.0	-1.0
3.0	3.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
2.8	2.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.0	-1.0	-1.0
1.3	1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-1.0	-1.0	-1.0
1.7	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
8.7	8.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
9.9	9.9	8.7	8.7	8.7	8.7	8.7	8.7	8.7	-1.0	-1.0	-1.0
9.6	9.6	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.4	8.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.2	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
7.4	7.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
4.3	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	-1.0	-1.0	-1.0
6.2	6.2	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
5.3	5.3	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
6.8	6.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
4.7	4.7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
6.0	6.0	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
3.3	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
4.6	4.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-1.0	-1.0	-1.0

3.3	3.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-1.0	-1.0	-1.0
3.1	3.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
3.7	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
4.9	4.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.8	3.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.0	-1.0	-1.0
3.4	3.4	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	-1.0	-1.0	-1.0
0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	-1.0	-1.0	-1.0
-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-1.0	-1.0	-1.0
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0
-1.9	-1.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.0	-1.0	-1.0
-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
6.2	6.2	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.7	6.7	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-1.0	-1.0	-1.0
5.9	5.9	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
4.5	4.5	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
4.9	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-1.0	-1.0	-1.0
5.2	5.2	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
6.5	6.5	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-1.0	-1.0	-1.0
4.9	4.9	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
3.4	3.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
3.8	3.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0	-1.0	-1.0
6.4	6.4	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
10.5	10.5	9.4	9.4	9.4	9.4	9.4	9.4	9.4	-1.0	-1.0	-1.0
10.3	10.3	9.2	9.2	9.2	9.2	9.2	9.2	9.2	-1.0	-1.0	-1.0
11.7	11.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3	-1.0	-1.0	-1.0
9.1	9.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
10.2	10.2	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-1.0	-1.0	-1.0
10.1	10.1	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
9.1	9.1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
8.8	8.8	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.7	7.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-1.0	-1.0	-1.0
8.1	8.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
9.3	9.3	8.2	8.2	8.2	8.2	8.2	8.2	8.2	-1.0	-1.0	-1.0
8.9	8.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
7.9	7.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
6.7	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
5.2	5.2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
5.5	5.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0

4.9	4.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.0	-1.0	-1.0
3.9	3.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
10.4	10.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	-1.0	-1.0	-1.0
11.6	11.6	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-1.0	-1.0	-1.0
11.6	11.6	10.5	10.5	10.5	10.5	10.5	10.5	10.5	-1.0	-1.0	-1.0
10.2	10.2	9.3	9.3	9.3	9.3	9.3	9.3	9.3	-1.0	-1.0	-1.0
9.1	9.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
9.2	9.2	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
6.4	6.4	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
9.8	9.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
11.1	11.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9	-1.0	-1.0	-1.0
11.0	11.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	-1.0	-1.0	-1.0
9.6	9.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	-1.0	-1.0	-1.0
8.3	8.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
8.5	8.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	-1.0	-1.0	-1.0
5.4	5.4	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-1.0	-1.0	-1.0
7.3	7.3	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
8.5	8.5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
8.0	8.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	-1.0	-1.0	-1.0
7.0	7.0	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
5.6	5.6	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-1.0	-1.0	-1.0
5.9	5.9	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
8.5	8.5	8.1	8.1	8.1	8.1	8.1	8.1	8.1	-1.0	-1.0	-1.0
7.6	7.6	7.2	7.2	7.2	7.2	7.2	7.2	7.2	-1.0	-1.0	-1.0

Table 7.2: Rate of Return for eight line portfolios over next 12 hours

5.7663	7.0925	0.813	1816
5.0269	6.0114	0.83623	1817
4.7084	5.7814	0.8144	1818
5.6005	7.0455	0.79491	1819
4.3573	5.8861	0.74027	1820
3.9139	5.6485	0.69292	1821
4.8432	7.003	0.6916	1822
3.4127	4.7053	0.72529	1823
4.2093	5.8502	0.71951	1824
3.7412	5.6131	0.66651	1825
4.4437	5.6677	0.78404	1826
4.0319	5.3913	0.74785	1827
4.924	6.6748	0.73769	1828
3.5317	4.5403	0.77786	1829
4.3008	5.6262	0.76442	1830

3.8661	5.3476	0.72295	1831
2.8087	4.3773	0.64166	1832
3.6053	5.5379	0.65102	1833
3.0365	5.2723	0.57595	1834
2.6607	4.3472	0.61206	1835
2.5137	3.5554	0.70702	1836
1.7304	2.89	0.59873	1837
2.7001	4.2773	0.63126	1838
1.5341	2.3721	0.64673	1839
2.3602	3.5072	0.67297	1840
1.5502	2.8417	0.54553	1841
0.67868	2.0973	0.3236	1842
1.5365	3.3473	0.45902	1843
0.53993	2.7255	0.1981	1844
0.5193	2.0759	0.25016	1845
0.90774	1.9894	0.4563	1846
1.7338	3.1637	0.54803	1847
0.81483	2.4797	0.32861	1848
0.75425	1.9461	0.38756	1849
-0.13119	1.8377	-0.07139	1850
5.7671	6.5655	0.87839	1851
5.567	6.4183	0.86737	1852
6.4592	7.6687	0.84228	1853
4.8552	5.4603	0.88918	1854
5.6242	6.514	0.8634	1855
5.4013	6.3602	0.84924	1856
4.1794	5.2601	0.79454	1857
4.976	6.393	0.77835	1858
4.6357	6.2296	0.74413	1859
4.0314	5.214	0.77318	1860
4.272	5.0913	0.83908	1861
5.041	6.1645	0.81775	1862
4.7248	5.9606	0.79267	1863
4.1291	5.0393	0.81936	1864
3.4274	4.8743	0.70316	1865
2.3292	2.9687	0.78459	1866
3.1553	4.0849	0.77242	1867
2.4835	3.4956	0.71047	1868
2.1757	2.8993	0.75041	1869
1.345	2.6042	0.51646	1870
1.5493	2.5009	0.6195	1871
5.5959	6.9557	0.80451	1872
5.3486	6.8813	0.77727	1873
6.3183	8.28	0.76308	1874
4.6164	5.7394	0.80433	1875
5.4424	6.9128	0.78729	1876

5.1685	6.8356	0.75611	1877
3.8795	5.6196	0.69034	1878
4.7373	6.8703	0.68953	1879
4.3226	6.8188	0.63393	1880
3.7201	5.5873	0.66581	1881
3.99	5.381	0.7415	1882
4.816	6.5712	0.7329	1883
4.4331	6.4502	0.68728	1884
3.8365	5.3414	0.71826	1885
3.0696	5.2714	0.58232	1886
1.8692	3.0751	0.60786	1887
2.7614	4.3562	0.63389	1888
1.9506	3.8228	0.51027	1889
1.7035	3.0323	0.56177	1890
0.78377	2.922	0.26823	1891
1.027	2.6971	0.38076	1892
5.4115	6.3271	0.85529	1893
6.2375	7.4886	0.83293	1894
6.1018	7.5	0.81357	1895
5.258	6.2746	0.83797	1896
4.5457	6.1562	0.73839	1897
4.6315	5.9077	0.78398	1898
2.5621	3.6336	0.70513	1899
3.9276	4.8097	0.81661	1900
3.3658	4.3304	0.77725	1901
4.3796	5.7572	0.76072	1902
2.9104	3.5882	0.81111	1903
3.7683	4.7534	0.79275	1904
3.1774	4.2674	0.74457	1905
2.0758	3.2966	0.62969	1906
2.9679	4.578	0.6483	1907
2.1965	4.0837	0.53788	1908
1.91	3.2536	0.58705	1909
2.2599	3.1743	0.71194	1910
3.1178	4.3734	0.71289	1911
2.4087	3.8356	0.62797	1912
2.1006	3.1182	0.67365	1913
1.2335	2.9152	0.42314	1914
-0.09333	0.83455	-0.11184	1915
0.83598	1.9088	0.43797	1916
-0.40037	0.92558	-0.43256	1917
-0.26601	0.73081	-0.36399	1918
-1.3113	0.66315	-1.9774	1919
-0.97069	0.45973	-2.1114	1920
3.736	4.219	0.88552	1921
4.5939	5.368	0.85579	1922

4.1532	4.9821	0.83363	1923
3.5767	4.1462	0.86263	1924
2.7687	3.8563	0.71797	1925
2.9261	3.7245	0.78564	1926
0.62842	1.2997	0.4835	1927
3.3742	4.4018	0.76655	1928
4.3035	5.7155	0.75294	1929
3.7606	5.3934	0.69726	1930
3.2015	4.3464	0.73658	1931
2.307	4.1861	0.55111	1932
2.4968	3.9542	0.63142	1933
-0.04886	1.2684	-0.03852	1934
4.0959	4.9989	0.81937	1935
6.2707	6.3052	0.99453	1936
6.1463	6.1223	1.0039	1937
7.0755	7.3081	0.96818	1938
5.3262	5.2566	1.0132	1939
6.1228	6.2313	0.98259	1940
5.9737	6.0329	0.99018	1941
4.6429	4.9072	0.94615	1942
5.469	5.98	0.91454	1943
5.1996	5.7198	0.90905	1944
4.4894	4.8311	0.92927	1945
4.7222	4.8234	0.97902	1946
5.5187	5.821	0.94808	1947
5.2689	5.5494	0.94946	1948
4.5742	4.743	0.96441	1949
3.863	4.41	0.87597	1950
2.7394	2.9293	0.93517	1951
3.5972	3.7891	0.94935	1952
2.9753	3.1922	0.93204	1953
2.58	2.8114	0.9177	1954
1.7321	2.2165	0.78146	1955
1.9295	2.3158	0.83316	1956
6.0929	5.8664	1.0386	1957
6.8893	6.8357	1.0078	1958
6.868	6.7381	1.0193	1959
5.9449	5.7814	1.0283	1960
5.2845	5.4535	0.96901	1961
5.3409	5.3489	0.99851	1962
3.4056	3.4394	0.99018	1963
5.9402	6.0234	0.98618	1964
6.798	7.1325	0.95309	1965
6.758	7.0698	0.9559	1966
5.7807	5.9439	0.97255	1967
5.0609	5.6673	0.893	1968

5.1302	5.5037	0.93215	1969
3.0162	3.2862	0.91784	1970
6.6065	6.593	1.0021	1971
4.2189	4.1291	1.0218	1972
5.111	5.1016	1.0018	1973
4.7479	4.6968	1.0109	1974
4.0531	4.0166	1.0091	1975
3.2313	3.493	0.9251	1976
3.3766	3.5079	0.96258	1977
1.0181	2.049	0.49689	1978
4.9118	4.6893	1.0474	1979
4.6364	4.6844	0.98974	1980

Table 7.3: Parameters associated with each portfolio in eight line case

8. Nine Line Combination

-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	8.6	6.9	6.9	6.9	6.9
-1.0	-1.0	-1.0	24.8	-1.0	-1.0	-1.0	8.4	6.4	6.4	6.4	6.4
-1.0	-1.0	-1.0	31.1	-1.0	-1.0	-1.0	9.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	7.6	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	25.8	-1.0	-1.0	-1.0	8.4	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	8.1	6.1	6.1	6.1	6.1
-1.0	-1.0	-1.0	20.8	-1.0	-1.0	-1.0	6.4	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	26.5	-1.0	-1.0	-1.0	7.3	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	25.7	-1.0	-1.0	-1.0	6.8	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	20.9	-1.0	-1.0	-1.0	6.2	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	19.4	-1.0	-1.0	-1.0	6.7	4.9	4.9	4.9	4.9
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	7.5	5.8	5.8	5.8	5.8
-1.0	-1.0	-1.0	23.9	-1.0	-1.0	-1.0	7.1	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	19.5	-1.0	-1.0	-1.0	6.5	4.7	4.7	4.7	4.7
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	5.3	3.5	3.5	3.5	3.5
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	4.4	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	15.3	-1.0	-1.0	-1.0	5.2	3.4	3.4	3.4	3.4
-1.0	-1.0	-1.0	12.7	-1.0	-1.0	-1.0	4.4	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	9.5	-1.0	-1.0	-1.0	4.1	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	9.7	-1.0	-1.0	-1.0	2.8	0.9	0.9	0.9	0.9
-1.0	-1.0	-1.0	8.6	-1.0	-1.0	-1.0	3.2	1.3	1.3	1.3	1.3
-1.0	-1.0	-1.0	22.2	-1.0	-1.0	-1.0	7.0	7.0	7.0	7.0	7.0
-1.0	-1.0	-1.0	27.7	-1.0	-1.0	-1.0	7.8	7.8	7.8	7.8	7.8
-1.0	-1.0	-1.0	27.1	-1.0	-1.0	-1.0	7.4	7.4	7.4	7.4	7.4
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	6.8	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	22.8	-1.0	-1.0	-1.0	5.6	5.6	5.6	5.6	5.6
-1.0	-1.0	-1.0	21.4	-1.0	-1.0	-1.0	5.9	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	11.6	-1.0	-1.0	-1.0	3.5	3.5	3.5	3.5	3.5

-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	8.1	6.3	6.3	6.3	6.3
-1.0	-1.0	-1.0	30.7	-1.0	-1.0	-1.0	9.0	7.1	7.1	7.1	7.1
-1.0	-1.0	-1.0	30.5	-1.0	-1.0	-1.0	8.8	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	24.9	-1.0	-1.0	-1.0	7.9	6.0	6.0	6.0	6.0
-1.0	-1.0	-1.0	25.6	-1.0	-1.0	-1.0	6.7	4.8	4.8	4.8	4.8
-1.0	-1.0	-1.0	24.0	-1.0	-1.0	-1.0	7.0	5.1	5.1	5.1	5.1
-1.0	-1.0	-1.0	13.6	-1.0	-1.0	-1.0	4.5	2.5	2.5	2.5	2.5
-1.0	-1.0	-1.0	27.0	-1.0	-1.0	-1.0	7.3	7.3	7.3	7.3	7.3
-1.0	-1.0	-1.0	14.2	-1.0	-1.0	-1.0	6.3	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	20.3	-1.0	-1.0	-1.0	7.2	5.3	5.3	5.3	5.3
-1.0	-1.0	-1.0	18.4	-1.0	-1.0	-1.0	6.7	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	6.0	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	14.6	-1.0	-1.0	-1.0	4.7	2.7	2.7	2.7	2.7
-1.0	-1.0	-1.0	13.3	-1.0	-1.0	-1.0	5.1	3.1	3.1	3.1	3.1
-1.0	-1.0	-1.0	1.7	-1.0	-1.0	-1.0	2.4	0.3	0.3	0.3	0.3
-1.0	-1.0	-1.0	16.4	-1.0	-1.0	-1.0	5.4	5.4	5.4	5.4	5.4
-1.0	-1.0	-1.0	18.9	-1.0	-1.0	-1.0	6.6	4.5	4.5	4.5	4.5
-1.0	-1.0	-1.0	17.7	-1.0	-1.0	-1.0	9.7	7.9	7.9	7.9	7.9
-1.0	-1.0	-1.0	23.3	-1.0	-1.0	-1.0	10.6	8.8	8.8	8.8	8.8
-1.0	-1.0	-1.0	22.1	-1.0	-1.0	-1.0	10.6	8.5	8.5	8.5	8.5
-1.0	-1.0	-1.0	17.8	-1.0	-1.0	-1.0	9.5	7.7	7.7	7.7	7.7
-1.0	-1.0	-1.0	18.2	-1.0	-1.0	-1.0	8.4	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	16.9	-1.0	-1.0	-1.0	8.6	6.8	6.8	6.8	6.8
-1.0	-1.0	-1.0	6.4	-1.0	-1.0	-1.0	6.3	4.4	4.4	4.4	4.4
-1.0	-1.0	-1.0	19.7	-1.0	-1.0	-1.0	8.9	8.9	8.9	8.9	8.9
-1.0	-1.0	-1.0	22.3	-1.0	-1.0	-1.0	10.2	8.3	8.3	8.3	8.3
-1.0	-1.0	-1.0	11.2	-1.0	-1.0	-1.0	8.4	6.4	6.4	6.4	6.4

Table 8.1: Rate of Return for eight line portfolios over first 12 hours

7.9	7.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-1.0	-1.0	-1.0
7.3	7.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0
8.5	8.5	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
6.6	6.6	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
7.6	7.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
7.1	7.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	-1.0	-1.0	-1.0
5.5	5.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
6.6	6.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
5.3	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
5.7	5.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	-1.0	-1.0	-1.0
6.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	-1.0	-1.0	-1.0
6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
5.5	5.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-1.0	-1.0	-1.0
4.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0

2.9	2.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
4.0	4.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4	-1.0	-1.0	-1.0
2.9	2.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
2.7	2.7	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-1.0	-1.0	-1.0
1.8	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-1.0	-1.0	-1.0
7.8	7.8	7.0	7.0	7.0	7.0	7.0	7.0	7.0	-1.0	-1.0	-1.0
8.8	8.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-1.0	-1.0	-1.0
8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0
7.6	7.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6	-1.0	-1.0	-1.0
6.7	6.7	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-1.0	-1.0	-1.0
7.1	7.1	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-1.0	-1.0	-1.0
8.2	8.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	-1.0	-1.0	-1.0
7.7	7.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
6.8	6.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	-1.0	-1.0	-1.0
5.7	5.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-1.0	-1.0	-1.0
5.9	5.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	-1.0	-1.0	-1.0
2.9	2.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-1.0	-1.0	-1.0
8.1	8.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	-1.0	-1.0	-1.0
4.7	4.7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
5.8	5.8	5.3	5.3	5.3	5.3	5.3	5.3	5.3	-1.0	-1.0	-1.0
4.9	4.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
4.4	4.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
3.1	3.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-1.0	-1.0	-1.0
3.5	3.5	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-1.0	-1.0	-1.0
0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.0	-1.0	-1.0
5.8	5.8	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0	-1.0
4.8	4.8	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-1.0	-1.0	-1.0
8.8	8.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-1.0	-1.0	-1.0
9.8	9.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	-1.0	-1.0	-1.0
9.6	9.6	8.5	8.5	8.5	8.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	-1.0	-1.0	-1.0
7.5	7.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
7.6	7.6	6.8	6.8	6.8	6.8	6.8	6.8	6.8	-1.0	-1.0	-1.0
4.9	4.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	-1.0	-1.0	-1.0
9.8	9.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	-1.0	-1.0	-1.0
9.2	9.2	8.3	8.3	8.3	8.3	8.3	8.3	8.3	-1.0	-1.0	-1.0
6.8	6.8	6.4	6.4	6.4	6.4	6.4	6.4	6.4	-1.0	-1.0	-1.0

Table 8.2: Rate of Return for nine line portfolios over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Numer
4.8577	5.8466	0.83086	1981
4.5377	5.6092	0.80898	1982
5.3638	6.7794	0.79119	1983
4.0046	4.8041	0.83357	1984
4.7241	5.8023	0.81417	1985
4.3842	5.5607	0.78843	1986
3.3455	4.6216	0.72389	1987
4.089	5.6895	0.71868	1988
3.6384	5.4444	0.66829	1989
3.2074	4.5844	0.69962	1990
3.4591	4.4702	0.7738	1991
4.1785	5.4862	0.76164	1992
3.7578	5.2067	0.72173	1993
3.3253	4.4266	0.75122	1994
2.6436	4.285	0.61695	1995
1.5941	2.4427	0.65262	1996
2.3633	3.5027	0.67469	1997
1.6186	2.8874	0.56056	1998
1.4513	2.3869	0.608	1999
0.65396	2.1642	0.30217	2000
0.86808	2.046	0.42428	2001
4.697	5.33	0.88125	2002
5.4165	6.3171	0.85743	2003
5.1793	6.1454	0.84278	2004
4.5634	5.2766	0.86483	2005
3.9229	5.0974	0.7696	2006
4.0178	4.9375	0.81374	2007
2.1915	2.9359	0.74644	2008
4.4639	5.582	0.79968	2009
5.2329	6.6744	0.78403	2010
4.9473	6.5641	0.75369	2011
4.3209	5.538	0.78023	2012
3.6261	5.4324	0.66749	2013
3.7377	5.2106	0.71734	2014
1.7554	3.061	0.57346	2015
5.0611	6.0807	0.83233	2016
2.8743	3.5753	0.80393	2017
3.6708	4.6603	0.78767	2018
3.113	4.1988	0.7414	2019
2.7263	3.5139	0.77587	2020
1.9467	3.2663	0.596	2021
2.1223	3.1408	0.67571	2022
-0.06058	0.87601	-0.06915	2023
3.493	4.0946	0.85307	2024
3.1402	4.2771	0.73417	2025

5.1314	5.1237	1.0015	2026
5.8749	6.0407	0.97255	2027
5.6991	5.8267	0.9781	2028
4.9933	5.0466	0.98943	2029
4.3456	4.7307	0.9186	2030
4.4296	4.6481	0.95299	2031
2.5675	2.8122	0.91298	2032
5.7089	5.6148	1.0167	2033
5.5396	5.7604	0.96167	2034
3.931	3.9444	0.99661	2035

Table 8.3: Parameters associated with each portfolio for nine line case

9. Ten Line Combination

-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	7.3	5.7	5.7	5.7	5.7
-1.0	-1.0	-1.0	25.1	-1.0	-1.0	-1.0	8.1	6.5	6.5	6.5	6.5
-1.0	-1.0	-1.0	24.2	-1.0	-1.0	-1.0	7.8	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	20.0	-1.0	-1.0	-1.0	7.1	5.5	5.5	5.5	5.5
-1.0	-1.0	-1.0	20.5	-1.0	-1.0	-1.0	6.0	4.3	4.3	4.3	4.3
-1.0	-1.0	-1.0	19.2	-1.0	-1.0	-1.0	6.3	4.6	4.6	4.6	4.6
-1.0	-1.0	-1.0	9.9	-1.0	-1.0	-1.0	4.1	2.3	2.3	2.3	2.3
-1.0	-1.0	-1.0	21.8	-1.0	-1.0	-1.0	6.6	6.6	6.6	6.6	6.6
-1.0	-1.0	-1.0	24.3	-1.0	-1.0	-1.0	7.6	5.9	5.9	5.9	5.9
-1.0	-1.0	-1.0	14.3	-1.0	-1.0	-1.0	5.9	4.1	4.1	4.1	4.1
-1.0	-1.0	-1.0	17.6	-1.0	-1.0	-1.0	9.1	7.4	7.4	7.4	7.4

Table 9.1: Rate of Return for ten line portfolios over first 12 hours

6.5	6.5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	-1.0	-1.0	-1.0
7.4	7.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-1.0	-1.0	-1.0
6.9	6.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
6.2	6.2	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-1.0	-1.0	-1.0
5.2	5.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	-1.0	-1.0	-1.0
5.4	5.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-1.0	-1.0	-1.0
2.8	2.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-1.0	-1.0	-1.0
7.4	7.4	6.6	6.6	6.6	6.6	6.6	6.6	6.6	-1.0	-1.0	-1.0
6.7	6.7	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-1.0	-1.0	-1.0
4.4	4.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-1.0	-1.0	-1.0
8.3	8.3	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-1.0	-1.0	-1.0

Table 9.2: Rate of Return for ten line portfolios over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
3.9076	4.7219	0.82755	2036
4.5834	5.6602	0.80977	2037
4.2477	5.4154	0.78437	2038
3.782	4.6755	0.80891	2039
3.1572	4.5133	0.69954	2040
3.2695	4.3677	0.74857	2041
1.5128	2.4536	0.61655	2042
4.4325	5.1659	0.85804	2043
4.1973	5.4037	0.77674	2044
2.7049	3.5081	0.77104	2045
4.8315	4.9374	0.97856	2046

Table 9.3: Parameters associated with each portfolio for ten line case

10. Eleven Line Combination

-1.0	-1.0	-1.0	19.8	-1.0	-1.0	-1.0	6.9	5.4	5.4	5.4	5.4
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Table 10.1: Rate of Return for eleven line portfolio over first 12 hours

6.1	6.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-1.0	-1.0
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Table 10.2: Rate of Return for eleven line portfolio over next 12 hours

Reward	Risk	Sharpe's Ratio	Portfolio Number
3.7033	4.6056	0.80409	2047

Table 10.3: Parameters associated with each portfolio for eleven line case

11. Performance Assessment based on Risk

Reward	Risk	Sharpe's Ratio	Portfolio Number
0.22685	0.96315	0.23552	684
0.24005	1.0889	0.22045	1210
0.46695	1.1452	0.40774	1665
0.48042	1.1596	0.4143	1208
0.49906	1.2301	0.40569	1206
0.65532	1.2843	0.51024	1662
0.62842	1.2997	0.4835	1927
0.62177	1.301	0.47791	172
0.48053	1.3458	0.35706	1664
0.63177	1.4145	0.44664	760

0.027503	1.4204	0.019362	38
0.88719	1.4675	0.60454	65
0.79867	1.4936	0.53472	1310
0.81478	1.5106	0.53938	489
0.59531	1.5226	0.39099	287
0.5985	1.5338	0.39021	1273
0.84774	1.5457	0.54845	790
0.69469	1.5629	0.44448	555
0.5498	1.5736	0.34939	174
0.72885	1.5848	0.45989	921
0.12917	1.5895	0.081265	1478
0.74425	1.5953	0.46652	357
0.68931	1.6003	0.43074	792
0.93835	1.6104	0.58268	1730
0.91506	1.6109	0.56805	1429
0.52292	1.6184	0.3231	446
0.99606	1.6308	0.61076	1307
0.82876	1.6318	0.50787	1270
0.56611	1.6621	0.34061	696
0.85641	1.6728	0.51197	1022
0.83653	1.6765	0.49898	919
0.17744	1.6885	0.10509	283
0.72946	1.6979	0.42963	1166
0.77913	1.7252	0.45162	1695
0.79632	1.7373	0.45838	692
0.9656	1.7455	0.5532	788
0.89113	1.7738	0.50238	1309
0.69338	1.7776	0.39007	1636
1.1907	1.7848	0.66713	229
0.98789	1.7932	0.5509	917
1.0721	1.8229	0.58811	9
1.0135	1.8366	0.55183	515
0.74996	1.842	0.40715	1216
0.88175	1.8433	0.47834	1632
0.5984	1.8477	0.32387	556
0.080753	1.8531	0.043578	1800
0.36758	1.8581	0.19783	334
1.4052	1.8651	0.75344	61
0.19569	1.8658	0.10488	690
0.89516	1.8716	0.4783	170
0.788	1.8776	0.41969	1514
0.43946	1.8836	0.23332	686
0.63833	1.8881	0.33809	1456
0.78547	1.8941	0.4147	444
0.93733	1.9036	0.4924	443
1.2281	1.9049	0.64471	1433

0.83598	1.9088	0.43797	1916
1.1072	1.911	0.57938	398
0.75425	1.9461	0.38756	1849
1.016	1.9474	0.52172	862
1.0897	1.9612	0.55562	927
0.71817	1.9769	0.36328	35
1.1497	1.9819	0.58009	184
0.38862	1.9829	0.19599	587
1.2122	1.9865	0.6102	995
0.90774	1.9894	0.4563	1846
0.53486	1.9949	0.26811	1508
0.42147	1.9962	0.21114	961
1.2588	2.0082	0.62684	1814
1.3001	2.0104	0.64668	925
0.4282	2.0163	0.21237	1212
0.86808	2.046	0.42428	2001
1.3588	2.0461	0.66409	511
1.0181	2.049	0.49689	1978
1.2598	2.0563	0.61264	859
0.10207	2.0645	0.049443	998
0.12472	2.0712	0.060217	221
0.36174	2.0751	0.17432	762
0.5193	2.0759	0.25016	1845
1.4635	2.0844	0.70211	521
1.1622	2.0882	0.55656	1380
0.38352	2.0923	0.1833	1079
0.67868	2.0973	0.3236	1842
0.57189	2.1061	0.27154	1076
0.70709	2.1096	0.33517	758
1.0993	2.1121	0.52051	450
1.124	2.1138	0.53175	1476
1.589	2.1319	0.74534	999
0.94375	2.1362	0.44179	553
1.345	2.1425	0.62776	1475
1.6737	2.1513	0.77797	1725
0.41758	2.1544	0.19383	962
0.57052	2.1553	0.26471	149
1.7595	2.1557	0.81621	827
1.2569	2.1608	0.58169	1023
0.99911	2.1628	0.46195	1797
0.65396	2.1642	0.30217	2000
1.3335	2.1657	0.61574	923
0.30925	2.1903	0.14119	79
0.58262	2.1926	0.26572	652
0.55197	2.1933	0.25166	1555
0.88613	2.2062	0.40165	1798

1.7321	2.2165	0.78146	1955
0.59325	2.2168	0.26761	36
1.8209	2.2299	0.81662	1345
1.8014	2.2311	0.8074	1298
0.65358	2.2513	0.29032	1272
1.8538	2.2758	0.81459	1722
1.9274	2.2775	0.84624	377
0.96598	2.2803	0.42362	1457
1.8899	2.2832	0.82774	1729
0.55135	2.2907	0.24069	1168
0.054257	2.2919	0.023673	1432
1.9295	2.3158	0.83316	1956
1.9776	2.3161	0.85382	824
1.3678	2.318	0.59007	1473
0.8104	2.3208	0.3492	1165
1.7823	2.3269	0.76595	517
0.6983	2.3336	0.29924	1037
1.1907	2.3427	0.50825	448
1.1523	2.3465	0.49108	993
0.67656	2.3525	0.2876	959
1.7359	2.3608	0.73533	683
0.31311	2.3659	0.13234	289
1.5956	2.3659	0.6744	1209
1.0835	2.3672	0.4577	1795
0.65848	2.3705	0.27778	286
1.5341	2.3721	0.64673	1839
1.4513	2.3869	0.608	1999
2.0705	2.3876	0.86719	960
0.75727	2.3944	0.31627	1634
1.3801	2.4026	0.57441	559
0.66344	2.4038	0.27599	1516
1.5807	2.4043	0.65746	1073
2.0228	2.4059	0.84077	480
2.0315	2.4106	0.84272	1304
1.4761	2.4118	0.61204	447
1.6691	2.4127	0.69178	188
2.0626	2.4144	0.85427	1726
1.0803	2.4241	0.44566	560
1.4809	2.4242	0.61089	1554
0.8608	2.4247	0.35501	1512
0.81172	2.4335	0.33357	1427
1.5941	2.4427	0.65262	1996
1.886	2.4491	0.77008	1300
1.5128	2.4536	0.61655	2042
1.8028	2.4619	0.73229	1205
1.6691	2.4627	0.67777	1663

0.81483	2.4797	0.32861	1848
1.6467	2.4874	0.662	1551
0.61191	2.4879	0.24595	694
1.3407	2.4981	0.53667	1067
1.5493	2.5009	0.6195	1871
2.0767	2.5041	0.82932	379
2.1455	2.5077	0.85557	1796
1.9405	2.5245	0.76868	1724
1.2567	2.5339	0.49594	1550
2.0931	2.5434	0.82295	781
2.1625	2.544	0.85004	1306
2.1182	2.5464	0.83187	1426
0.94309	2.5516	0.36961	718
1.2296	2.5526	0.48169	991
0.917	2.5572	0.3586	965
0.79673	2.5706	0.30993	966
0.024833	2.5728	0.009652	481
1.4293	2.5782	0.55438	1547
2.1867	2.5811	0.8472	1728
0.81541	2.5833	0.31565	217
2.1297	2.5943	0.82092	1296
2.1205	2.5991	0.81583	826
0.96191	2.6023	0.36964	1108
0.87525	2.6035	0.33618	1244
0.65158	2.6038	0.25024	219
1.345	2.6042	0.51646	1870
1.9083	2.6119	0.73064	1807
0.94438	2.618	0.36072	1425
0.35581	2.6328	0.13515	1033
1.1054	2.6342	0.41965	1240
0.90719	2.6437	0.34316	1589
1.5291	2.6473	0.57759	989
1.088	2.6476	0.41094	1423
2.3188	2.658	0.87239	476
2.3939	2.6606	0.89975	118
1.0873	2.6654	0.40795	1586
2.3525	2.6668	0.88214	964
1.0282	2.6717	0.38483	1684
1.1306	2.672	0.42311	125
2.0523	2.6731	0.76777	1375
1.7989	2.6782	0.67171	190
0.56067	2.6795	0.20924	1506
1.9335	2.687	0.71958	519
0.35346	2.6885	0.13147	1510
1.3991	2.6893	0.52026	557
0.98544	2.693	0.36593	400

0.83542	2.6947	0.31002	103
1.027	2.6971	0.38076	1892
2.2929	2.699	0.84954	1379
2.3927	2.7059	0.88427	1302
2.3955	2.7077	0.88469	375
2.3913	2.7114	0.88192	785
0.53993	2.7255	0.1981	1844
2.3363	2.7282	0.85637	1422
2.0859	2.7321	0.76346	1771
2.303	2.7373	0.84134	1772
2.2547	2.7423	0.82218	850
2.0216	2.7571	0.73325	791
2.3868	2.7596	0.8649	1485
1.0405	2.7603	0.37695	963
1.3622	2.7631	0.493	396
0.76358	2.7668	0.27598	346
2.3455	2.7727	0.84592	486
1.2038	2.7742	0.43392	861
1.0596	2.785	0.38047	342
2.262	2.7867	0.81171	435
1.8561	2.7884	0.66565	1455
2.2704	2.789	0.81408	1372
0.42968	2.7918	0.15391	479
1.2697	2.8069	0.45236	150
2.3045	2.8106	0.81993	163
2.58	2.8114	0.9177	1954
2.5675	2.8122	0.91298	2032
2.2203	2.8128	0.78937	356
2.0581	2.8133	0.73157	1308
2.5107	2.8167	0.89135	856
2.5001	2.831	0.88311	1376
0.96872	2.8314	0.34213	768
1.6662	2.8402	0.58664	1503
2.3283	2.8407	0.81963	914
1.5502	2.8417	0.54553	1841
2.6263	2.8438	0.92348	1340
0.43925	2.8474	0.15426	477
2.6696	2.8516	0.93616	478
2.2788	2.8531	0.7987	897
0.95486	2.8564	0.33429	186
2.607	2.8564	0.91269	1750
2.5749	2.859	0.90063	1424
1.2078	2.8607	0.42221	1162
2.2397	2.861	0.78285	787
1.3173	2.8683	0.45926	513
0.66683	2.8703	0.23232	1102

0.095698	2.8778	0.033254	238
1.1317	2.8791	0.39308	1631
1.6186	2.8874	0.56056	1998
1.7304	2.89	0.59873	1837
0.38432	2.8929	0.13285	585
2.5589	2.8944	0.88408	145
0.82483	2.8987	0.28455	1582
2.1757	2.8993	0.75041	1869
0.63645	2.8997	0.21949	1585
1.3119	2.903	0.45191	1628
2.3844	2.9129	0.81855	1021
2.7358	2.9135	0.93902	165
1.2335	2.9152	0.42314	1914
0.78377	2.922	0.26823	1891
0.1253	2.9276	0.042801	589
2.2428	2.9281	0.76596	1454
2.7394	2.9293	0.93517	1951
2.3232	2.9343	0.79173	1544
0.37858	2.9351	0.12898	1078
2.1915	2.9359	0.74644	2008
2.5383	2.9389	0.86369	432
2.6011	2.9408	0.88449	916
2.5511	2.942	0.86713	1421
0.094392	2.9422	0.032083	282
2.6798	2.9441	0.91022	1474
2.7844	2.9456	0.94526	1751
2.7672	2.9525	0.93726	1719
2.8189	2.9624	0.95153	1344
2.5378	2.964	0.85619	1794
2.7165	2.9682	0.91517	992
2.3292	2.9687	0.78459	1866
2.0742	2.978	0.69652	1452
2.8236	2.9845	0.94608	1337
0.13104	2.9936	0.043772	688
1.61	3.0005	0.53657	1075
2.8677	3.0034	0.95482	815
1.7603	3.0054	0.58571	582
2.6218	3.0138	0.86993	482
1.7035	3.0323	0.56177	1890
1.6456	3.0329	0.54258	183
2.3909	3.0388	0.78682	187
1.6857	3.0422	0.55408	1553
1.8227	3.0448	0.59862	1579
0.63767	3.0499	0.20908	566
1.8281	3.0529	0.59882	1071
2.8819	3.0574	0.94261	220

0.79828	3.0579	0.26106	1039
1.7554	3.061	0.57346	2015
2.8024	3.0615	0.91536	554
0.60991	3.0647	0.19901	1043
1.82	3.0663	0.59354	685
2.7583	3.0685	0.89889	1418
0.75948	3.0701	0.24738	1518
2.7976	3.0702	0.91121	910
1.8692	3.0751	0.60786	1887
1.0874	3.081	0.35293	227
2.0679	3.1009	0.66685	281
3.0072	3.1072	0.96784	1341
0.88544	3.1108	0.28463	915
1.893	3.1151	0.6077	1207
2.1006	3.1182	0.67365	1913
0.72677	3.1323	0.23203	642
0.51705	3.1342	0.16497	265
0.64653	3.1396	0.20593	487
2.1223	3.1408	0.67571	2022
1.6801	3.1444	0.53433	1515
0.68733	3.1447	0.21857	1149
0.49651	3.1493	0.15766	645
2.1159	3.1528	0.67112	682
2.2479	3.1535	0.71282	1625
2.6607	3.1558	0.84311	1018
1.7973	3.1609	0.56862	1036
3.0675	3.1625	0.96997	821
1.7338	3.1637	0.54803	1847
3.0508	3.173	0.9615	484
2.9927	3.1732	0.94313	988
2.2599	3.1743	0.71194	1910
1.3345	3.1744	0.42041	509
1.8459	3.1812	0.58025	1511
2.9753	3.1922	0.93204	1953
3.1147	3.1953	0.9748	558
2.9198	3.1976	0.91312	913
1.2163	3.2046	0.37954	225
0.85858	3.2058	0.26782	485
3.0323	3.2132	0.94371	1721
1.7868	3.2179	0.55526	1148
1.8405	3.2371	0.56857	1611
1.9399	3.2439	0.59801	639
1.3685	3.2472	0.42145	63
2.218	3.2477	0.68294	958
0.61313	3.2523	0.18852	336
1.91	3.2536	0.58705	1909

0.57574	3.2545	0.17691	764
2.6552	3.2599	0.81451	167
2.0353	3.2633	0.62371	956
1.9841	3.2638	0.60791	1145
1.9467	3.2663	0.596	2021
1.3182	3.2708	0.40301	1069
1.4268	3.2777	0.4353	1549
0.3325	3.2781	0.10143	11
3.0832	3.2823	0.93935	508
2.0472	3.285	0.62319	1619
1.4413	3.2856	0.43869	578
3.0162	3.2862	0.91784	1970
3.2439	3.2903	0.98588	226
3.1039	3.2911	0.94311	1020
0.29437	3.292	0.08942	340
1.5484	3.2946	0.46997	1065
0.28744	3.2951	0.087231	99
2.0758	3.2966	0.62969	1906
3.0718	3.3007	0.93064	1770
3.2481	3.305	0.98278	1453
1.266	3.3169	0.3817	40
2.9919	3.3267	0.89936	1727
3.0452	3.3381	0.91226	1305
3.2539	3.3395	0.97435	162
2.7647	3.3396	0.82785	1378
2.0257	3.3443	0.60572	761
1.5365	3.3473	0.45902	1843
2.816	3.3481	0.8411	858
1.4642	3.3484	0.43728	1509
3.2963	3.3496	0.9841	216
2.8236	3.3525	0.84222	1723
2.8634	3.3555	0.85336	1299
2.0679	3.3563	0.61611	1271
3.2395	3.357	0.96502	1717
1.6368	3.3695	0.48578	1505
1.567	3.3711	0.46484	1032
3.1487	3.3976	0.92676	1339
1.0233	3.4077	0.30028	483
2.2676	3.4083	0.66533	333
2.2848	3.415	0.66904	757
3.3323	3.4171	0.97518	1293
3.1945	3.4206	0.93388	169
3.3473	3.4217	0.97827	957
3.2601	3.4219	0.95272	1767
3.248	3.4264	0.94792	817
3.0136	3.4356	0.87717	442

3.3551	3.4367	0.97625	1343
3.4056	3.4394	0.99018	1963
2.3855	3.4456	0.69233	41
3.2336	3.4527	0.93653	1301
1.6122	3.4583	0.46619	1610
3.0608	3.4597	0.8847	1295
2.7001	3.4631	0.77967	550
3.3457	3.4634	0.96601	1369
2.4046	3.4647	0.69402	8
1.533	3.4685	0.44197	1144
2.4914	3.4711	0.71774	1374
2.0651	3.4794	0.59351	1661
3.1299	3.4815	0.89899	780
2.0327	3.483	0.5836	1204
2.5047	3.486	0.71852	852
3.3165	3.4882	0.9508	784
3.489	3.4892	0.99995	1749
1.7402	3.4927	0.49823	1141
3.2313	3.493	0.9251	1976
2.4835	3.4956	0.71047	1868
3.4739	3.4976	0.99322	823
2.491	3.4986	0.71201	1546
3.5193	3.5017	1.005	54
2.3633	3.5027	0.67469	1997
1.6663	3.5053	0.47538	633
3.1121	3.5061	0.88762	854
2.3602	3.5072	0.67297	1840
3.3766	3.5079	0.96258	1977
2.7049	3.5081	0.77104	2045
2.7263	3.5139	0.77587	2020
1.0127	3.5181	0.28786	1588
3.3662	3.52	0.9563	1401
3.3065	3.5219	0.93886	1789
2.5367	3.5229	0.72008	954
3.1822	3.5286	0.90182	1400
2.23	3.5294	0.63184	1201
2.2117	3.5374	0.62523	679
1.6794	3.5414	0.47423	223
3.4611	3.5498	0.97503	1793
2.5137	3.5554	0.70702	1836
1.0927	3.5562	0.30728	1106
3.2736	3.5565	0.92047	892
3.23	3.5641	0.90627	393
3.4731	3.5643	0.97439	896
2.5224	3.5645	0.70766	1502
0.84897	3.5653	0.23812	1110

2.6884	3.5682	0.75343	1542
2.8743	3.5753	0.80393	2017
2.7182	3.58	0.75929	1062
2.9104	3.5882	0.81111	1903
3.6206	3.5915	1.0081	222
3.5242	3.6045	0.97773	813
3.1514	3.6058	0.87399	825
1.5856	3.6076	0.43953	1077
2.8235	3.61	0.78214	848
0.91785	3.6137	0.25399	603
3.6617	3.6181	1.0121	1746
3.5911	3.626	0.99036	953
2.4525	3.6288	0.67585	789
2.5621	3.6336	0.70513	1899
3.2393	3.6358	0.89094	378
1.5038	3.6364	0.41354	588
3.4949	3.6392	0.96034	1786
3.2593	3.6412	0.89511	552
2.5759	3.6483	0.70604	1609
1.711	3.6534	0.46833	584
2.8997	3.6621	0.79181	389
2.4599	3.6663	0.67094	358
3.0874	3.6677	0.84177	1420
3.6414	3.6729	0.99141	1790
3.7329	3.6854	1.0129	819
1.634	3.6881	0.44304	237
3.6965	3.6943	1.0006	368
3.6039	3.6958	0.97514	1409
3.5174	3.6988	0.95095	889
3.776	3.7021	1.02	1334
2.7561	3.7083	0.74321	1606
3.185	3.7176	0.85673	912
3.7033	3.7178	0.99609	893
2.9261	3.7245	0.78564	1926
2.7895	3.7316	0.74752	1138
2.5388	3.7349	0.67975	1552
3.7591	3.7463	1.0034	1415
2.9697	3.7475	0.79243	1660
2.5505	3.7588	0.67854	1074
3.6658	3.7665	0.97324	423
3.4831	3.7671	0.92461	374
3.6244	3.7676	0.962	1451
2.7787	3.7704	0.73696	355
1.0093	3.7819	0.26689	1242
3.5972	3.7891	0.94935	1952
1.2845	3.794	0.33857	1630

3.5369	3.8062	0.92926	33
2.5718	3.8074	0.67547	860
3.1295	3.809	0.82161	1472
3.8656	3.81	1.0146	429
2.7306	3.8126	0.71621	1070
3.5566	3.8136	0.93262	990
3.1424	3.8185	0.82292	1657
3.6549	3.8198	0.95683	166
3.9227	3.8198	1.0269	372
1.9506	3.8228	0.51027	1889
3.6269	3.833	0.94624	117
3.76	3.8332	0.98088	952
2.4087	3.8356	0.62797	1912
3.6965	3.8393	0.96283	1720
3.7493	3.84	0.97636	473
2.8467	3.8453	0.74031	112
2.7617	3.8458	0.71811	581
3.2094	3.8536	0.83282	1198
2.7687	3.8563	0.71797	1925
2.5941	3.8605	0.67195	399
3.2201	3.8633	0.83352	987
1.3965	3.8654	0.36129	1160
1.1527	3.8682	0.298	1164
3.481	3.8686	0.8998	908
1.9028	3.8732	0.49128	1581
2.4091	3.8775	0.62129	1627
1.1222	3.8833	0.28897	717
3.8908	3.8858	1.0013	58
2.8004	3.8903	0.71982	1656
2.1209	3.9031	0.5434	1577
0.7768	3.9079	0.19878	720
1.4923	3.9225	0.38045	1682
2.3586	3.9241	0.60107	1548
2.6163	3.9286	0.66595	1623
2.937	3.9301	0.74732	434
0.68768	3.9403	0.17452	1584
3.931	3.9444	0.99661	2035
2.8703	3.9445	0.72767	395
3.8692	3.9461	0.98051	1716
2.9806	3.9496	0.75465	1653
2.4968	3.9542	0.63142	1933
1.2621	3.9576	0.31891	650
2.0876	3.9672	0.52621	1097
2.3544	3.9692	0.59317	1068
1.9229	3.9739	0.48387	1513
3.6604	3.9755	0.92072	440

3.9902	3.9811	1.0023	949
3.4791	3.9833	0.87343	984
3.6642	3.9835	0.91985	1769
2.6398	3.985	0.66245	1157
3.8127	3.9942	0.95455	510
3.0354	3.996	0.75961	1192
1.3963	3.9973	0.3493	1239
1.6144	4.0009	0.4035	1236
2.5052	4.0029	0.62585	1681
2.5428	4.0086	0.63433	1064
4.0531	4.0166	1.0091	1975
4.1476	4.018	1.0323	1019
4.0024	4.0226	0.99496	1292
2.942	4.0283	0.73032	124
0.73209	4.0284	0.18173	1100
3.0553	4.0347	0.75726	147
4.1057	4.0369	1.017	1748
1.8721	4.0432	0.46303	1038
3.7197	4.0457	0.91944	548
2.6936	4.0481	0.66539	1678
0.86567	4.0558	0.21344	302
4.0475	4.0591	0.99715	1779
3.6318	4.063	0.89387	1303
2.5566	4.0654	0.62887	577
2.0903	4.0658	0.51411	1035
0.47308	4.0681	0.11629	1104
4.2524	4.0696	1.0449	955
3.8217	4.0741	0.93804	1371
3.6326	4.078	0.89078	504
2.0571	4.0833	0.50378	1587
2.1965	4.0837	0.53788	1908
3.1553	4.0849	0.77242	1867
1.5214	4.0921	0.37179	714
2.5608	4.0944	0.62543	474
3.493	4.0946	0.85307	2024
4.1884	4.0963	1.0225	469
4.021	4.0981	0.98117	1342
2.7225	4.1102	0.66237	1233
4.2189	4.1291	1.0218	1972
3.2153	4.1348	0.77762	1545
3.8857	4.1441	0.93763	1338
3.6153	4.145	0.8722	1377
3.5767	4.1462	0.86263	1924
2.0533	4.1523	0.49449	564
4.2947	4.1534	1.034	1336
4.2118	4.1534	1.0141	1399

2.024	4.1548	0.48715	1109
0.65529	4.1554	0.1577	1041
3.7852	4.1564	0.91069	786
2.1747	4.1605	0.52269	1621
2.2213	4.1772	0.53177	1105
2.307	4.1861	0.55111	1932
0.49314	4.1881	0.11775	599
4.1827	4.1895	0.99836	822
2.3928	4.1923	0.57075	1617
3.3811	4.196	0.80579	1541
3.113	4.1988	0.7414	2019
4.4157	4.2011	1.0511	551
3.4417	4.2053	0.81843	1297
4.1044	4.2054	0.97599	1792
3.5157	4.2089	0.83531	143
3.736	4.219	0.88552	1921
4.0807	4.2223	0.96647	1367
0.93637	4.2288	0.22143	1112
3.7498	4.2315	0.88616	857
4.3767	4.232	1.0342	1783
4.0416	4.2322	0.95496	816
4.0436	4.2427	0.95307	1813
3.466	4.2605	0.81351	1061
2.1117	4.264	0.49524	1147
2.2977	4.2642	0.53883	1677
2.202	4.2646	0.51635	602
3.1774	4.2674	0.74457	1905
0.69561	4.2695	0.16293	565
3.9511	4.2716	0.92497	1788
4.3945	4.275	1.028	1806
3.1402	4.2771	0.73417	2025
2.7001	4.2773	0.63126	1838
4.2823	4.2829	0.99987	1805
2.6436	4.285	0.61695	1995
3.847	4.2874	0.89729	1650
2.3914	4.289	0.55756	1153
4.419	4.2909	1.0299	1396
4.0442	4.2937	0.94189	783
2.495	4.2941	0.58103	1674
3.4443	4.2964	0.80166	1373
4.2732	4.2972	0.99442	507
1.6758	4.3107	0.38876	1507
3.58	4.313	0.83005	782
0.43664	4.3152	0.10119	568
4.5249	4.3166	1.0483	1332
4.3899	4.3208	1.016	818

2.2816	4.321	0.52803	1629
4.3044	4.3284	0.99444	1417
3.9026	4.3287	0.90156	1812
3.3658	4.3304	0.77725	1901
1.0035	4.338	0.23132	605
3.98	4.3443	0.91614	853
3.2015	4.3464	0.73658	1931
2.6607	4.3472	0.61206	1835
4.2161	4.3475	0.96978	1471
4.5883	4.3543	1.0537	475
4.2597	4.3558	0.97794	812
2.7614	4.3562	0.63389	1888
2.7282	4.3595	0.62581	1504
0.77323	4.3674	0.17704	609
3.2695	4.3677	0.74857	2041
3.1178	4.3734	0.71289	1911
4.3202	4.3738	0.98774	845
2.8087	4.3773	0.64166	1832
1.8386	4.3877	0.41904	1583
2.0727	4.3883	0.47231	641
2.5045	4.3903	0.57046	1227
4.1444	4.394	0.9432	1411
4.584	4.3944	1.0432	1450
4.47	4.395	1.0171	1446
3.5666	4.3993	0.81072	851
3.3742	4.4018	0.76655	1928
2.9256	4.4031	0.66443	1501
0.71632	4.4032	0.16268	168
3.863	4.41	0.87597	1950
3.8735	4.4131	0.87773	1419
2.2699	4.414	0.51425	1163
2.3489	4.4142	0.53213	637
3.4619	4.4196	0.78331	1614
3.3253	4.4266	0.75122	1994
3.8332	4.4316	0.86498	29
3.8562	4.4316	0.87018	779
4.6429	4.4334	1.0473	886
1.5949	4.4343	0.35966	1034
1.8251	4.435	0.41151	1031
4.0691	4.4378	0.91691	1467
2.7924	4.4379	0.62922	1580
2.4672	4.4384	0.55589	1159
4.7345	4.4429	1.0656	547
4.2784	4.4443	0.96268	354
0.020833	4.4445	0.004688	55
2.8398	4.4506	0.63807	1498

3.1772	4.4509	0.71384	1626
4.6104	4.4573	1.0343	371
0.45151	4.4702	0.101	232
3.4591	4.4702	0.7738	1991
4.177	4.473	0.93382	392
4.4343	4.4754	0.9908	1468
2.9726	4.4771	0.66394	1576
4.5481	4.4818	1.0148	1413
4.4779	4.4874	0.9979	367
3.4623	4.4888	0.77133	1671
3.9797	4.491	0.88616	1715
4.0121	4.4928	0.89301	34
3.8104	4.4967	0.84738	847
4.79	4.5007	1.0643	810
3.3498	4.5013	0.74419	1622
1.782	4.503	0.39574	1103
4.3494	4.5031	0.96586	895
2.9804	4.5064	0.66137	1030
0.82835	4.5078	0.18376	244
1.9892	4.5083	0.44123	1099
3.1572	4.5133	0.69954	2040
4.0367	4.5277	0.89155	911
4.6772	4.5286	1.0328	1443
4.7813	4.5316	1.0551	1447
4.4034	4.537	0.97056	1407
3.5317	4.5403	0.77786	1829
4.591	4.5424	1.0107	1747
2.4738	4.5519	0.54346	649
4.2993	4.5558	0.9437	1464
4.1455	4.5681	0.90747	1712
4.3547	4.575	0.95184	1718
2.3404	4.5769	0.51135	260
3.0267	4.5773	0.66124	1096
2.9679	4.578	0.6483	1907
0.90667	4.5799	0.19797	344
3.2074	4.5844	0.69962	1990
2.4154	4.5861	0.52669	1203
1.7527	4.5881	0.38201	563
4.274	4.5957	0.92998	1768
4.0796	4.5969	0.88748	353
3.4358	4.5974	0.74735	1156
3.0327	4.6051	0.65855	1608
3.7033	4.6056	0.80409	2047
0.52244	4.6097	0.11333	644
3.3455	4.6216	0.72389	1987
3.4824	4.6245	0.75304	1659

4.673	4.6294	1.0094	981
4.2669	4.6374	0.9201	907
3.9978	4.6431	0.86102	388
4.4296	4.6481	0.95299	2031
1.943	4.6483	0.41801	598
2.5261	4.6588	0.54222	1269
3.6708	4.6603	0.78767	2018
4.9651	4.6628	1.0648	472
4.7897	4.667	1.0263	1335
4.2968	4.6721	0.91967	1288
4.8339	4.6728	1.0345	905
3.782	4.6755	0.80891	2039
3.0169	4.6788	0.64481	1620
4.156	4.6815	0.88776	891
3.481	4.6816	0.74354	1694
4.6364	4.6844	0.98974	1980
4.8656	4.6893	1.0376	224
4.9118	4.6893	1.0474	1979
4.9298	4.6909	1.0509	940
4.7479	4.6968	1.0109	1974
5.0315	4.7022	1.07	946
3.4127	4.7053	0.72529	1823
4.6736	4.7063	0.99305	431
4.5362	4.7138	0.96233	975
1.8148	4.7146	0.38492	1143
4.5714	4.7181	0.96891	1294
3.1971	4.7185	0.67756	1616
4.4609	4.7215	0.94479	1370
3.9076	4.7219	0.82755	2036
4.689	4.7263	0.99212	901
4.3456	4.7307	0.9186	2030
4.6111	4.7348	0.97387	1791
3.1066	4.7424	0.65506	1140
4.5742	4.743	0.96441	1949
4.807	4.7506	1.0119	182
2.417	4.7515	0.50867	681
3.6022	4.7534	0.75781	1200
3.7683	4.7534	0.79275	1904
3.002	4.7589	0.63082	1072
5.1581	4.7794	1.0792	213
2.6932	4.7811	0.56331	677
4.9781	4.7871	1.0399	1331
3.3504	4.7983	0.69824	1136
4.4997	4.7997	0.93749	439
3.5886	4.8035	0.74708	1268
4.0046	4.8041	0.83357	1984

3.0462	4.8091	0.63342	1146
3.9276	4.8097	0.81661	1900
2.5404	4.8117	0.52796	756
4.849	4.8233	1.0053	1811
4.7222	4.8234	0.97902	1946
3.8324	4.8273	0.7939	1196
4.6681	4.8305	0.96638	1366
4.4894	4.8311	0.92927	1945
0.55411	4.8329	0.11465	263
5.1298	4.8333	1.0614	1804
4.5087	4.8366	0.9322	1787
4.1111	4.8381	0.84974	376
2.7842	4.8406	0.57516	753
3.2726	4.8413	0.67597	1152
4.8016	4.8469	0.99065	1291
2.5657	4.8501	0.52899	759
4.9945	4.8593	1.0278	1785
3.7958	4.8672	0.77988	1265
4.8212	4.874	0.98918	1416
3.4274	4.8743	0.70316	1865
4.5618	4.8749	0.93575	1017
4.7183	4.8757	0.96772	951
4.0252	4.8764	0.82543	433
4.0955	4.8798	0.83928	214
3.3045	4.8984	0.67461	1655
1.0502	4.9061	0.21406	102
4.6429	4.9072	0.94615	1942
5.0189	4.9102	1.0221	427
4.4745	4.912	0.91094	425
0.20875	4.9146	0.042476	267
3.0723	4.9166	0.62487	583
4.0545	4.9233	0.82354	1613
2.0265	4.9264	0.41135	631
1.7305	4.9328	0.35081	635
3.3199	4.936	0.67258	1693
4.8315	4.9374	0.97856	2046
4.0178	4.9375	0.81374	2007
5.0463	4.9416	1.0212	1808
4.9005	4.942	0.9916	1709
1.7783	4.943	0.35977	586
3.1137	4.9553	0.62836	640
5.2355	4.9566	1.0563	809
5.31	4.9574	1.0711	1801
1.9658	4.9631	0.39609	643
3.316	4.9642	0.66799	580
3.4764	4.9778	0.69838	628

4.5327	4.9793	0.91029	218
4.1532	4.9821	0.83363	1923
3.5061	4.9838	0.70349	1540
4.7191	4.9849	0.94667	1410
5.0185	4.9871	1.0063	1412
5.2126	4.9978	1.043	1781
3.3319	4.9979	0.66666	636
4.0109	4.9979	0.80253	674
2.7377	4.9984	0.54771	279
4.0959	4.9989	0.81937	1935
0.53217	5.0006	0.10642	105
4.9196	5.0019	0.98356	844
3.9504	5.023	0.78646	750
3.6655	5.0245	0.72951	1537
4.822	5.0319	0.95828	1703
2.8348	5.0356	0.56294	329
4.1291	5.0393	0.81936	1864
4.9933	5.0466	0.98943	2029
5.1013	5.0502	1.0101	778
3.7504	5.0651	0.74044	1543
3.4103	5.0699	0.67266	1194
3.2921	5.0736	0.64887	1202
3.7257	5.0823	0.73307	1607
4.8699	5.0894	0.95688	546
4.9263	5.0912	0.96761	1406
4.272	5.0913	0.83908	1861
4.4215	5.0922	0.86827	119
4.8512	5.0927	0.95259	421
3.4162	5.0937	0.67067	1264
4.2745	5.0949	0.83897	146
4.0716	5.0956	0.79905	1658
3.9229	5.0974	0.7696	2006
5.111	5.1016	1.0018	1973
5.1633	5.1103	1.0104	1398
5.1314	5.1237	1.0015	2026
3.6541	5.1264	0.71282	1190
2.7875	5.1273	0.54366	1066
5.3244	5.1294	1.038	1461
4.328	5.1345	0.84293	1652
5.1039	5.1351	0.99392	471
4.2497	5.1387	0.82701	1692
2.8553	5.1406	0.55545	1142
3.6343	5.1432	0.70663	1261
2.9717	5.1467	0.5774	1680
4.9424	5.1473	0.96018	894
5.5867	5.149	1.085	1440

2.5979	5.1538	0.50408	335
3.7705	5.1552	0.7314	1057
4.8384	5.1557	0.93846	1745
4.4325	5.1659	0.85804	2043
3.4376	5.1682	0.66513	235
5.2937	5.1737	1.0232	904
2.17	5.1795	0.41896	262
3.4409	5.1818	0.66404	259
1.911	5.1845	0.3686	266
1.9848	5.1851	0.38279	236
5.1269	5.189	0.98803	820
3.0123	5.1948	0.57987	332
1.6888	5.1999	0.32478	239
3.7578	5.2067	0.72173	1993
4.4381	5.2083	0.85212	1689
3.7377	5.2106	0.71734	2014
4.4103	5.2123	0.84613	1534
1.9635	5.2132	0.37664	256
4.0314	5.214	0.77318	1860
4.5352	5.2147	0.8697	1648
5.5341	5.216	1.061	161
4.5933	5.2199	0.87996	142
5.543	5.2253	1.0608	1404
5.3459	5.2296	1.0223	1484
3.8921	5.2342	0.74359	1063
3.8515	5.237	0.73545	1139
5.166	5.2432	0.98528	543
4.2232	5.2439	0.80535	1199
3.3855	5.2474	0.64519	680
0.184	5.248	0.035061	74
1.3893	5.2528	0.26449	59
4.7982	5.2528	0.91345	116
5.3262	5.2566	1.0132	1939
5.5418	5.2578	1.054	140
4.1794	5.2601	0.79454	1857
5.3464	5.2624	1.016	1784
3.0696	5.2714	0.58232	1886
3.0365	5.2723	0.57595	1834
4.5634	5.2766	0.86483	2005
5.2064	5.289	0.98439	900
3.6036	5.2907	0.68112	676
4.0489	5.292	0.7651	1135
4.1102	5.2969	0.77597	1060
4.4115	5.3087	0.831	1195
5.05	5.3095	0.95112	1330
5.5671	5.3108	1.0483	1449

4.1582	5.3239	0.78104	986
3.9502	5.3247	0.74187	1654
4.697	5.33	0.88125	2002
5.4492	5.3306	1.0223	467
2.9054	5.3392	0.54417	634
3.8365	5.3414	0.71826	1885
3.779	5.3426	0.70734	744
4.8293	5.3426	0.90393	890
3.8661	5.3476	0.72295	1831
5.3409	5.3489	0.99851	1962
3.8207	5.3496	0.71421	670
2.8353	5.3504	0.52993	579
5.85	5.3554	1.0924	60
5.2617	5.3585	0.98193	1483
3.1356	5.3648	0.58448	630
4.5939	5.368	0.85579	1922
5.5266	5.3681	1.0295	1780
3.0426	5.3714	0.56645	1235
5.2596	5.3715	0.97916	430
5.5575	5.3767	1.0336	888
3.0944	5.3768	0.5755	576
3.99	5.381	0.7415	1882
4.6414	5.3838	0.86211	1258
5.0111	5.3867	0.93028	814
4.0319	5.3913	0.74785	1827
3.7606	5.3934	0.69726	1930
4.5566	5.3976	0.84419	1766
4.3159	5.3983	0.79949	1528
5.2302	5.3991	0.96872	1327
4.1973	5.4037	0.77674	2044
3.3016	5.4062	0.61071	1231
4.772	5.4113	0.88186	1187
4.2477	5.4154	0.78437	2038
4.6604	5.4233	0.85934	1714
3.125	5.4302	0.57548	1575
5.4861	5.4314	1.0101	1445
3.6261	5.4324	0.66749	2013
5.2293	5.4429	0.96076	950
3.6384	5.4444	0.66829	1989
3.094	5.4462	0.56809	1500
3.2977	5.4531	0.60473	1572
5.2845	5.4535	0.96901	1961
5.5158	5.4586	1.0105	373
4.8552	5.4603	0.88918	1854
2.1365	5.4612	0.39122	73
5.692	5.4648	1.0416	1016

3.2823	5.4702	0.60004	1496
5.3949	5.4788	0.9847	136
2.4047	5.4793	0.43887	1107
4.222	5.4846	0.76979	627
4.1785	5.4862	0.76164	1992
4.6122	5.4935	0.83958	673
4.0974	5.5025	0.74465	1193
5.1302	5.5037	0.93215	1969
5.2322	5.5059	0.95029	1470
5.5667	5.5063	1.011	1744
3.7447	5.509	0.67975	278
5.5186	5.5093	1.0017	426
3.7073	5.5109	0.67273	1679
4.3109	5.5127	0.78199	575
1.6604	5.5212	0.30073	1238
1.9148	5.5229	0.34671	67
4.7764	5.5275	0.86411	1651
3.7315	5.5343	0.67424	1624
4.1168	5.5356	0.7437	1569
3.6053	5.5379	0.65102	1833
4.3209	5.538	0.78023	2012
4.9912	5.5441	0.90028	28
4.7052	5.5493	0.8479	855
5.2689	5.5494	0.94946	1948
5.8535	5.5563	1.0535	884
4.2948	5.5574	0.77281	1189
5.5342	5.5586	0.99561	1397
4.1734	5.5603	0.75057	1493
4.3842	5.5607	0.78843	1986
5.6262	5.5644	1.0111	209
5.8239	5.5746	1.0447	1403
0.59875	5.5803	0.1073	17
4.4639	5.582	0.79968	2009
4.7615	5.5837	0.85276	1365
3.7201	5.5873	0.66581	1881
2.7428	5.5917	0.49051	1676
5.4993	5.5937	0.98312	805
4.949	5.5951	0.88452	1647
5.7261	5.596	1.0233	1741
5.1527	5.5983	0.92039	424
5.9888	5.5993	1.0696	948
4.5377	5.6092	0.80898	1982
5.6188	5.6117	1.0013	1012
3.9113	5.6121	0.69694	1673
3.7412	5.6131	0.66651	1825
5.9358	5.614	1.0573	1013

3.2271	5.6141	0.57481	255
5.7089	5.6148	1.0167	2033
3.8795	5.6196	0.69034	1878
5.5149	5.6209	0.98113	1740
3.2948	5.6219	0.58607	1578
4.3008	5.6262	0.76442	1830
5.8118	5.6275	1.0328	370
5.8712	5.6278	1.0432	1815
4.8979	5.6326	0.86956	1290
3.3897	5.6414	0.60087	397
3.3789	5.6418	0.59889	1092
3.9139	5.6485	0.69292	1821
5.7641	5.6497	1.0202	1333
3.1643	5.6527	0.55978	97
4.9589	5.6592	0.87626	1362
4.5834	5.6602	0.80977	2037
5.3301	5.6635	0.94114	22
3.1929	5.6646	0.56365	234
4.1415	5.6666	0.73087	1669
5.0609	5.6673	0.893	1968
4.4437	5.6677	0.78404	1826
5.8434	5.6782	1.0291	1448
5.3574	5.6794	0.94331	1765
3.3701	5.6803	0.5933	1028
0.24481	5.6862	0.043053	338
4.089	5.6895	0.71868	1988
5.4121	5.6923	0.95077	369
3.4297	5.6979	0.60193	709
3.6976	5.7016	0.64852	1499
5.5824	5.7019	0.97904	470
4.5089	5.7065	0.79014	506
5.6806	5.7071	0.99536	1737
4.3035	5.7155	0.75294	1929
5.1996	5.7198	0.90905	1944
5.116	5.7199	0.89443	1286
3.8376	5.7205	0.67086	1234
5.4289	5.724	0.94846	420
2.7883	5.7286	0.48672	1237
3.857	5.7312	0.67299	1495
5.9263	5.7391	1.0326	942
4.6164	5.7394	0.80433	1875
6.1243	5.7462	1.0658	1803
5.5293	5.7472	0.9621	1711
6.198	5.7491	1.0781	549
5.0376	5.7507	0.876	1713
6.0582	5.7509	1.0534	159

5.8778	5.7539	1.0215	1009
4.3796	5.7572	0.76072	1902
5.5396	5.7604	0.96167	2034
5.53	5.7614	0.95985	1762
4.0448	5.7636	0.70179	1230
5.5967	5.7696	0.97003	56
3.8789	5.77	0.67225	1158
4.4938	5.7779	0.77775	669
6.2652	5.7793	1.0841	944
4.7084	5.7814	0.8144	1818
5.9449	5.7814	1.0283	1960
2.4047	5.7827	0.41585	604
2.681	5.7837	0.46354	601
5.1157	5.789	0.88369	1466
5.1803	5.7904	0.89463	1186
6.003	5.7904	1.0367	1324
2.7085	5.7924	0.46759	1161
4.7241	5.8023	0.81417	1985
4.0023	5.8024	0.68978	1563
5.8819	5.8073	1.0129	887
4.1091	5.8182	0.70625	1155
5.5187	5.821	0.94808	1947
5.7924	5.8213	0.99504	1444
5.9634	5.8247	1.0238	139
5.6991	5.8267	0.9781	2028
4.5948	5.8316	0.78791	1492
5.8414	5.836	1.0009	466
5.6673	5.8386	0.97065	983
5.7177	5.8405	0.97897	1707
4.8731	5.8415	0.83422	985
4.9233	5.8463	0.84213	502
4.8577	5.8466	0.83086	1981
5.7309	5.848	0.97998	366
3.5571	5.8494	0.60811	1675
4.2093	5.8502	0.71951	1824
4.0511	5.8504	0.69244	1489
5.2919	5.8619	0.90276	1761
6.0929	5.8664	1.0386	1957
1.8647	5.8722	0.31754	712
6.236	5.8823	1.0601	1482
4.3573	5.8861	0.74027	1820
3.3996	5.8891	0.57727	1098
5.2278	5.8934	0.88705	840
2.7879	5.903	0.47228	1229
5.0886	5.9041	0.86187	394
1.5459	5.9072	0.2617	716

4.6315	5.9077	0.78398	1898
5.6081	5.9087	0.94913	1469
3.5666	5.9106	0.60343	1618
6.2224	5.913	1.0523	938
5.9655	5.9137	1.0088	1318
3.0642	5.9155	0.51799	1225
3.6434	5.9199	0.61544	1095
4.4761	5.9217	0.75587	1672
3.9781	5.9241	0.67151	1027
6.2054	5.9332	1.0459	947
6.1122	5.9351	1.0298	883
5.8944	5.9361	0.99296	1810
5.4721	5.9383	0.9215	1758
5.4658	5.939	0.92032	1705
5.074	5.9404	0.85415	909
6.4065	5.9418	1.0782	540
5.7807	5.9439	0.97255	1967
4.3586	5.9459	0.73305	1222
6.1839	5.9471	1.0398	811
5.2666	5.9517	0.88489	1289
5.4746	5.9551	0.91933	1368
6.4285	5.9567	1.0792	418
6.6788	5.9601	1.1206	57
4.7248	5.9606	0.79267	1863
4.5392	5.9673	0.76068	849
4.6645	5.9739	0.7808	1668
5.8142	5.9785	0.97251	1359
5.469	5.98	0.91454	1943
4.5771	5.9882	0.76435	1615
5.435	5.9904	0.90729	776
6.2797	6.0011	1.0464	1802
5.986	6.0022	0.9973	979
5.7583	6.0079	0.95846	1710
5.0269	6.0114	0.83623	1817
4.0194	6.0154	0.66819	1605
6.4543	6.0174	1.0726	1479
2.8334	6.0198	0.47068	715
5.9402	6.0234	0.98618	1964
4.2271	6.0235	0.70176	708
5.4467	6.0241	0.90415	1285
5.8601	6.0241	0.97278	1414
5.6631	6.0262	0.93975	1701
6.3797	6.0275	1.0584	115
3.0771	6.0288	0.5104	711
5.9737	6.0329	0.99018	1941
5.434	6.0402	0.89963	391

5.8749	6.0407	0.97255	2027
4.7843	6.0471	0.79117	1612
2.126	6.0483	0.35151	1101
6.5621	6.0531	1.0841	1442
6.4233	6.0629	1.0594	943
6.3766	6.0679	1.0509	1734
4.5075	6.0739	0.74212	1488
5.0611	6.0807	0.83233	2016
4.0697	6.0818	0.66917	1539
5.8942	6.0823	0.96907	135
5.9177	6.0843	0.97261	1706
6.049	6.09	0.99328	1283
6.1688	6.0973	1.0117	941
6.4429	6.0993	1.0563	808
4.8097	6.1033	0.78804	1604
6.374	6.1078	1.0436	534
3.6784	6.1107	0.60196	1228
4.3222	6.1177	0.7065	647
6.1463	6.1223	1.0039	1937
2.749	6.1344	0.44813	651
3.0252	6.1398	0.49273	648
3.8965	6.1411	0.6345	1224
5.1793	6.1454	0.84278	2004
4.9755	6.1529	0.80863	1601
3.6087	6.1561	0.5862	126
4.5457	6.1562	0.73839	1897
5.5384	6.158	0.89937	1465
5.041	6.1645	0.81775	1862
4.9265	6.1777	0.79746	1536
5.7642	6.1785	0.93295	1353
2.7236	6.1788	0.44079	242
5.7141	6.1844	0.92395	1704
5.2257	6.1848	0.84493	505
5.5676	6.1854	0.90011	977
0.8782	6.189	0.1419	607
6.3323	6.1948	1.0222	158
6.8588	6.1995	1.1063	464
5.985	6.2059	0.96439	982
3.7033	6.2108	0.59627	1154
6.8058	6.2119	1.0956	1438
6.1084	6.2143	0.98295	1809
6.3991	6.2222	1.0284	937
4.0692	6.2239	0.6538	123
4.8905	6.2263	0.78545	1221
4.6357	6.2296	0.74413	1859
6.1228	6.2313	0.98259	1940

5.1067	6.2329	0.8193	1532
4.3843	6.2418	0.70241	1267
3.9471	6.2434	0.6322	1151
6.2347	6.2461	0.99818	1755
4.1662	6.2517	0.66641	1134
5.8799	6.2566	0.93979	1700
3.8085	6.2606	0.60833	596
4.5233	6.2644	0.72206	1538
6.6486	6.2645	1.0613	1441
6.5759	6.2684	1.0491	417
5.7364	6.2713	0.91471	775
5.258	6.2746	0.83797	1896
6.3597	6.2857	1.0118	1463
4.3546	6.2869	0.69265	1131
5.5217	6.2923	0.87753	501
5.7974	6.2941	0.92108	1408
6.3357	6.3014	1.0054	114
6.0061	6.3028	0.95294	1279
6.2707	6.3052	0.99453	1936
6.2105	6.3104	0.98417	1282
5.4165	6.3171	0.85743	2003
5.9133	6.3199	0.93566	846
3.1656	6.3223	0.50071	705
6.2288	6.3244	0.98488	978
6.6327	6.3249	1.0487	53
5.4115	6.3271	0.85529	1893
5.9129	6.3318	0.93384	973
5.0487	6.3358	0.79685	1150
4.2362	6.3484	0.66729	1059
5.7838	6.354	0.91026	1395
6.9308	6.3554	1.0905	1006
6.3865	6.3569	1.0046	1782
5.519	6.3594	0.86785	441
5.4013	6.3602	0.84924	1856
5.2363	6.3645	0.82273	1535
6.8585	6.365	1.0775	460
6.2518	6.3766	0.98044	1778
6.4865	6.3768	1.0172	1698
6.3208	6.3804	0.99066	906
4.7242	6.3819	0.74024	1600
6.846	6.3836	1.0724	1437
5.199	6.3867	0.81404	1128
0.2198	6.3869	0.034413	98
4.4435	6.387	0.6957	1055
1.7665	6.3919	0.27637	300
4.976	6.393	0.77835	1858

3.1668	6.3969	0.49505	299
6.8965	6.4003	1.0775	463
5.3898	6.4143	0.84027	1531
5.567	6.4183	0.86737	1852
4.8968	6.4247	0.76218	1597
4.9273	6.4299	0.76631	390
6.636	6.436	1.0311	1459
5.1039	6.4433	0.79212	1691
2.3823	6.4493	0.36938	597
4.4331	6.4502	0.68728	1884
6.2092	6.4542	0.96204	843
4.911	6.4582	0.76043	1266
5.5531	6.4597	0.85965	180
4.072	6.466	0.62976	704
2.0862	6.4732	0.32229	600
4.8385	6.4822	0.74642	1530
6.0277	6.488	0.92906	1329
5.8643	6.4925	0.90325	438
6.6372	6.4963	1.0217	499
5.364	6.4967	0.82566	1052
5.9301	6.4995	0.9124	976
4.6998	6.4997	0.72308	1058
6.1821	6.5041	0.9505	1278
6.5051	6.5104	0.99918	1743
7.02	6.5131	1.0778	365
5.6242	6.514	0.8634	1855
6.4982	6.5151	0.99742	1462
7.2819	6.5192	1.117	215
6.5971	6.5224	1.0115	903
5.0268	6.5297	0.76984	1526
6.5681	6.5324	1.0055	1697
5.304	6.5384	0.81121	387
4.8725	6.5394	0.7451	1054
5.652	6.5562	0.86208	1594
4.9473	6.5641	0.75369	2011
5.7671	6.5655	0.87839	1851
6.0398	6.5691	0.91942	122
4.816	6.5712	0.7329	1883
4.5496	6.5729	0.69218	623
6.2253	6.5783	0.94634	1777
3.1207	6.5857	0.47386	268
6.8983	6.5883	1.047	459
5.0715	6.5893	0.76965	1197
6.6065	6.593	1.0021	1971
6.1891	6.6084	0.93656	972
3.8358	6.615	0.57987	638

5.1738	6.6188	0.78168	1529
5.4518	6.6222	0.82327	1690
4.1527	6.6262	0.62672	646
6.7164	6.6271	1.0135	1458
7.3927	6.6327	1.1146	935
4.6671	6.6433	0.70253	752
6.6016	6.6488	0.9929	1394
5.6286	6.6504	0.84636	1051
6.584	6.6545	0.98941	1742
6.1394	6.6605	0.92177	882
6.1999	6.6632	0.93046	1328
5.3331	6.6634	0.80037	1525
5.2329	6.6744	0.78403	2010
4.924	6.6748	0.73769	1828
5.8421	6.6756	0.87514	1523
0.96918	6.6807	0.14507	243
5.1234	6.6947	0.76529	1122
6.2821	6.7059	0.93679	902
4.9631	6.7069	0.74	748
4.6623	6.7077	0.69507	1137
6.855	6.7137	1.0211	1405
4.67	6.7159	0.69536	573
7.3139	6.7207	1.0883	934
6.7386	6.7211	1.0026	498
6.488	6.727	0.96447	1739
6.868	6.7381	1.0193	1959
4.6263	6.7395	0.68645	1571
6.7901	6.743	1.007	1391
3.1972	6.7494	0.4737	755
6.3576	6.7523	0.94155	879
5.6504	6.7608	0.83577	1649
0.62382	6.7648	0.092215	246
4.219	6.7663	0.62353	1263
6.0413	6.77	0.89236	179
4.8236	6.7779	0.71167	1567
4.0961	6.7787	0.60426	754
5.3638	6.7794	0.79119	1983
5.1895	6.7921	0.76405	751
3.6688	6.7932	0.54008	1574
6.0162	6.7957	0.88529	1522
5.4413	6.8162	0.7983	1260
4.3226	6.8188	0.63393	1880
5.0968	6.8204	0.74729	572
4.227	6.821	0.61969	1573
5.0089	6.8219	0.73424	1570
6.9152	6.8256	1.0131	1326

5.1685	6.8356	0.75611	1877
6.8893	6.8357	1.0078	1958
5.2891	6.8372	0.77358	1048
6.5781	6.8373	0.96209	899
7.0988	6.845	1.0371	1402
6.454	6.8475	0.94252	807
6.5728	6.8483	0.95978	1738
4.8082	6.8513	0.70178	1262
5.4197	6.8526	0.79089	747
5.1747	6.8606	0.75427	1566
6.9568	6.8625	1.0137	1776
4.7373	6.8703	0.68953	1879
6.5892	6.8789	0.95788	1390
5.3486	6.8813	0.77727	1873
6.3478	6.8849	0.92198	1764
5.7003	6.8927	0.82701	1256
5.4424	6.9128	0.78729	1876
6.6146	6.9222	0.95557	495
7.2872	6.9247	1.0524	970
6.9322	6.9274	1.0007	1325
5.5772	6.9301	0.80477	1047
7.1224	6.9334	1.0273	1322
7.8738	6.9341	1.1355	212
5.7566	6.9379	0.82972	1259
7.1291	6.9518	1.0255	1773
6.6977	6.9547	0.96305	803
5.5959	6.9557	0.80451	1872
5.1431	6.9565	0.73933	1494
4.2961	6.9628	0.61701	1497
6.8433	6.9683	0.98207	386
6.7864	6.9683	0.9739	1387
6.5613	6.9707	0.94127	806
4.1801	6.9799	0.59888	678
5.4049	6.981	0.77423	675
6.4593	6.984	0.92488	1763
5.3233	6.999	0.76057	1491
4.8432	7.003	0.6916	1822
5.9638	7.0044	0.85144	1255
2.3786	7.011	0.33926	241
7.1051	7.0141	1.013	1321
7.2234	7.0157	1.0296	969
7.2419	7.0171	1.032	437
4.9661	7.0346	0.70595	1191
5.6005	7.0455	0.79491	1819
7.2739	7.0473	1.0322	1736
4.5448	7.0483	0.64481	23

5.6639	7.051	0.80328	672
6.7587	7.0563	0.95783	802
5.7864	7.0573	0.81992	1364
6.7298	7.0656	0.95247	494
6.758	7.0698	0.9559	1966
6.9179	7.0765	0.9776	1320
7.2285	7.0816	1.0208	876
5.7663	7.0925	0.813	1816
7.2343	7.1031	1.0185	1735
6.5562	7.1094	0.92219	148
7.3183	7.1107	1.0292	1015
4.056	7.1193	0.56973	261
6.011	7.127	0.84342	1188
6.021	7.127	0.84481	1363
5.0783	7.1312	0.71212	1087
6.798	7.1325	0.95309	1965
4.3927	7.1353	0.61562	1093
6.8226	7.1433	0.95511	413
4.9633	7.1459	0.69457	629
6.9352	7.1467	0.97041	1319
7.4622	7.1485	1.0439	1732
4.3748	7.1496	0.6119	258
6.7315	7.1575	0.94048	1708
5.4156	7.1578	0.75659	1086
4.9316	7.1585	0.68892	1564
4.581	7.1591	0.63989	1089
4.5145	7.1634	0.63021	1565
7.136	7.1794	0.99395	1316
3.8093	7.1825	0.53036	1094
7.2477	7.1852	1.0087	1014
7.394	7.1858	1.029	1731
5.1043	7.1908	0.70984	1560
4.7217	7.1923	0.65649	1561
4.0395	7.1962	0.56134	1090
5.2396	7.2001	0.72771	626
6.2413	7.2032	0.86646	1185
6.3206	7.2066	0.87705	1760
5.629	7.2082	0.78092	1558
7.1155	7.2298	0.9842	1315
5.9483	7.231	0.82262	121
6.8777	7.235	0.95061	428
4.3217	7.2352	0.59731	330
5.8512	7.2356	0.80867	1557
6.6556	7.2489	0.91816	545
5.3895	7.2508	0.7433	324
6.4418	7.2517	0.88831	1759

5.091	7.2546	0.70176	745
4.5979	7.2664	0.63277	326
6.7858	7.2687	0.93357	1361
5.7966	7.2768	0.79658	323
7.5589	7.2808	1.0382	1384
3.6196	7.2869	0.49672	632
4.4981	7.2886	0.61715	746
5.3347	7.3031	0.73047	741
6.828	7.3067	0.93448	1360
7.0755	7.3081	0.96818	1938
6.7591	7.3197	0.9234	544
7.7245	7.32	1.0553	898
4.4853	7.3233	0.61247	1029
5.0649	7.3295	0.69103	1490
6.2899	7.3301	0.85809	1287
4.8169	7.3302	0.65713	742
7.6467	7.334	1.0426	800
5.6013	7.3377	0.76335	1025
7.2477	7.3435	0.98695	870
7.5324	7.3465	1.0253	799
4.6925	7.3485	0.63857	1026
5.2533	7.3647	0.7133	1487
7.016	7.3658	0.95252	1357
6.1712	7.3826	0.8359	739
7.0162	7.3857	0.94998	1356
3.3413	7.3911	0.45207	331
3.718	7.3914	0.50302	327
6.3592	7.3976	0.85963	738
7.628	7.4006	1.0307	1480
7.7907	7.4035	1.0523	1481
6.0585	7.4087	0.81776	1486
7.2738	7.4131	0.98122	436
5.8676	7.4267	0.79007	1602
7.2701	7.427	0.97887	363
7.1934	7.4355	0.96744	1757
7.2167	7.4389	0.97014	362
5.6486	7.4399	0.75922	1603
7.1642	7.4419	0.96267	1756
4.6956	7.4504	0.63025	1232
6.7252	7.4519	0.90248	1702
5.3806	7.4576	0.72149	1670
0.68208	7.4744	0.091256	68
6.2375	7.4886	0.83293	1894
7.4465	7.4931	0.99377	885
7.7521	7.4944	1.0344	945
6.1018	7.5	0.81357	1895

7.8096	7.5065	1.0404	1312
2.4127	7.5117	0.3212	264
6.4016	7.5135	0.85202	841
5.3076	7.516	0.70618	671
7.3366	7.5189	0.97575	1752
7.2718	7.52	0.96699	1010
7.4006	7.5295	0.98287	1753
7.1642	7.5307	0.95133	1284
7.3566	7.5308	0.97688	1011
7.968	7.5328	1.0578	1313
5.3498	7.5336	0.71012	1082
4.7987	7.5378	0.63662	593
6.2373	7.5383	0.82741	842
4.4532	7.5386	0.59072	280
6.1295	7.5638	0.81037	276
5.5839	7.5712	0.73752	668
4.7721	7.5721	0.63022	277
6.6197	7.5861	0.87261	837
7.5638	7.5945	0.99596	795
6.8263	7.6136	0.89659	1354
6.0764	7.6146	0.798	1533
4.9791	7.6155	0.65382	1083
7.3714	7.6207	0.96729	1281
6.5136	7.6247	0.85427	838
7.6925	7.6257	1.0088	796
6.7813	7.6487	0.8866	1355
7.5	7.6626	0.97879	1699
6.4592	7.6687	0.84228	1853
6.7209	7.6706	0.87619	667
4.2439	7.683	0.55238	594
7.0236	7.6875	0.91364	1350
7.3077	7.6895	0.95034	468
7.8934	7.6942	1.0259	541
5.9939	7.6993	0.77849	144
8.1176	7.7061	1.0534	1439
7.0251	7.7378	0.90788	1351
7.6884	7.7494	0.99213	1696
5.5381	7.7593	0.71374	1024
5.8261	7.77	0.74982	1598
6.1687	7.7719	0.79372	1129
5.3684	7.7727	0.69067	1132
5.6758	7.7796	0.72957	253
7.4776	7.782	0.96088	834
6.747	7.7864	0.86651	777
4.9467	7.7907	0.63495	562
8.2122	7.7984	1.0531	542

6.5441	7.8105	0.83785	1595
6.8788	7.8167	0.88001	422
5.7254	7.819	0.73224	319
6.3489	7.8205	0.81183	1125
8.1696	7.837	1.0424	537
4.733	7.8395	0.60374	71
7.5925	7.8596	0.96602	835
5.99	7.8602	0.76206	1130
6.7098	7.8619	0.85347	1591
4.9354	7.8657	0.62746	94
6.9907	7.8701	0.88826	774
5.5878	7.8705	0.70996	1599
7.1801	7.8737	0.91191	1280
7.8153	7.8779	0.99205	939
8.2426	7.8783	1.0462	1007
6.4539	7.8845	0.81855	1596
7.785	7.8929	0.98633	1347
6.2081	7.9128	0.78456	1126
5.0019	7.917	0.63179	1133
6.6512	7.9421	0.83746	1592
7.3982	7.9579	0.92966	1277
3.8221	7.9617	0.48006	257
5.7526	7.9626	0.72246	1223
7.4849	7.9652	0.9397	210
4.1675	7.9658	0.52316	254
7.9555	7.9889	0.99582	1348
6.0407	7.9962	0.75544	1527
7.7721	7.9966	0.97193	141
8.5889	8.0063	1.0728	538
8.4864	8.0093	1.0596	1003
6.4261	8.0104	0.80222	1053
6.0117	8.0165	0.74991	1220
5.5586	8.0216	0.69295	1056
6.8117	8.0342	0.84784	1524
8.6195	8.0353	1.0727	1008
5.0229	8.0354	0.62509	710
5.2555	8.0471	0.65309	320
7.8036	8.0572	0.96853	1392
6.6235	8.0647	0.82129	1050
7.1157	8.0724	0.88149	383
5.3189	8.0729	0.65886	707
7.9232	8.0884	0.97957	773
6.9919	8.0913	0.86413	1521
7.9672	8.1056	0.98292	535
4.5511	8.1077	0.56133	1226
7.8303	8.1091	0.96562	206

7.5099	8.1341	0.92326	830
8.5747	8.1343	1.0541	465
8.0584	8.1373	0.9903	1774
6.1372	8.1636	0.75177	1123
8.287	8.1768	1.0135	419
7.9786	8.1829	0.97504	1393
8.1865	8.1845	1.0002	138
8.217	8.1853	1.0039	1276
7.7184	8.1991	0.94137	211
9.5283	8.2009	1.1619	7
6.3255	8.2062	0.77082	1119
6.073	8.2076	0.73993	275
5.6648	8.2093	0.69005	624
8.9381	8.2173	1.0877	1004
7.7019	8.2208	0.93688	980
6.7246	8.2357	0.81652	617
8.263	8.2414	1.0026	531
7.0843	8.2443	0.85929	1116
5.872	8.245	0.71219	620
7.1458	8.2672	0.86436	384
8.2667	8.2689	0.99974	1775
6.3183	8.28	0.76308	1874
8.8796	8.2928	1.0708	936
8.8933	8.3077	1.0705	462
7.641	8.3105	0.91943	831
8.1229	8.3108	0.97739	1460
4.0099	8.3143	0.48229	95
5.8857	8.3286	0.70669	1568
5.2025	8.3372	0.624	77
8.6324	8.3476	1.0341	416
7.5314	8.3509	0.90187	880
8.3468	8.3546	0.99907	536
2.8287	8.359	0.33841	72
8.2375	8.3597	0.98539	1323
5.9415	8.3651	0.71026	1124
3.5803	8.3759	0.42746	713
7.8485	8.3867	0.93583	1388
6.1717	8.4086	0.73398	1120
7.0982	8.4135	0.84367	1117
2.4143	8.4145	0.28693	75
8.2366	8.4169	0.97858	207
8.4758	8.424	1.0062	1733
6.6556	8.4376	0.7888	618
9.1559	8.448	1.0838	933
6.4043	8.4517	0.75775	1049
7.6024	8.4597	0.89866	352

5.3266	8.4863	0.62766	625
7.9855	8.4896	0.94063	772
6.6115	8.499	0.77791	1046
5.5856	8.517	0.65581	621
8.3437	8.5204	0.97926	877
9.0565	8.53	1.0617	203
7.4288	8.532	0.87071	1045
5.9091	8.5345	0.69238	574
8.2885	8.5408	0.97046	160
7.0676	8.5492	0.82669	570
8.7612	8.5521	1.0245	532
8.5724	8.567	1.0006	1385
6.1393	8.5738	0.71605	571
10.061	8.5765	1.1731	52
7.6686	8.5833	0.89343	881
8.0442	8.5963	0.93577	1389
8.5509	8.6126	0.99284	873
8.717	8.6238	1.0108	461
9.2971	8.6364	1.0765	528
8.7608	8.6552	1.0122	1381
6.5269	8.6722	0.75262	702
6.7177	8.6823	0.77372	613
8.7029	8.724	0.99759	157
8.0098	8.7259	0.91794	804
8.3096	8.7312	0.95171	1317
6.6911	8.7413	0.76546	1559
8.675	8.7777	0.9883	878
6.2573	8.7815	0.71255	250
7.8731	8.7846	0.89624	137
6.8884	8.7869	0.78394	1556
9.0624	8.7908	1.0309	458
8.9181	8.8097	1.0123	1386
5.8368	8.8334	0.66077	1562
6.2521	8.8467	0.70672	1088
4.8813	8.8498	0.55157	706
7.7715	8.8565	0.87749	974
5.8046	8.8572	0.65535	297
5.2001	8.8682	0.58638	703
6.4702	8.8859	0.72814	1085
7.0943	8.8869	0.79828	1257
8.9342	8.8951	1.0044	874
8.4214	8.9064	0.94554	871
4.52	8.9084	0.50739	70
8.8858	8.9091	0.99738	801
7.0195	8.9138	0.78748	30
9.1481	8.9197	1.0256	1382

8.1344	8.9262	0.91129	414
9.0832	8.9268	1.0175	1314
8.3337	8.952	0.93094	134
7.1537	8.9728	0.79726	503
8.6399	8.9945	0.96057	867
8.5158	9.0141	0.94472	1754
9.1158	9.015	1.0112	798
8.3786	9.0162	0.92928	410
9.2904	9.0267	1.0292	1311
5.2786	9.0283	0.58467	1091
6.5562	9.0304	0.72601	749
6.6426	9.0312	0.73552	614
8.9152	9.0451	0.98564	49
8.2551	9.0462	0.91255	1358
9.2397	9.049	1.0211	199
9.963	9.0586	1.0998	204
7.0789	9.0604	0.7813	569
9.0026	9.0654	0.99308	971
7.6116	9.0704	0.83917	27
8.665	9.0924	0.95299	500
10.126	9.122	1.1101	529
9.3965	9.1814	1.0234	864
9.2339	9.1904	1.0047	407
9.3217	9.2117	1.0119	968
6.6061	9.2186	0.71661	233
10.073	9.2202	1.0925	156
10.195	9.2456	1.1026	457
9.0417	9.2498	0.97751	497
6.04	9.2517	0.65285	251
8.7961	9.2825	0.9476	872
4.1708	9.3103	0.44798	298
3.7941	9.3315	0.40659	301
9.8778	9.3459	1.0569	133
7.3604	9.3495	0.78725	1080
9.0048	9.3537	0.96269	797
8.4784	9.3713	0.90472	415
9.6322	9.3819	1.0267	26
9.0724	9.3936	0.96581	868
8.757	9.4285	0.92879	364
6.2182	9.4402	0.65869	1084
9.2485	9.4551	0.97815	794
10.861	9.4582	1.1483	6
7.713	9.4611	0.81523	1593
6.4484	9.4709	0.68087	1081
8.7969	9.4855	0.92741	411
6.9485	9.5295	0.72916	591

9.0333	9.5337	0.94751	361
8.3371	9.5629	0.87182	1352
9.9911	9.6121	1.0394	865
7.3819	9.615	0.76775	1127
9.1945	9.6331	0.95448	1349
9.3731	9.6478	0.97153	403
10.055	9.6541	1.0415	793
7.7642	9.6632	0.80348	740
9.8669	9.6794	1.0194	408
2.9348	9.6985	0.3026	12
9.9547	9.717	1.0245	360
9.425	9.7263	0.96902	1346
8.0003	9.7335	0.82194	839
8.06	9.7396	0.82755	737
5.6379	9.7443	0.57859	595
8.9865	9.7454	0.92212	836
9.1751	9.7578	0.94028	130
5.8969	9.7612	0.60411	592
9.2456	9.8416	0.93944	833
10.35	9.8466	1.0512	200
6.5325	9.8621	0.66238	743
10.394	9.875	1.0526	155
5.7083	9.8813	0.57769	296
8.8449	9.9386	0.88995	496
7.2481	9.9659	0.72729	325
7.5937	10.031	0.75699	322
10.278	10.053	1.0223	32
9.2593	10.081	0.91847	493
10.18	10.082	1.0097	50
8.2723	10.093	0.81957	1118
8.4904	10.151	0.83638	1115
7.4108	10.224	0.72485	1121
6.9539	10.232	0.67961	590
10.161	10.258	0.99051	359
10.579	10.271	1.03	492
10.098	10.31	0.97948	404
10.654	10.341	1.0303	1005
7.9676	10.342	0.77043	619
8.3412	10.359	0.80518	181
9.1278	10.377	0.87963	832
8.2113	10.395	0.7899	616
5.7456	10.397	0.55264	328
9.4041	10.466	0.89853	829
10.053	10.47	0.96021	113
8.859	10.496	0.844	178
10.302	10.513	0.97998	828

10.027	10.523	0.95288	25
10.387	10.547	0.98485	1383
10.516	10.548	0.997	177
10.616	10.573	1.004	539
6.9795	10.577	0.65986	622
9.9595	10.582	0.94119	131
6.3958	10.683	0.59871	240
4.5633	10.684	0.42711	84
8.8615	10.701	0.82813	385
10.223	10.755	0.95049	381
10.328	10.758	0.96001	875
9.003	10.787	0.83464	317
9.18	10.788	0.85098	382
9.2063	10.939	0.84163	611
7.283	11.043	0.65951	321
8.0365	11.076	0.7256	615
7.6598	11.09	0.69071	318
8.2957	11.121	0.74594	612
9.6942	11.315	0.85677	2
8.9857	11.322	0.79363	248
8.6313	11.352	0.76034	92
10.559	11.435	0.92346	869
11.385	11.436	0.99555	866
10.992	11.522	0.95398	533
10.481	11.545	0.90787	380
11.644	11.547	1.0084	863
12.154	11.604	1.0474	530
7.6332	11.608	0.65755	252
7.9291	11.642	0.68105	249
10.973	11.742	0.93454	176
12.53	11.788	1.063	527
11.46	11.802	0.97099	409
10.513	11.888	0.88436	412
11.756	11.921	0.98616	406
6.4881	11.983	0.54142	96
6.9485	11.995	0.57929	93
10.412	12.122	0.85898	120
12.441	12.163	1.0229	205
9.137	12.221	0.74762	247
11.025	12.252	0.89983	208
12.902	12.374	1.0427	202
11.813	12.661	0.93306	405
12.964	12.708	1.0202	401
12.133	12.775	0.94973	402
8.8278	12.803	0.6895	91
11.01	12.851	0.85675	39

8.8497	13.021	0.67965	69
13.314	13.334	0.9985	128
11.987	13.419	0.89328	132
12.364	13.538	0.9133	129
13.138	13.539	0.97044	201
14.781	13.659	1.0821	197
13.657	13.742	0.99376	198
13.901	14.469	0.9608	127
8.2468	14.488	0.56923	15
15.901	14.938	1.0644	47
13.897	15.181	0.91545	51
14.588	15.411	0.94661	48
14.577	15.776	0.92398	24
17.407	17.175	1.0135	46
20.68	21.385	0.96703	5

Table 11.1: Performance Assessment based on Risk

12. Performance Assessment based on Sharpe's Ratio

Reward	Risk	Sharpe's Ratio	Portfolio Number
10.061	8.5765	1.1731	52
9.5283	8.2009	1.1619	7
10.861	9.4582	1.1483	6
7.8738	6.9341	1.1355	212
6.6788	5.9601	1.1206	57
7.2819	6.5192	1.117	215
7.3927	6.6327	1.1146	935
10.126	9.122	1.1101	529
6.8588	6.1995	1.1063	464
10.195	9.2456	1.1026	457
9.963	9.0586	1.0998	204
6.8058	6.2119	1.0956	1438
10.073	9.2202	1.0925	156
5.85	5.3554	1.0924	60
6.9308	6.3554	1.0905	1006
7.3139	6.7207	1.0883	934
8.9381	8.2173	1.0877	1004
5.5867	5.149	1.085	1440
6.2652	5.7793	1.0841	944
6.5621	6.0531	1.0841	1442
9.1559	8.448	1.0838	933
14.781	13.659	1.0821	197
5.1581	4.7794	1.0792	213
6.4285	5.9567	1.0792	418

6.4065	5.9418	1.0782	540
6.198	5.7491	1.0781	549
7.02	6.5131	1.0778	365
6.8585	6.365	1.0775	460
6.8965	6.4003	1.0775	463
9.2971	8.6364	1.0765	528
8.5889	8.0063	1.0728	538
8.6195	8.0353	1.0727	1008
6.4543	6.0174	1.0726	1479
6.846	6.3836	1.0724	1437
5.31	4.9574	1.0711	1801
8.8796	8.2928	1.0708	936
8.8933	8.3077	1.0705	462
5.0315	4.7022	1.07	946
5.9888	5.5993	1.0696	948
6.1243	5.7462	1.0658	1803
4.7345	4.4429	1.0656	547
4.9651	4.6628	1.0648	472
15.901	14.938	1.0644	47
4.79	4.5007	1.0643	810
12.53	11.788	1.063	527
9.0565	8.53	1.0617	203
5.1298	4.8333	1.0614	1804
6.6486	6.2645	1.0613	1441
5.5341	5.216	1.061	161
5.543	5.2253	1.0608	1404
6.236	5.8823	1.0601	1482
8.4864	8.0093	1.0596	1003
6.4233	6.0629	1.0594	943
6.3797	6.0275	1.0584	115
7.968	7.5328	1.0578	1313
5.9358	5.614	1.0573	1013
9.8778	9.3459	1.0569	133
6.4429	6.0993	1.0563	808
5.2355	4.9566	1.0563	809
7.7245	7.32	1.0553	898
4.7813	4.5316	1.0551	1447
8.5747	8.1343	1.0541	465
5.5418	5.2578	1.054	140
4.5883	4.3543	1.0537	475
5.8535	5.5563	1.0535	884
6.0582	5.7509	1.0534	159
8.1176	7.7061	1.0534	1439
8.2122	7.7984	1.0531	542
10.394	9.875	1.0526	155
7.2872	6.9247	1.0524	970

6.2224	5.913	1.0523	938
7.7907	7.4035	1.0523	1481
10.35	9.8466	1.0512	200
4.4157	4.2011	1.0511	551
4.9298	4.6909	1.0509	940
6.3766	6.0679	1.0509	1734
6.5759	6.2684	1.0491	417
6.6327	6.3249	1.0487	53
4.5249	4.3166	1.0483	1332
5.5671	5.3108	1.0483	1449
12.154	11.604	1.0474	530
4.9118	4.6893	1.0474	1979
4.6429	4.4334	1.0473	886
6.8983	6.5883	1.047	459
6.2797	6.0011	1.0464	1802
8.2426	7.8783	1.0462	1007
6.2054	5.9332	1.0459	947
4.2524	4.0696	1.0449	955
5.8239	5.5746	1.0447	1403
7.4622	7.1485	1.0439	1732
6.374	6.1078	1.0436	534
4.584	4.3944	1.0432	1450
5.8712	5.6278	1.0432	1815
5.2126	4.9978	1.043	1781
12.902	12.374	1.0427	202
7.6467	7.334	1.0426	800
8.1696	7.837	1.0424	537
5.692	5.4648	1.0416	1016
10.055	9.6541	1.0415	793
7.8096	7.5065	1.0404	1312
4.9781	4.7871	1.0399	1331
6.1839	5.9471	1.0398	811
9.9911	9.6121	1.0394	865
6.0929	5.8664	1.0386	1957
7.5589	7.2808	1.0382	1384
5.3244	5.1294	1.038	1461
4.8656	4.6893	1.0376	224
7.0988	6.845	1.0371	1402
6.003	5.7904	1.0367	1324
4.8339	4.6728	1.0345	905
7.7521	7.4944	1.0344	945
4.6104	4.4573	1.0343	371
4.3767	4.232	1.0342	1783
8.6324	8.3476	1.0341	416
4.2947	4.1534	1.034	1336
5.5575	5.3767	1.0336	888

5.8118	5.6275	1.0328	370
4.6772	4.5286	1.0328	1443
5.9263	5.7391	1.0326	942
4.1476	4.018	1.0323	1019
7.2739	7.0473	1.0322	1736
7.2419	7.0171	1.032	437
6.636	6.436	1.0311	1459
9.0624	8.7908	1.0309	458
7.628	7.4006	1.0307	1480
10.654	10.341	1.0303	1005
10.579	10.271	1.03	492
4.419	4.2909	1.0299	1396
6.1122	5.9351	1.0298	883
7.2234	7.0157	1.0296	969
5.5266	5.3681	1.0295	1780
7.3183	7.1107	1.0292	1015
9.2904	9.0267	1.0292	1311
5.8434	5.6782	1.0291	1448
7.394	7.1858	1.029	1731
6.3991	6.2222	1.0284	937
5.9449	5.7814	1.0283	1960
4.3945	4.275	1.028	1806
4.9945	4.8593	1.0278	1785
7.1224	6.9334	1.0273	1322
3.9227	3.8198	1.0269	372
9.6322	9.3819	1.0267	26
4.7897	4.667	1.0263	1335
7.8934	7.6942	1.0259	541
9.1481	8.9197	1.0256	1382
7.1291	6.9518	1.0255	1773
7.5324	7.3465	1.0253	799
9.9547	9.717	1.0245	360
8.7612	8.5521	1.0245	532
5.9634	5.8247	1.0238	139
9.3965	9.1814	1.0234	864
5.7261	5.596	1.0233	1741
5.2937	5.1737	1.0232	904
12.441	12.163	1.0229	205
4.1884	4.0963	1.0225	469
10.278	10.053	1.0223	32
5.4492	5.3306	1.0223	467
5.3459	5.2296	1.0223	1484
6.3323	6.1948	1.0222	158
5.0189	4.9102	1.0221	427
4.2189	4.1291	1.0218	1972
6.6372	6.4963	1.0217	499

5.8778	5.7539	1.0215	1009
5.0463	4.9416	1.0212	1808
9.2397	9.049	1.0211	199
6.855	6.7137	1.0211	1405
7.2285	7.0816	1.0208	876
12.964	12.708	1.0202	401
5.7641	5.6497	1.0202	1333
3.776	3.7021	1.02	1334
9.8669	9.6794	1.0194	408
6.868	6.7381	1.0193	1959
7.2343	7.1031	1.0185	1735
9.0832	8.9268	1.0175	1314
6.4865	6.3768	1.0172	1698
4.47	4.395	1.0171	1446
4.1057	4.0369	1.017	1748
5.7089	5.6148	1.0167	2033
4.3899	4.3208	1.016	818
5.3464	5.2624	1.016	1784
4.5481	4.4818	1.0148	1413
3.8656	3.81	1.0146	429
4.2118	4.1534	1.0141	1399
6.9568	6.8625	1.0137	1776
17.407	17.175	1.0135	46
8.287	8.1768	1.0135	419
6.7164	6.6271	1.0135	1458
5.3262	5.2566	1.0132	1939
6.9152	6.8256	1.0131	1326
7.1051	7.0141	1.013	1321
3.7329	3.6854	1.0129	819
5.8819	5.8073	1.0129	887
8.9181	8.8097	1.0123	1386
8.7608	8.6552	1.0122	1381
3.6617	3.6181	1.0121	1746
4.807	4.7506	1.0119	182
9.3217	9.2117	1.0119	968
6.3597	6.2857	1.0118	1463
6.1688	6.0973	1.0117	941
6.5971	6.5224	1.0115	903
9.1158	9.015	1.0112	798
5.6262	5.5644	1.0111	209
5.5667	5.5063	1.011	1744
4.7479	4.6968	1.0109	1974
8.717	8.6238	1.0108	461
4.591	4.5424	1.0107	1747
5.5158	5.4586	1.0105	373
5.1633	5.1103	1.0104	1398

5.1013	5.0502	1.0101	778
5.4861	5.4314	1.0101	1445
10.18	10.082	1.0097	50
4.673	4.6294	1.0094	981
4.0531	4.0166	1.0091	1975
7.6925	7.6257	1.0088	796
5.9655	5.9137	1.0088	1318
7.2477	7.1852	1.0087	1014
11.644	11.547	1.0084	863
3.6206	3.5915	1.0081	222
6.8893	6.8357	1.0078	1958
6.7901	6.743	1.007	1391
5.0185	4.9871	1.0063	1412
8.4758	8.424	1.0062	1733
6.5681	6.5324	1.0055	1697
6.3357	6.3014	1.0054	114
4.849	4.8233	1.0053	1811
3.5193	3.5017	1.005	54
9.2339	9.1904	1.0047	407
6.3865	6.3569	1.0046	1782
8.9342	8.8951	1.0044	874
10.616	10.573	1.004	539
8.217	8.1853	1.0039	1276
6.1463	6.1223	1.0039	1937
3.7591	3.7463	1.0034	1415
6.7386	6.7211	1.0026	498
8.263	8.2414	1.0026	531
3.9902	3.9811	1.0023	949
6.6065	6.593	1.0021	1971
5.111	5.1016	1.0018	1973
5.5186	5.5093	1.0017	426
5.1314	5.1237	1.0015	2026
3.8908	3.8858	1.0013	58
5.6188	5.6117	1.0013	1012
5.8414	5.836	1.0009	466
6.9322	6.9274	1.0007	1325
3.6965	3.6943	1.0006	368
8.5724	8.567	1.0006	1385
8.1865	8.1845	1.0002	138
3.489	3.4892	0.99995	1749
4.2823	4.2829	0.99987	1805
8.2667	8.2689	0.99974	1775
6.5051	6.5104	0.99918	1743
8.3468	8.3546	0.99907	536
5.3409	5.3489	0.99851	1962
13.314	13.334	0.9985	128

4.1827	4.1895	0.99836	822
6.2347	6.2461	0.99818	1755
4.4779	4.4874	0.9979	367
8.7029	8.724	0.99759	157
6.4982	6.5151	0.99742	1462
8.8858	8.9091	0.99738	801
5.986	6.0022	0.9973	979
4.0475	4.0591	0.99715	1779
10.516	10.548	0.997	177
3.931	3.9444	0.99661	2035
3.7033	3.7178	0.99609	893
7.5638	7.5945	0.99596	795
7.9555	7.9889	0.99582	1348
5.5342	5.5586	0.99561	1397
11.385	11.436	0.99555	866
5.6806	5.7071	0.99536	1737
5.7924	5.8213	0.99504	1444
4.0024	4.0226	0.99496	1292
6.2707	6.3052	0.99453	1936
4.3044	4.3284	0.99444	1417
4.2732	4.2972	0.99442	507
7.136	7.1794	0.99395	1316
5.1039	5.1351	0.99392	471
7.4465	7.4931	0.99377	885
13.657	13.742	0.99376	198
6.049	6.09	0.99328	1283
3.4739	3.4976	0.99322	823
9.0026	9.0654	0.99308	971
4.6736	4.7063	0.99305	431
5.8944	5.9361	0.99296	1810
6.6016	6.6488	0.9929	1394
8.5509	8.6126	0.99284	873
7.6884	7.7494	0.99213	1696
4.689	4.7263	0.99212	901
7.8153	7.8779	0.99205	939
4.9005	4.942	0.9916	1709
3.6414	3.6729	0.99141	1790
4.4343	4.4754	0.9908	1468
6.3208	6.3804	0.99066	906
4.8016	4.8469	0.99065	1291
10.161	10.258	0.99051	359
3.5911	3.626	0.99036	953
8.0584	8.1373	0.9903	1774
5.9737	6.0329	0.99018	1941
3.4056	3.4394	0.99018	1963
4.6364	4.6844	0.98974	1980

4.9933	5.0466	0.98943	2029
6.584	6.6545	0.98941	1742
4.8212	4.874	0.98918	1416
8.675	8.7777	0.9883	878
5.1269	5.189	0.98803	820
4.3202	4.3738	0.98774	845
7.2477	7.3435	0.98695	870
7.785	7.8929	0.98633	1347
5.9402	6.0234	0.98618	1964
11.756	11.921	0.98616	406
3.2439	3.2903	0.98588	226
8.9152	9.0451	0.98564	49
8.2375	8.3597	0.98539	1323
5.166	5.2432	0.98528	543
6.2288	6.3244	0.98488	978
10.387	10.547	0.98485	1383
5.3949	5.4788	0.9847	136
5.2064	5.289	0.98439	900
7.1155	7.2298	0.9842	1315
6.2105	6.3104	0.98417	1282
3.2963	3.3496	0.9841	216
4.9196	5.0019	0.98356	844
5.4993	5.5937	0.98312	805
6.1084	6.2143	0.98295	1809
7.9672	8.1056	0.98292	535
7.4006	7.5295	0.98287	1753
3.2481	3.305	0.98278	1453
6.1228	6.2313	0.98259	1940
6.8433	6.9683	0.98207	386
5.2617	5.3585	0.98193	1483
7.2738	7.4131	0.98122	436
4.021	4.0981	0.98117	1342
5.5149	5.6209	0.98113	1740
3.76	3.8332	0.98088	952
3.8692	3.9461	0.98051	1716
6.2518	6.3766	0.98044	1778
5.7309	5.848	0.97998	366
10.302	10.513	0.97998	828
7.9232	8.0884	0.97957	773
10.098	10.31	0.97948	404
8.3437	8.5204	0.97926	877
5.2596	5.3715	0.97916	430
5.5824	5.7019	0.97904	470
4.7222	4.8234	0.97902	1946
5.7177	5.8405	0.97897	1707
7.2701	7.427	0.97887	363

7.5	7.6626	0.97879	1699
8.2366	8.4169	0.97858	207
4.8315	4.9374	0.97856	2046
3.3473	3.4217	0.97827	957
9.2485	9.4551	0.97815	794
5.6991	5.8267	0.9781	2028
4.2597	4.3558	0.97794	812
3.5242	3.6045	0.97773	813
6.9179	7.0765	0.9776	1320
9.0417	9.2498	0.97751	497
8.1229	8.3108	0.97739	1460
7.3566	7.5308	0.97688	1011
3.7493	3.84	0.97636	473
3.3551	3.4367	0.97625	1343
4.1044	4.2054	0.97599	1792
7.3366	7.5189	0.97575	1752
3.3323	3.4171	0.97518	1293
3.6039	3.6958	0.97514	1409
7.9786	8.1829	0.97504	1393
3.4611	3.5498	0.97503	1793
3.1147	3.1953	0.9748	558
3.4731	3.5643	0.97439	896
3.2539	3.3395	0.97435	162
6.7864	6.9683	0.9739	1387
4.6111	4.7348	0.97387	1791
3.6658	3.7665	0.97324	423
5.8601	6.0241	0.97278	1414
5.9177	6.0843	0.97261	1706
5.7807	5.9439	0.97255	1967
5.8749	6.0407	0.97255	2027
5.8142	5.9785	0.97251	1359
7.7721	7.9966	0.97193	141
9.3731	9.6478	0.97153	403
11.46	11.802	0.97099	409
5.6673	5.8386	0.97065	983
4.4034	4.537	0.97056	1407
8.2885	8.5408	0.97046	160
13.138	13.539	0.97044	201
6.9352	7.1467	0.97041	1319
7.2167	7.4389	0.97014	362
5.5967	5.7696	0.97003	56
3.0675	3.1625	0.96997	821
4.2161	4.3475	0.96978	1471
5.8942	6.0823	0.96907	135
9.425	9.7263	0.96902	1346
5.2845	5.4535	0.96901	1961

4.5714	4.7181	0.96891	1294
5.2302	5.3991	0.96872	1327
7.8036	8.0572	0.96853	1392
7.0755	7.3081	0.96818	1938
3.0072	3.1072	0.96784	1341
4.7183	4.8757	0.96772	951
4.9263	5.0912	0.96761	1406
7.1934	7.4355	0.96744	1757
7.3714	7.6207	0.96729	1281
20.68	21.385	0.96703	5
7.2718	7.52	0.96699	1010
4.0807	4.2223	0.96647	1367
4.6681	4.8305	0.96638	1366
7.5925	7.8596	0.96602	835
3.3457	3.4634	0.96601	1369
4.3494	4.5031	0.96586	895
9.0724	9.3936	0.96581	868
7.8303	8.1091	0.96562	206
3.2395	3.357	0.96502	1717
6.488	6.727	0.96447	1739
4.5742	4.743	0.96441	1949
5.985	6.2059	0.96439	982
6.6977	6.9547	0.96305	803
3.6965	3.8393	0.96283	1720
9.0048	9.3537	0.96269	797
4.2784	4.4443	0.96268	354
7.1642	7.4419	0.96267	1756
3.3766	3.5079	0.96258	1977
4.5362	4.7138	0.96233	975
5.5293	5.7472	0.9621	1711
6.5781	6.8373	0.96209	899
6.2092	6.4542	0.96204	843
3.6244	3.7676	0.962	1451
5.5396	5.7604	0.96167	2034
3.0508	3.173	0.9615	484
7.4776	7.782	0.96088	834
13.901	14.469	0.9608	127
5.2293	5.4429	0.96076	950
8.6399	8.9945	0.96057	867
3.4949	3.6392	0.96034	1786
10.053	10.47	0.96021	113
4.9424	5.1473	0.96018	894
10.328	10.758	0.96001	875
5.53	5.7614	0.95985	1762
6.5728	6.8483	0.95978	1738
5.7583	6.0079	0.95846	1710

4.822	5.0319	0.95828	1703
6.5892	6.8789	0.95788	1390
6.7587	7.0563	0.95783	802
4.8699	5.0894	0.95688	546
3.6549	3.8198	0.95683	166
3.3662	3.52	0.9563	1401
6.758	7.0698	0.9559	1966
6.6146	6.9222	0.95557	495
6.8226	7.1433	0.95511	413
4.0416	4.2322	0.95496	816
2.8677	3.0034	0.95482	815
3.8127	3.9942	0.95455	510
9.1945	9.6331	0.95448	1349
10.992	11.522	0.95398	533
6.798	7.1325	0.95309	1965
4.0436	4.2427	0.95307	1813
8.665	9.0924	0.95299	500
4.4296	4.6481	0.95299	2031
6.0061	6.3028	0.95294	1279
10.027	10.523	0.95288	25
3.2601	3.4219	0.95272	1767
4.8512	5.0927	0.95259	421
7.016	7.3658	0.95252	1357
6.7298	7.0656	0.95247	494
4.3547	4.575	0.95184	1718
8.3096	8.7312	0.95171	1317
2.8189	2.9624	0.95153	1344
7.1642	7.5307	0.95133	1284
5.05	5.3095	0.95112	1330
3.5174	3.6988	0.95095	889
3.3165	3.4882	0.9508	784
5.4121	5.6923	0.95077	369
6.8777	7.235	0.95061	428
6.1821	6.5041	0.9505	1278
10.223	10.755	0.95049	381
7.3077	7.6895	0.95034	468
5.2322	5.5059	0.95029	1470
7.0162	7.3857	0.94998	1356
12.133	12.775	0.94973	402
5.2689	5.5494	0.94946	1948
3.5972	3.7891	0.94935	1952
5.6081	5.9087	0.94913	1469
5.4289	5.724	0.94846	420
5.5187	5.821	0.94808	1947
3.248	3.4264	0.94792	817
8.7961	9.2825	0.9476	872

9.0333	9.5337	0.94751	361
4.7191	4.9849	0.94667	1410
14.588	15.411	0.94661	48
6.2253	6.5783	0.94634	1777
3.6269	3.833	0.94624	117
4.6429	4.9072	0.94615	1942
2.8236	2.9845	0.94608	1337
8.4214	8.9064	0.94554	871
2.7844	2.9456	0.94526	1751
4.4609	4.7215	0.94479	1370
8.5158	9.0141	0.94472	1754
3.0323	3.2132	0.94371	1721
4.2993	4.5558	0.9437	1464
5.3574	5.6794	0.94331	1765
4.1444	4.394	0.9432	1411
2.9927	3.1732	0.94313	988
3.1039	3.2911	0.94311	1020
2.8819	3.0574	0.94261	220
6.454	6.8475	0.94252	807
4.0442	4.2937	0.94189	783
6.3576	6.7523	0.94155	879
7.7184	8.1991	0.94137	211
6.5613	6.9707	0.94127	806
9.9595	10.582	0.94119	131
5.3301	5.6635	0.94114	22
7.9855	8.4896	0.94063	772
6.7315	7.1575	0.94048	1708
9.1751	9.7578	0.94028	130
5.8799	6.2566	0.93979	1700
5.6631	6.0262	0.93975	1701
7.4849	7.9652	0.9397	210
9.2456	9.8416	0.93944	833
3.0832	3.2823	0.93935	508
2.7358	2.9135	0.93902	165
3.3065	3.5219	0.93886	1789
4.8384	5.1557	0.93846	1745
3.8217	4.0741	0.93804	1371
3.8857	4.1441	0.93763	1338
4.4997	4.7997	0.93749	439
2.7672	2.9525	0.93726	1719
7.7019	8.2208	0.93688	980
6.2821	6.7059	0.93679	902
6.1891	6.6084	0.93656	972
3.2336	3.4527	0.93653	1301
2.6696	2.8516	0.93616	478
7.8485	8.3867	0.93583	1388

8.0442	8.5963	0.93577	1389
4.5618	4.8749	0.93575	1017
5.9133	6.3199	0.93566	846
2.7394	2.9293	0.93517	1951
10.973	11.742	0.93454	176
6.828	7.3067	0.93448	1360
3.1945	3.4206	0.93388	169
5.9129	6.3318	0.93384	973
4.177	4.473	0.93382	392
6.7858	7.2687	0.93357	1361
11.813	12.661	0.93306	405
5.7642	6.1785	0.93295	1353
3.5566	3.8136	0.93262	990
4.5087	4.8366	0.9322	1787
5.1302	5.5037	0.93215	1969
2.9753	3.1922	0.93204	1953
8.3337	8.952	0.93094	134
3.0718	3.3007	0.93064	1770
6.1999	6.6632	0.93046	1328
5.0111	5.3867	0.93028	814
4.274	4.5957	0.92998	1768
7.3982	7.9579	0.92966	1277
8.3786	9.0162	0.92928	410
4.4894	4.8311	0.92927	1945
3.5369	3.8062	0.92926	33
6.0277	6.488	0.92906	1329
8.757	9.4285	0.92879	364
8.7969	9.4855	0.92741	411
3.1487	3.3976	0.92676	1339
3.2313	3.493	0.9251	1976
3.9511	4.2716	0.92497	1788
6.4593	6.984	0.92488	1763
3.4831	3.7671	0.92461	374
14.577	15.776	0.92398	24
5.7141	6.1844	0.92395	1704
2.6263	2.8438	0.92348	1340
10.559	11.435	0.92346	869
6.7591	7.3197	0.9234	544
7.5099	8.1341	0.92326	830
6.5562	7.1094	0.92219	148
8.9865	9.7454	0.92212	836
6.3478	6.8849	0.92198	1764
6.1394	6.6605	0.92177	882
5.4721	5.9383	0.9215	1758
5.7974	6.2941	0.92108	1408
3.6604	3.9755	0.92072	440

3.2736	3.5565	0.92047	892
5.1527	5.5983	0.92039	424
5.4658	5.939	0.92032	1705
4.2669	4.6374	0.9201	907
3.6642	3.9835	0.91985	1769
4.2968	4.6721	0.91967	1288
3.7197	4.0457	0.91944	548
7.641	8.3105	0.91943	831
6.0398	6.5691	0.91942	122
5.4746	5.9551	0.91933	1368
4.3456	4.7307	0.9186	2030
9.2593	10.081	0.91847	493
6.6556	7.2489	0.91816	545
8.0098	8.7259	0.91794	804
3.0162	3.2862	0.91784	1970
2.58	2.8114	0.9177	1954
4.0691	4.4378	0.91691	1467
3.98	4.3443	0.91614	853
13.897	15.181	0.91545	51
2.8024	3.0615	0.91536	554
2.7165	2.9682	0.91517	992
5.7364	6.2713	0.91471	775
5.469	5.98	0.91454	1943
7.0236	7.6875	0.91364	1350
4.7982	5.2528	0.91345	116
12.364	13.538	0.9133	129
2.9198	3.1976	0.91312	913
2.5675	2.8122	0.91298	2032
2.607	2.8564	0.91269	1750
8.2551	9.0462	0.91255	1358
5.9301	6.4995	0.9124	976
3.0452	3.3381	0.91226	1305
7.1801	7.8737	0.91191	1280
8.1344	8.9262	0.91129	414
2.7976	3.0702	0.91121	910
4.4745	4.912	0.91094	425
3.7852	4.1564	0.91069	786
4.5327	4.9793	0.91029	218
5.7838	6.354	0.91026	1395
2.6798	2.9441	0.91022	1474
5.1996	5.7198	0.90905	1944
7.0251	7.7378	0.90788	1351
10.481	11.545	0.90787	380
4.1455	4.5681	0.90747	1712
5.435	5.9904	0.90729	776
3.23	3.5641	0.90627	393

8.4784	9.3713	0.90472	415
5.4467	6.0241	0.90415	1285
4.8293	5.3426	0.90393	890
5.8643	6.4925	0.90325	438
5.2919	5.8619	0.90276	1761
6.7252	7.4519	0.90248	1702
7.5314	8.3509	0.90187	880
3.1822	3.5286	0.90182	1400
3.9026	4.3287	0.90156	1812
2.5749	2.859	0.90063	1424
4.9912	5.5441	0.90028	28
5.5676	6.1854	0.90011	977
11.025	12.252	0.89983	208
3.481	3.8686	0.8998	908
2.3939	2.6606	0.89975	118
5.434	6.0402	0.89963	391
5.5384	6.158	0.89937	1465
2.9919	3.3267	0.89936	1727
3.1299	3.4815	0.89899	780
2.7583	3.0685	0.89889	1418
7.6024	8.4597	0.89866	352
9.4041	10.466	0.89853	829
3.847	4.2874	0.89729	1650
6.8263	7.6136	0.89659	1354
7.8731	8.7846	0.89624	137
3.2593	3.6412	0.89511	552
5.1803	5.7904	0.89463	1186
5.116	5.7199	0.89443	1286
3.6318	4.063	0.89387	1303
7.6686	8.5833	0.89343	881
11.987	13.419	0.89328	132
4.0121	4.4928	0.89301	34
5.0609	5.6673	0.893	1968
6.0413	6.77	0.89236	179
4.0367	4.5277	0.89155	911
2.5107	2.8167	0.89135	856
3.2393	3.6358	0.89094	378
3.6326	4.078	0.89078	504
8.8449	9.9386	0.88995	496
4.8552	5.4603	0.88918	1854
6.4418	7.2517	0.88831	1759
6.9907	7.8701	0.88826	774
4.156	4.6815	0.88776	891
3.1121	3.5061	0.88762	854
4.0796	4.5969	0.88748	353
5.2278	5.8934	0.88705	840

6.7813	7.6487	0.8866	1355
3.7498	4.2315	0.88616	857
3.9797	4.491	0.88616	1715
3.736	4.219	0.88552	1921
6.0162	6.7957	0.88529	1522
5.2666	5.9517	0.88489	1289
3.0608	3.4597	0.8847	1295
2.3955	2.7077	0.88469	375
4.949	5.5951	0.88452	1647
2.6011	2.9408	0.88449	916
10.513	11.888	0.88436	412
2.3927	2.7059	0.88427	1302
2.5589	2.8944	0.88408	145
5.1157	5.789	0.88369	1466
2.5001	2.831	0.88311	1376
2.3525	2.6668	0.88214	964
2.3913	2.7114	0.88192	785
4.772	5.4113	0.88186	1187
7.1157	8.0724	0.88149	383
4.697	5.33	0.88125	2002
6.8788	7.8167	0.88001	422
4.5933	5.2199	0.87996	142
9.1278	10.377	0.87963	832
5.7671	6.5655	0.87839	1851
3.8735	4.4131	0.87773	1419
5.5217	6.2923	0.87753	501
7.7715	8.8565	0.87749	974
3.0136	3.4356	0.87717	442
6.3206	7.2066	0.87705	1760
4.9589	5.6592	0.87626	1362
6.7209	7.6706	0.87619	667
5.0376	5.7507	0.876	1713
3.863	4.41	0.87597	1950
5.8421	6.6756	0.87514	1523
3.1514	3.6058	0.87399	825
3.4791	3.9833	0.87343	984
6.6197	7.5861	0.87261	837
2.3188	2.658	0.87239	476
3.6153	4.145	0.8722	1377
8.3371	9.5629	0.87182	1352
7.4288	8.532	0.87071	1045
3.8562	4.4316	0.87018	779
2.6218	3.0138	0.86993	482
4.5352	5.2147	0.8697	1648
4.8979	5.6326	0.86956	1290
4.4215	5.0922	0.86827	119

5.519	6.3594	0.86785	441
5.567	6.4183	0.86737	1852
2.0705	2.3876	0.86719	960
2.5511	2.942	0.86713	1421
6.747	7.7864	0.86651	777
6.2413	7.2032	0.86646	1185
3.8332	4.4316	0.86498	29
2.3868	2.7596	0.8649	1485
4.5634	5.2766	0.86483	2005
7.1458	8.2672	0.86436	384
6.9919	8.0913	0.86413	1521
4.7764	5.5275	0.86411	1651
2.5383	2.9389	0.86369	432
5.6242	6.514	0.8634	1855
3.5767	4.1462	0.86263	1924
4.6414	5.3838	0.86211	1258
5.652	6.5562	0.86208	1594
5.0886	5.9041	0.86187	394
3.9978	4.6431	0.86102	388
5.5531	6.4597	0.85965	180
6.3592	7.3976	0.85963	738
4.6604	5.4233	0.85934	1714
7.0843	8.2443	0.85929	1116
10.412	12.122	0.85898	120
6.2899	7.3301	0.85809	1287
4.4325	5.1659	0.85804	2043
5.4165	6.3171	0.85743	2003
9.6942	11.315	0.85677	2
11.01	12.851	0.85675	39
3.185	3.7176	0.85673	912
2.3363	2.7282	0.85637	1422
2.5378	2.964	0.85619	1794
4.5939	5.368	0.85579	1922
2.1455	2.5077	0.85557	1796
5.4115	6.3271	0.85529	1893
6.5136	7.6247	0.85427	838
2.0626	2.4144	0.85427	1726
5.074	5.9404	0.85415	909
1.9776	2.3161	0.85382	824
6.7098	7.8619	0.85347	1591
2.8634	3.3555	0.85336	1299
3.493	4.0946	0.85307	2024
4.7615	5.5837	0.85276	1365
4.4381	5.2083	0.85212	1689
6.4016	7.5135	0.85202	841
5.9638	7.0044	0.85144	1255

9.18	10.788	0.85098	382
2.1625	2.544	0.85004	1306
4.1111	4.8381	0.84974	376
2.2929	2.699	0.84954	1379
5.4013	6.3602	0.84924	1856
4.7052	5.5493	0.8479	855
6.8117	8.0342	0.84784	1524
3.8104	4.4967	0.84738	847
2.1867	2.5811	0.8472	1728
5.6286	6.6504	0.84636	1051
1.9274	2.2775	0.84624	377
4.4103	5.2123	0.84613	1534
2.3455	2.7727	0.84592	486
5.2257	6.1848	0.84493	505
6.021	7.127	0.84481	1363
4.5566	5.3976	0.84419	1766
8.859	10.496	0.844	178
7.0982	8.4135	0.84367	1117
6.011	7.127	0.84342	1188
2.6607	3.1558	0.84311	1018
4.328	5.1345	0.84293	1652
5.1793	6.1454	0.84278	2004
2.0315	2.4106	0.84272	1304
6.4592	7.6687	0.84228	1853
2.8236	3.3525	0.84222	1723
4.9233	5.8463	0.84213	502
3.0874	3.6677	0.84177	1420
9.2063	10.939	0.84163	611
2.303	2.7373	0.84134	1772
2.816	3.3481	0.8411	858
2.0228	2.4059	0.84077	480
5.3898	6.4143	0.84027	1531
4.6122	5.4935	0.83958	673
4.0955	4.8798	0.83928	214
7.6116	9.0704	0.83917	27
4.272	5.0913	0.83908	1861
4.2745	5.0949	0.83897	146
5.258	6.2746	0.83797	1896
6.5441	7.8105	0.83785	1595
6.6512	7.9421	0.83746	1592
8.4904	10.151	0.83638	1115
5.0269	6.0114	0.83623	1817
6.1712	7.3826	0.8359	739
5.6504	6.7608	0.83577	1649
3.5157	4.2089	0.83531	143
9.003	10.787	0.83464	317

4.8731	5.8415	0.83422	985
4.1532	4.9821	0.83363	1923
4.0046	4.8041	0.83357	1984
3.2201	3.8633	0.83352	987
1.9295	2.3158	0.83316	1956
6.2375	7.4886	0.83293	1894
3.2094	3.8536	0.83282	1198
5.0611	6.0807	0.83233	2016
2.1182	2.5464	0.83187	1426
4.4115	5.3087	0.831	1195
4.8577	5.8466	0.83086	1981
3.58	4.313	0.83005	782
5.7566	6.9379	0.82972	1259
2.0767	2.5041	0.82932	379
8.8615	10.701	0.82813	385
2.7647	3.3396	0.82785	1378
1.8899	2.2832	0.82774	1729
8.06	9.7396	0.82755	737
3.9076	4.7219	0.82755	2036
6.2373	7.5383	0.82741	842
5.7003	6.8927	0.82701	1256
4.2497	5.1387	0.82701	1692
7.0676	8.5492	0.82669	570
5.364	6.4967	0.82566	1052
4.0252	4.8764	0.82543	433
4.0545	4.9233	0.82354	1613
5.4518	6.6222	0.82327	1690
2.0931	2.5434	0.82295	781
3.1424	3.8185	0.82292	1657
5.2363	6.3645	0.82273	1535
5.9483	7.231	0.82262	121
2.2547	2.7423	0.82218	850
8.0003	9.7335	0.82194	839
3.1295	3.809	0.82161	1472
6.6235	8.0647	0.82129	1050
2.1297	2.5943	0.82092	1296
2.3045	2.8106	0.81993	163
5.7864	7.0573	0.81992	1364
2.3283	2.8407	0.81963	914
8.2723	10.093	0.81957	1118
4.0959	4.9989	0.81937	1935
4.1291	5.0393	0.81936	1864
5.1067	6.2329	0.8193	1532
2.3844	2.9129	0.81855	1021
6.4539	7.8845	0.81855	1596
3.4417	4.2053	0.81843	1297

6.0585	7.4087	0.81776	1486
5.041	6.1645	0.81775	1862
1.8209	2.2299	0.81662	1345
3.9276	4.8097	0.81661	1900
6.7246	8.2357	0.81652	617
1.7595	2.1557	0.81621	827
2.1205	2.5991	0.81583	826
7.713	9.4611	0.81523	1593
1.8538	2.2758	0.81459	1722
2.6552	3.2599	0.81451	167
4.7084	5.7814	0.8144	1818
4.7241	5.8023	0.81417	1985
2.2704	2.789	0.81408	1372
5.199	6.3867	0.81404	1128
4.0178	4.9375	0.81374	2007
6.1018	7.5	0.81357	1895
3.466	4.2605	0.81351	1061
5.7663	7.0925	0.813	1816
6.3489	7.8205	0.81183	1125
2.262	2.7867	0.81171	435
5.304	6.5384	0.81121	387
2.9104	3.5882	0.81111	1903
3.5666	4.3993	0.81072	851
6.1295	7.5638	0.81037	276
4.5834	5.6602	0.80977	2037
4.5377	5.6092	0.80898	1982
3.782	4.6755	0.80891	2039
5.8512	7.2356	0.80867	1557
4.9755	6.1529	0.80863	1601
1.8014	2.2311	0.8074	1298
3.3811	4.196	0.80579	1541
4.2232	5.2439	0.80535	1199
8.3412	10.359	0.80518	181
5.5772	6.9301	0.80477	1047
5.5959	6.9557	0.80451	1872
4.6164	5.7394	0.80433	1875
3.7033	4.6056	0.80409	2047
2.8743	3.5753	0.80393	2017
7.7642	9.6632	0.80348	740
5.6639	7.051	0.80328	672
4.0109	4.9979	0.80253	674
6.4261	8.0104	0.80222	1053
3.4443	4.2964	0.80166	1373
5.3331	6.6634	0.80037	1525
4.4639	5.582	0.79968	2009
4.3159	5.3983	0.79949	1528

4.0716	5.0956	0.79905	1658
2.2788	2.8531	0.7987	897
5.4413	6.8162	0.7983	1260
7.0943	8.8869	0.79828	1257
6.0764	7.6146	0.798	1533
4.9265	6.1777	0.79746	1536
7.1537	8.9728	0.79726	503
5.0487	6.3358	0.79685	1150
5.7966	7.2768	0.79658	323
5.6005	7.0455	0.79491	1819
4.1794	5.2601	0.79454	1857
3.8324	4.8273	0.7939	1196
6.1687	7.7719	0.79372	1129
8.9857	11.322	0.79363	248
3.7683	4.7534	0.79275	1904
4.7248	5.9606	0.79267	1863
2.9697	3.7475	0.79243	1660
5.1039	6.4433	0.79212	1691
2.8997	3.6621	0.79181	389
2.3232	2.9343	0.79173	1544
5.3638	6.7794	0.79119	1983
4.7843	6.0471	0.79117	1612
5.4197	6.8526	0.79089	747
4.5089	5.7065	0.79014	506
5.8676	7.4267	0.79007	1602
8.2113	10.395	0.7899	616
2.2203	2.8128	0.78937	356
6.6556	8.4376	0.7888	618
4.3842	5.5607	0.78843	1986
4.8097	6.1033	0.78804	1604
4.5948	5.8316	0.78791	1492
3.6708	4.6603	0.78767	2018
7.0195	8.9138	0.78748	30
5.4424	6.9128	0.78729	1876
7.3604	9.3495	0.78725	1080
2.3909	3.0388	0.78682	187
3.9504	5.023	0.78646	750
2.9261	3.7245	0.78564	1926
4.8905	6.2263	0.78545	1221
2.3292	2.9687	0.78459	1866
6.2081	7.9128	0.78456	1126
4.2477	5.4154	0.78437	2038
4.4437	5.6677	0.78404	1826
5.2329	6.6744	0.78403	2010
4.6315	5.9077	0.78398	1898
6.8884	8.7869	0.78394	1556

3.4619	4.4196	0.78331	1614
2.2397	2.861	0.78285	787
2.8235	3.61	0.78214	848
4.3109	5.5127	0.78199	575
5.1738	6.6188	0.78168	1529
1.7321	2.2165	0.78146	1955
7.0789	9.0604	0.7813	569
4.1582	5.3239	0.78104	986
5.629	7.2082	0.78092	1558
4.6645	5.9739	0.7808	1668
4.3209	5.538	0.78023	2012
3.7958	4.8672	0.77988	1265
2.7001	3.4631	0.77967	550
5.9939	7.6993	0.77849	144
4.976	6.393	0.77835	1858
1.6737	2.1513	0.77797	1725
6.6115	8.499	0.77791	1046
3.5317	4.5403	0.77786	1829
4.4938	5.7779	0.77775	669
3.2153	4.1348	0.77762	1545
5.3486	6.8813	0.77727	1873
3.3658	4.3304	0.77725	1901
4.1973	5.4037	0.77674	2044
4.1102	5.2969	0.77597	1060
2.7263	3.5139	0.77587	2020
5.4049	6.981	0.77423	675
3.4591	4.4702	0.7738	1991
6.7177	8.6823	0.77372	613
5.2891	6.8372	0.77358	1048
4.0314	5.214	0.77318	1860
4.2948	5.5574	0.77281	1189
3.1553	4.0849	0.77242	1867
3.4623	4.4888	0.77133	1671
2.7049	3.5081	0.77104	2045
6.3255	8.2062	0.77082	1119
7.9676	10.342	0.77043	619
1.886	2.4491	0.77008	1300
5.0268	6.5297	0.76984	1526
4.222	5.4846	0.76979	627
5.0715	6.5893	0.76965	1197
3.9229	5.0974	0.7696	2006
1.9405	2.5245	0.76868	1724
2.0523	2.6731	0.76777	1375
7.3819	9.615	0.76775	1127
3.3742	4.4018	0.76655	1928
4.9273	6.4299	0.76631	390

2.2428	2.9281	0.76596	1454
1.7823	2.3269	0.76595	517
6.6911	8.7413	0.76546	1559
5.1234	6.6947	0.76529	1122
4.0489	5.292	0.7651	1135
4.3008	5.6262	0.76442	1830
4.5771	5.9882	0.76435	1615
5.1895	6.7921	0.76405	751
2.0859	2.7321	0.76346	1771
5.6013	7.3377	0.76335	1025
6.3183	8.28	0.76308	1874
4.8968	6.4247	0.76218	1597
5.99	7.8602	0.76206	1130
4.1785	5.4862	0.76164	1992
4.3796	5.7572	0.76072	1902
4.5392	5.9673	0.76068	849
5.3233	6.999	0.76057	1491
4.911	6.4582	0.76043	1266
8.6313	11.352	0.76034	92
3.0354	3.996	0.75961	1192
2.7182	3.58	0.75929	1062
5.6486	7.4399	0.75922	1603
3.6022	4.7534	0.75781	1200
6.4043	8.4517	0.75775	1049
3.0553	4.0347	0.75726	147
7.5937	10.031	0.75699	322
5.4156	7.1578	0.75659	1086
5.1685	6.8356	0.75611	1877
4.4761	5.9217	0.75587	1672
6.0407	7.9962	0.75544	1527
2.9806	3.9496	0.75465	1653
5.1747	6.8606	0.75427	1566
4.9473	6.5641	0.75369	2011
1.4052	1.8651	0.75344	61
2.6884	3.5682	0.75343	1542
3.4824	4.6245	0.75304	1659
4.3035	5.7155	0.75294	1929
6.5269	8.6722	0.75262	702
6.1372	8.1636	0.75177	1123
3.3253	4.4266	0.75122	1994
4.1734	5.5603	0.75057	1493
2.1757	2.8993	0.75041	1869
6.0117	8.0165	0.74991	1220
5.8261	7.77	0.74982	1598
3.2695	4.3677	0.74857	2041
4.0319	5.3913	0.74785	1827

9.137	12.221	0.74762	247
2.7895	3.7316	0.74752	1138
3.4358	4.5974	0.74735	1156
2.937	3.9301	0.74732	434
5.0968	6.8204	0.74729	572
3.5886	4.8035	0.74708	1268
2.1915	2.9359	0.74644	2008
4.8385	6.4822	0.74642	1530
8.2957	11.121	0.74594	612
1.589	2.1319	0.74534	999
4.8725	6.5394	0.7451	1054
4.0974	5.5025	0.74465	1193
3.1774	4.2674	0.74457	1905
3.3498	4.5013	0.74419	1622
4.6357	6.2296	0.74413	1859
4.1168	5.5356	0.7437	1569
3.8921	5.2342	0.74359	1063
3.481	4.6816	0.74354	1694
5.3895	7.2508	0.7433	324
2.7561	3.7083	0.74321	1606
4.5075	6.0739	0.74212	1488
3.9502	5.3247	0.74187	1654
3.99	5.381	0.7415	1882
3.113	4.1988	0.7414	2019
3.7504	5.0651	0.74044	1543
2.8467	3.8453	0.74031	112
4.3573	5.8861	0.74027	1820
4.7242	6.3819	0.74024	1600
4.9631	6.7069	0.74	748
6.073	8.2076	0.73993	275
5.1431	6.9565	0.73933	1494
4.5457	6.1562	0.73839	1897
4.924	6.6748	0.73769	1828
5.5839	7.5712	0.73752	668
2.7787	3.7704	0.73696	355
3.2015	4.3464	0.73658	1931
6.6426	9.0312	0.73552	614
3.8515	5.237	0.73545	1139
1.7359	2.3608	0.73533	683
5.0089	6.8219	0.73424	1570
3.1402	4.2771	0.73417	2025
6.1717	8.4086	0.73398	1120
2.0216	2.7571	0.73325	791
3.7257	5.0823	0.73307	1607
4.3586	5.9459	0.73305	1222
4.816	6.5712	0.7329	1883

1.8028	2.4619	0.73229	1205
5.7254	7.819	0.73224	319
2.0581	2.8133	0.73157	1308
3.7705	5.1552	0.7314	1057
4.1415	5.6666	0.73087	1669
1.9083	2.6119	0.73064	1807
5.3347	7.3031	0.73047	741
2.942	4.0283	0.73032	124
5.6758	7.7796	0.72957	253
3.6655	5.0245	0.72951	1537
6.9485	9.5295	0.72916	591
6.4702	8.8859	0.72814	1085
5.2396	7.2001	0.72771	626
2.8703	3.9445	0.72767	395
7.2481	9.9659	0.72729	325
6.5562	9.0304	0.72601	749
8.0365	11.076	0.7256	615
3.4127	4.7053	0.72529	1823
7.4108	10.224	0.72485	1121
3.3455	4.6216	0.72389	1987
4.6998	6.4997	0.72308	1058
3.8661	5.3476	0.72295	1831
5.7526	7.9626	0.72246	1223
4.5233	6.2644	0.72206	1538
3.7578	5.2067	0.72173	1993
5.3806	7.4576	0.72149	1670
2.5367	3.5229	0.72008	954
2.8004	3.8903	0.71982	1656
1.9335	2.687	0.71958	519
4.2093	5.8502	0.71951	1824
4.089	5.6895	0.71868	1988
2.5047	3.486	0.71852	852
3.8365	5.3414	0.71826	1885
2.7617	3.8458	0.71811	581
2.7687	3.8563	0.71797	1925
2.4914	3.4711	0.71774	1374
3.7377	5.2106	0.71734	2014
6.6061	9.2186	0.71661	233
2.7306	3.8126	0.71621	1070
6.1393	8.5738	0.71605	571
3.8207	5.3496	0.71421	670
3.1772	4.4509	0.71384	1626
5.5381	7.7593	0.71374	1024
5.2533	7.3647	0.7133	1487
3.1178	4.3734	0.71289	1911
3.6541	5.1264	0.71282	1190

2.2479	3.1535	0.71282	1625
6.2573	8.7815	0.71255	250
5.872	8.245	0.71219	620
5.0783	7.1312	0.71212	1087
2.491	3.4986	0.71201	1546
2.2599	3.1743	0.71194	1910
4.8236	6.7779	0.71167	1567
2.4835	3.4956	0.71047	1868
5.9415	8.3651	0.71026	1124
5.3498	7.5336	0.71012	1082
5.5878	7.8705	0.70996	1599
5.1043	7.1908	0.70984	1560
2.5224	3.5645	0.70766	1502
3.779	5.3426	0.70734	744
2.5137	3.5554	0.70702	1836
6.2521	8.8467	0.70672	1088
5.8857	8.3286	0.70669	1568
3.6343	5.1432	0.70663	1261
4.3222	6.1177	0.7065	647
4.1091	5.8182	0.70625	1155
5.3076	7.516	0.70618	671
2.5759	3.6483	0.70604	1609
4.9661	7.0346	0.70595	1191
2.5621	3.6336	0.70513	1899
3.5061	4.9838	0.70349	1540
3.4274	4.8743	0.70316	1865
4.6671	6.6433	0.70253	752
4.3843	6.2418	0.70241	1267
1.4635	2.0844	0.70211	521
4.0448	5.7636	0.70179	1230
4.8082	6.8513	0.70178	1262
4.2271	6.0235	0.70176	708
5.091	7.2546	0.70176	745
3.2074	4.5844	0.69962	1990
3.1572	4.5133	0.69954	2040
3.4764	4.9778	0.69838	628
3.3504	4.7983	0.69824	1136
3.7606	5.3934	0.69726	1930
3.9113	5.6121	0.69694	1673
2.0742	2.978	0.69652	1452
4.4435	6.387	0.6957	1055
4.67	6.7159	0.69536	573
4.6623	6.7077	0.69507	1137
4.9633	7.1459	0.69457	629
2.4046	3.4647	0.69402	8
5.5586	8.0216	0.69295	1056

3.9139	5.6485	0.69292	1821
4.3546	6.2869	0.69265	1131
4.0511	5.8504	0.69244	1489
5.9091	8.5345	0.69238	574
2.3855	3.4456	0.69233	41
4.5496	6.5729	0.69218	623
1.6691	2.4127	0.69178	188
4.8432	7.003	0.6916	1822
5.0649	7.3295	0.69103	1490
7.6598	11.09	0.69071	318
5.3684	7.7727	0.69067	1132
3.8795	5.6196	0.69034	1878
5.6648	8.2093	0.69005	624
4.0023	5.8024	0.68978	1563
4.7373	6.8703	0.68953	1879
8.8278	12.803	0.6895	91
4.9316	7.1585	0.68892	1564
4.4331	6.4502	0.68728	1884
4.6263	6.7395	0.68645	1571
2.218	3.2477	0.68294	958
3.6036	5.2907	0.68112	676
7.9291	11.642	0.68105	249
6.4484	9.4709	0.68087	1081
3.7447	5.509	0.67975	278
2.5388	3.7349	0.67975	1552
8.8497	13.021	0.67965	69
6.9539	10.232	0.67961	590
2.5505	3.7588	0.67854	1074
1.6691	2.4627	0.67777	1663
3.1971	4.7185	0.67756	1616
3.2726	4.8413	0.67597	1152
2.4525	3.6288	0.67585	789
2.1223	3.1408	0.67571	2022
2.5718	3.8074	0.67547	860
2.3633	3.5027	0.67469	1997
3.3045	4.8984	0.67461	1655
1.5956	2.3659	0.6744	1209
3.7315	5.5343	0.67424	1624
2.1006	3.1182	0.67365	1913
3.857	5.7312	0.67299	1495
2.3602	3.5072	0.67297	1840
3.7073	5.5109	0.67273	1679
3.4103	5.0699	0.67266	1194
3.3199	4.936	0.67258	1693
3.8789	5.77	0.67225	1158
2.5941	3.8605	0.67195	399

1.7989	2.6782	0.67171	190
3.9781	5.9241	0.67151	1027
2.1159	3.1528	0.67112	682
2.4599	3.6663	0.67094	358
3.8376	5.7205	0.67086	1234
3.4162	5.0937	0.67067	1264
4.0697	6.0818	0.66917	1539
2.2848	3.415	0.66904	757
3.6384	5.4444	0.66829	1989
4.0194	6.0154	0.66819	1605
3.316	4.9642	0.66799	580
3.6261	5.4324	0.66749	2013
4.2362	6.3484	0.66729	1059
1.1907	1.7848	0.66713	229
2.0679	3.1009	0.66685	281
3.3319	4.9979	0.66666	636
3.7412	5.6131	0.66651	1825
4.1662	6.2517	0.66641	1134
2.6163	3.9286	0.66595	1623
3.7201	5.5873	0.66581	1881
1.8561	2.7884	0.66565	1455
2.6936	4.0481	0.66539	1678
2.2676	3.4083	0.66533	333
3.4376	5.1682	0.66513	235
2.9256	4.4031	0.66443	1501
1.3588	2.0461	0.66409	511
3.4409	5.1818	0.66404	259
2.9726	4.4771	0.66394	1576
2.6398	3.985	0.66245	1157
6.5325	9.8621	0.66238	743
2.7225	4.1102	0.66237	1233
1.6467	2.4874	0.662	1551
2.9804	4.5064	0.66137	1030
3.0267	4.5773	0.66124	1096
5.8368	8.8334	0.66077	1562
6.9795	10.577	0.65986	622
7.283	11.043	0.65951	321
5.3189	8.0729	0.65886	707
6.2182	9.4402	0.65869	1084
3.0327	4.6051	0.65855	1608
7.6332	11.608	0.65755	252
1.5807	2.4043	0.65746	1073
4.8169	7.3302	0.65713	742
4.7217	7.1923	0.65649	1561
5.5856	8.517	0.65581	621
5.8046	8.8572	0.65535	297

3.1066	4.7424	0.65506	1140
4.9791	7.6155	0.65382	1083
4.0692	6.2239	0.6538	123
5.2555	8.0471	0.65309	320
6.04	9.2517	0.65285	251
1.5941	2.4427	0.65262	1996
3.6053	5.5379	0.65102	1833
3.2921	5.0736	0.64887	1202
3.6976	5.7016	0.64852	1499
2.9679	4.578	0.6483	1907
1.5341	2.3721	0.64673	1839
1.3001	2.0104	0.64668	925
3.3855	5.2474	0.64519	680
4.5448	7.0483	0.64481	23
3.0169	4.6788	0.64481	1620
1.2281	1.9049	0.64471	1433
2.8087	4.3773	0.64166	1832
4.581	7.1591	0.63989	1089
4.6925	7.3485	0.63857	1026
2.8398	4.4506	0.63807	1498
4.7987	7.5378	0.63662	593
4.9467	7.7907	0.63495	562
3.8965	6.1411	0.6345	1224
2.5428	4.0086	0.63433	1064
4.3226	6.8188	0.63393	1880
2.7614	4.3562	0.63389	1888
3.0462	4.8091	0.63342	1146
4.5979	7.2664	0.63277	326
3.9471	6.2434	0.6322	1151
2.23	3.5294	0.63184	1201
5.0019	7.917	0.63179	1133
2.4968	3.9542	0.63142	1933
2.7001	4.2773	0.63126	1838
3.002	4.7589	0.63082	1072
4.6956	7.4504	0.63025	1232
4.7721	7.5721	0.63022	277
4.5145	7.1634	0.63021	1565
4.072	6.466	0.62976	704
2.0758	3.2966	0.62969	1906
2.7924	4.4379	0.62922	1580
2.5566	4.0654	0.62887	577
3.1137	4.9553	0.62836	640
2.4087	3.8356	0.62797	1912
1.345	2.1425	0.62776	1475
5.3266	8.4863	0.62766	625
4.9354	7.8657	0.62746	94

1.2588	2.0082	0.62684	1814
4.1527	6.6262	0.62672	646
2.5052	4.0029	0.62585	1681
2.7282	4.3595	0.62581	1504
2.5608	4.0944	0.62543	474
2.2117	3.5374	0.62523	679
5.0229	8.0354	0.62509	710
3.0723	4.9166	0.62487	583
5.2025	8.3372	0.624	77
2.0353	3.2633	0.62371	956
4.219	6.7663	0.62353	1263
2.0472	3.285	0.62319	1619
2.4091	3.8775	0.62129	1627
4.227	6.821	0.61969	1573
1.5493	2.5009	0.6195	1871
4.4981	7.2886	0.61715	746
4.2961	6.9628	0.61701	1497
2.6436	4.285	0.61695	1995
1.5128	2.4536	0.61655	2042
2.0679	3.3563	0.61611	1271
1.3335	2.1657	0.61574	923
4.3927	7.1353	0.61562	1093
3.6434	5.9199	0.61544	1095
1.2598	2.0563	0.61264	859
4.4853	7.3233	0.61247	1029
2.6607	4.3472	0.61206	1835
1.4761	2.4118	0.61204	447
4.3748	7.1496	0.6119	258
1.4809	2.4242	0.61089	1554
0.99606	1.6308	0.61076	1307
3.3016	5.4062	0.61071	1231
1.2122	1.9865	0.6102	995
3.8085	6.2606	0.60833	596
3.5571	5.8494	0.60811	1675
1.4513	2.3869	0.608	1999
1.9841	3.2638	0.60791	1145
1.8692	3.0751	0.60786	1887
1.893	3.1151	0.6077	1207
2.0257	3.3443	0.60572	761
3.2977	5.4531	0.60473	1572
0.88719	1.4675	0.60454	65
4.0961	6.7787	0.60426	754
5.8969	9.7612	0.60411	592
4.733	7.8395	0.60374	71
3.5666	5.9106	0.60343	1618
3.6784	6.1107	0.60196	1228

3.4297	5.6979	0.60193	709
2.3586	3.9241	0.60107	1548
3.3897	5.6414	0.60087	397
3.2823	5.4702	0.60004	1496
3.3789	5.6418	0.59889	1092
4.1801	6.9799	0.59888	678
1.8281	3.0529	0.59882	1071
1.7304	2.89	0.59873	1837
6.3958	10.683	0.59871	240
1.8227	3.0448	0.59862	1579
1.9399	3.2439	0.59801	639
4.3217	7.2352	0.59731	330
3.7033	6.2108	0.59627	1154
1.9467	3.2663	0.596	2021
1.82	3.0663	0.59354	685
2.0651	3.4794	0.59351	1661
3.3701	5.6803	0.5933	1028
2.3544	3.9692	0.59317	1068
4.4532	7.5386	0.59072	280
1.3678	2.318	0.59007	1473
1.0721	1.8229	0.58811	9
1.91	3.2536	0.58705	1909
1.6662	2.8402	0.58664	1503
5.2001	8.8682	0.58638	703
3.6087	6.1561	0.5862	126
3.2948	5.6219	0.58607	1578
1.7603	3.0054	0.58571	582
5.2786	9.0283	0.58467	1091
3.1356	5.3648	0.58448	630
2.0327	3.483	0.5836	1204
0.93835	1.6104	0.58268	1730
3.0696	5.2714	0.58232	1886
1.2569	2.1608	0.58169	1023
2.495	4.2941	0.58103	1674
1.8459	3.1812	0.58025	1511
1.1497	1.9819	0.58009	184
3.0123	5.1948	0.57987	332
3.8358	6.615	0.57987	638
1.1072	1.911	0.57938	398
6.9485	11.995	0.57929	93
5.6379	9.7443	0.57859	595
5.7083	9.8813	0.57769	296
1.5291	2.6473	0.57759	989
2.9717	5.1467	0.5774	1680
3.3996	5.8891	0.57727	1098
3.0365	5.2723	0.57595	1834

3.0944	5.3768	0.5755	576
3.125	5.4302	0.57548	1575
2.7842	4.8406	0.57516	753
3.2271	5.6141	0.57481	255
1.3801	2.4026	0.57441	559
1.7554	3.061	0.57346	2015
2.3928	4.1923	0.57075	1617
2.5045	4.3903	0.57046	1227
4.056	7.1193	0.56973	261
8.2468	14.488	0.56923	15
1.7973	3.1609	0.56862	1036
1.8405	3.2371	0.56857	1611
3.094	5.4462	0.56809	1500
0.91506	1.6109	0.56805	1429
3.0426	5.3714	0.56645	1235
3.1929	5.6646	0.56365	234
2.6932	4.7811	0.56331	677
2.8348	5.0356	0.56294	329
1.7035	3.0323	0.56177	1890
4.0395	7.1962	0.56134	1090
4.5511	8.1077	0.56133	1226
1.6186	2.8874	0.56056	1998
3.1643	5.6527	0.55978	97
2.3914	4.289	0.55756	1153
1.1622	2.0882	0.55656	1380
2.4672	4.4384	0.55589	1159
1.0897	1.9612	0.55562	927
2.8553	5.1406	0.55545	1142
1.7868	3.2179	0.55526	1148
1.4293	2.5782	0.55438	1547
1.6857	3.0422	0.55408	1553
0.9656	1.7455	0.5532	788
5.7456	10.397	0.55264	328
4.2439	7.683	0.55238	594
1.0135	1.8366	0.55183	515
4.8813	8.8498	0.55157	706
2.307	4.1861	0.55111	1932
0.98789	1.7932	0.5509	917
0.84774	1.5457	0.54845	790
1.7338	3.1637	0.54803	1847
2.7377	4.9984	0.54771	279
1.5502	2.8417	0.54553	1841
2.9054	5.3392	0.54417	634
2.7875	5.1273	0.54366	1066
2.4738	4.5519	0.54346	649
2.1209	3.9031	0.5434	1577

1.6456	3.0329	0.54258	183
2.5261	4.6588	0.54222	1269
6.4881	11.983	0.54142	96
3.6688	6.7932	0.54008	1574
0.81478	1.5106	0.53938	489
2.2977	4.2642	0.53883	1677
2.1965	4.0837	0.53788	1908
1.3407	2.4981	0.53667	1067
1.61	3.0005	0.53657	1075
0.79867	1.4936	0.53472	1310
1.6801	3.1444	0.53433	1515
2.3489	4.4142	0.53213	637
2.2213	4.1772	0.53177	1105
1.124	2.1138	0.53175	1476
3.8093	7.1825	0.53036	1094
2.8353	5.3504	0.52993	579
2.5657	4.8501	0.52899	759
2.2816	4.321	0.52803	1629
2.5404	4.8117	0.52796	756
2.4154	4.5861	0.52669	1203
2.0876	3.9672	0.52621	1097
4.1675	7.9658	0.52316	254
2.1747	4.1605	0.52269	1621
1.016	1.9474	0.52172	862
1.0993	2.1121	0.52051	450
1.3991	2.6893	0.52026	557
3.0642	5.9155	0.51799	1225
1.345	2.6042	0.51646	1870
2.202	4.2646	0.51635	602
2.2699	4.414	0.51425	1163
2.0903	4.0658	0.51411	1035
0.85641	1.6728	0.51197	1022
2.3404	4.5769	0.51135	260
3.0771	6.0288	0.5104	711
1.9506	3.8228	0.51027	1889
0.65532	1.2843	0.51024	1662
2.417	4.7515	0.50867	681
1.1907	2.3427	0.50825	448
0.82876	1.6318	0.50787	1270
4.52	8.9084	0.50739	70
2.5979	5.1538	0.50408	335
2.0571	4.0833	0.50378	1587
3.718	7.3914	0.50302	327
0.89113	1.7738	0.50238	1309
3.1656	6.3223	0.50071	705
0.83653	1.6765	0.49898	919

1.7402	3.4927	0.49823	1141
1.0181	2.049	0.49689	1978
3.6196	7.2869	0.49672	632
1.2567	2.5339	0.49594	1550
2.1117	4.264	0.49524	1147
3.1668	6.3969	0.49505	299
2.0533	4.1523	0.49449	564
1.3622	2.7631	0.493	396
3.0252	6.1398	0.49273	648
0.93733	1.9036	0.4924	443
1.9028	3.8732	0.49128	1581
1.1523	2.3465	0.49108	993
2.7428	5.5917	0.49051	1676
2.024	4.1548	0.48715	1109
2.7883	5.7286	0.48672	1237
1.6368	3.3695	0.48578	1505
1.9229	3.9739	0.48387	1513
0.62842	1.2997	0.4835	1927
4.0099	8.3143	0.48229	95
1.2296	2.5526	0.48169	991
3.8221	7.9617	0.48006	257
0.88175	1.8433	0.47834	1632
0.89516	1.8716	0.4783	170
0.62177	1.301	0.47791	172
1.6663	3.5053	0.47538	633
1.6794	3.5414	0.47423	223
3.1207	6.5857	0.47386	268
3.1972	6.7494	0.4737	755
2.0727	4.3883	0.47231	641
2.7879	5.903	0.47228	1229
2.8334	6.0198	0.47068	715
1.5484	3.2946	0.46997	1065
1.711	3.6534	0.46833	584
2.7085	5.7924	0.46759	1161
0.74425	1.5953	0.46652	357
1.6122	3.4583	0.46619	1610
1.567	3.3711	0.46484	1032
2.681	5.7837	0.46354	601
1.8721	4.0432	0.46303	1038
0.99911	2.1628	0.46195	1797
0.72885	1.5848	0.45989	921
1.3173	2.8683	0.45926	513
1.5365	3.3473	0.45902	1843
0.79632	1.7373	0.45838	692
1.0835	2.3672	0.4577	1795
0.90774	1.9894	0.4563	1846

1.2697	2.8069	0.45236	150
3.3413	7.3911	0.45207	331
1.3119	2.903	0.45191	1628
0.77913	1.7252	0.45162	1695
2.749	6.1344	0.44813	651
4.1708	9.3103	0.44798	298
0.63177	1.4145	0.44664	760
1.0803	2.4241	0.44566	560
0.69469	1.5629	0.44448	555
1.634	3.6881	0.44304	237
1.533	3.4685	0.44197	1144
0.94375	2.1362	0.44179	553
1.9892	4.5083	0.44123	1099
2.7236	6.1788	0.44079	242
1.5856	3.6076	0.43953	1077
2.4047	5.4793	0.43887	1107
1.4413	3.2856	0.43869	578
0.83598	1.9088	0.43797	1916
1.4642	3.3484	0.43728	1509
1.4268	3.2777	0.4353	1549
1.2038	2.7742	0.43392	861
0.68931	1.6003	0.43074	792
0.72946	1.6979	0.42963	1166
3.5803	8.3759	0.42746	713
4.5633	10.684	0.42711	84
0.86808	2.046	0.42428	2001
0.96598	2.2803	0.42362	1457
1.2335	2.9152	0.42314	1914
1.1306	2.672	0.42311	125
1.2078	2.8607	0.42221	1162
1.3685	3.2472	0.42145	63
1.3345	3.1744	0.42041	509
0.788	1.8776	0.41969	1514
1.1054	2.6342	0.41965	1240
1.8386	4.3877	0.41904	1583
2.17	5.1795	0.41896	262
1.943	4.6483	0.41801	598
2.4047	5.7827	0.41585	604
0.78547	1.8941	0.4147	444
0.48042	1.1596	0.4143	1208
1.5038	3.6364	0.41354	588
1.8251	4.435	0.41151	1031
2.0265	4.9264	0.41135	631
1.088	2.6476	0.41094	1423
1.0873	2.6654	0.40795	1586
0.46695	1.1452	0.40774	1665

0.74996	1.842	0.40715	1216
3.7941	9.3315	0.40659	301
0.49906	1.2301	0.40569	1206
1.6144	4.0009	0.4035	1236
1.3182	3.2708	0.40301	1069
0.88613	2.2062	0.40165	1798
1.9658	4.9631	0.39609	643
1.782	4.503	0.39574	1103
1.1317	2.8791	0.39308	1631
2.1365	5.4612	0.39122	73
0.59531	1.5226	0.39099	287
0.5985	1.5338	0.39021	1273
0.69338	1.7776	0.39007	1636
1.6758	4.3107	0.38876	1507
0.75425	1.9461	0.38756	1849
1.8148	4.7146	0.38492	1143
1.0282	2.6717	0.38483	1684
1.9848	5.1851	0.38279	236
1.7527	4.5881	0.38201	563
1.266	3.3169	0.3817	40
1.027	2.6971	0.38076	1892
1.0596	2.785	0.38047	342
1.4923	3.9225	0.38045	1682
1.2163	3.2046	0.37954	225
1.0405	2.7603	0.37695	963
1.9635	5.2132	0.37664	256
1.5214	4.0921	0.37179	714
0.96191	2.6023	0.36964	1108
0.94309	2.5516	0.36961	718
2.3823	6.4493	0.36938	597
1.911	5.1845	0.3686	266
0.98544	2.693	0.36593	400
0.71817	1.9769	0.36328	35
1.3965	3.8654	0.36129	1160
0.94438	2.618	0.36072	1425
1.7783	4.943	0.35977	586
1.5949	4.4343	0.35966	1034
0.917	2.5572	0.3586	965
0.48053	1.3458	0.35706	1664
0.8608	2.4247	0.35501	1512
1.0874	3.081	0.35293	227
2.126	6.0483	0.35151	1101
1.7305	4.9328	0.35081	635
0.5498	1.5736	0.34939	174
1.3963	3.9973	0.3493	1239
0.8104	2.3208	0.3492	1165

1.9148	5.5229	0.34671	67
0.90719	2.6437	0.34316	1589
0.96872	2.8314	0.34213	768
0.56611	1.6621	0.34061	696
2.3786	7.011	0.33926	241
1.2845	3.794	0.33857	1630
2.8287	8.359	0.33841	72
0.63833	1.8881	0.33809	1456
0.87525	2.6035	0.33618	1244
0.70709	2.1096	0.33517	758
0.95486	2.8564	0.33429	186
0.81172	2.4335	0.33357	1427
0.81483	2.4797	0.32861	1848
1.6888	5.1999	0.32478	239
0.5984	1.8477	0.32387	556
0.67868	2.0973	0.3236	1842
0.52292	1.6184	0.3231	446
2.0862	6.4732	0.32229	600
2.4127	7.5117	0.3212	264
1.2621	3.9576	0.31891	650
1.8647	5.8722	0.31754	712
0.75727	2.3944	0.31627	1634
0.81541	2.5833	0.31565	217
0.83542	2.6947	0.31002	103
0.79673	2.5706	0.30993	966
1.0927	3.5562	0.30728	1106
2.9348	9.6985	0.3026	12
0.65396	2.1642	0.30217	2000
1.6604	5.5212	0.30073	1238
1.0233	3.4077	0.30028	483
0.6983	2.3336	0.29924	1037
1.1527	3.8682	0.298	1164
0.65358	2.2513	0.29032	1272
1.1222	3.8833	0.28897	717
1.0127	3.5181	0.28786	1588
0.67656	2.3525	0.2876	959
2.4143	8.4145	0.28693	75
0.88544	3.1108	0.28463	915
0.82483	2.8987	0.28455	1582
0.65848	2.3705	0.27778	286
1.7665	6.3919	0.27637	300
0.66344	2.4038	0.27599	1516
0.76358	2.7668	0.27598	346
0.57189	2.1061	0.27154	1076
0.78377	2.922	0.26823	1891
0.53486	1.9949	0.26811	1508

0.85858	3.2058	0.26782	485
0.59325	2.2168	0.26761	36
1.0093	3.7819	0.26689	1242
0.58262	2.1926	0.26572	652
0.57052	2.1553	0.26471	149
1.3893	5.2528	0.26449	59
1.5459	5.9072	0.2617	716
0.79828	3.0579	0.26106	1039
0.91785	3.6137	0.25399	603
0.55197	2.1933	0.25166	1555
0.65158	2.6038	0.25024	219
0.5193	2.0759	0.25016	1845
0.75948	3.0701	0.24738	1518
0.61191	2.4879	0.24595	694
0.55135	2.2907	0.24069	1168
0.84897	3.5653	0.23812	1110
0.22685	0.96315	0.23552	684
0.43946	1.8836	0.23332	686
0.66683	2.8703	0.23232	1102
0.72677	3.1323	0.23203	642
1.0035	4.338	0.23132	605
0.93637	4.2288	0.22143	1112
0.24005	1.0889	0.22045	1210
0.63645	2.8997	0.21949	1585
0.68733	3.1447	0.21857	1149
1.0502	4.9061	0.21406	102
0.86567	4.0558	0.21344	302
0.4282	2.0163	0.21237	1212
0.42147	1.9962	0.21114	961
0.56067	2.6795	0.20924	1506
0.63767	3.0499	0.20908	566
0.64653	3.1396	0.20593	487
0.60991	3.0647	0.19901	1043
0.7768	3.9079	0.19878	720
0.53993	2.7255	0.1981	1844
0.90667	4.5799	0.19797	344
0.36758	1.8581	0.19783	334
0.38862	1.9829	0.19599	587
0.41758	2.1544	0.19383	962
0.61313	3.2523	0.18852	336
0.82835	4.5078	0.18376	244
0.38352	2.0923	0.1833	1079
0.73209	4.0284	0.18173	1100
0.77323	4.3674	0.17704	609
0.57574	3.2545	0.17691	764
0.68768	3.9403	0.17452	1584

0.36174	2.0751	0.17432	762
0.51705	3.1342	0.16497	265
0.69561	4.2695	0.16293	565
0.71632	4.4032	0.16268	168
0.65529	4.1554	0.1577	1041
0.49651	3.1493	0.15766	645
0.43925	2.8474	0.15426	477
0.42968	2.7918	0.15391	479
0.96918	6.6807	0.14507	243
0.8782	6.189	0.1419	607
0.30925	2.1903	0.14119	79
0.35581	2.6328	0.13515	1033
0.38432	2.8929	0.13285	585
0.31311	2.3659	0.13234	289
0.35346	2.6885	0.13147	1510
0.37858	2.9351	0.12898	1078
0.49314	4.1881	0.11775	599
0.47308	4.0681	0.11629	1104
0.55411	4.8329	0.11465	263
0.52244	4.6097	0.11333	644
0.59875	5.5803	0.1073	17
0.53217	5.0006	0.10642	105
0.17744	1.6885	0.10509	283
0.19569	1.8658	0.10488	690
0.3325	3.2781	0.10143	11
0.43664	4.3152	0.10119	568
0.45151	4.4702	0.101	232
0.62382	6.7648	0.092215	246
0.68208	7.4744	0.091256	68
0.29437	3.292	0.08942	340
0.28744	3.2951	0.087231	99
0.12917	1.5895	0.081265	1478
0.12472	2.0712	0.060217	221
0.10207	2.0645	0.049443	998
0.13104	2.9936	0.043772	688
0.080753	1.8531	0.043578	1800
0.24481	5.6862	0.043053	338
0.1253	2.9276	0.042801	589
0.20875	4.9146	0.042476	267
0.184	5.248	0.035061	74
0.2198	6.3869	0.034413	98
0.095698	2.8778	0.033254	238
0.094392	2.9422	0.032083	282
0.054257	2.2919	0.023673	1432
0.027503	1.4204	0.019362	38
0.024833	2.5728	0.009652	481

0.020833	4.4445	0.004688	55
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Table 12.1: Performance Assessment based on Sharpe's Ratio

VITA

The author was born in 1987, in Hyderabad, India. He obtained his bachelor's degree from Jawaharlal Nehru Technological University, Hyderabad, India in 2008. He joined the University of New Orleans Electrical Engineering graduate program in 2008 fall to pursue his masters with specialization in Power Systems. He became a research student under the guidance of Dr. Ittiphong Leevongwat and Dr. Parviz Rastgoufard. He graduated from UNO in 2010 fall with a cumulative GPA of 3.5.