भारतीय प्रौद्योगिकी संस्थान गुवाहाटी
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

MA 374: Financial Engineering Lab

Lab 06

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Note: ✍

1. *All plots are put separately in the **/Plots** folder.*
2. *All data (daily, weekly, and monthly) collected are put in **/BSE** and **/NSE** folders.*
3. ***Please run python programs using python3**, i.e.* `python3 <filename>.py`

We first collect historical data from Yahoo Finance for 20 stocks (10 for BSE and 10 for NSE).

BSE Stocks (Stocks in Sensex)	NSE Stocks (Stocks in Nifty)
IndusInd Bank Ltd(L)	Oil & Natural Gas Corporation Ltd(L)
HCL Technologies Ltd(L)	GAIL (India) Ltd(L)
State Bank Of India(L)	Bharat Petroleum Corporation Ltd(L)
ITC Ltd(L)	Indian Oil Corporation Ltd(L)
Infosys Ltd(L)	NTPC Ltd(L)
Bajaj Finserv Ltd(L)	Coal India Ltd(L)
Maruti Suzuki India Ltd(L)	Asian Paints Ltd(L)
Axis Bank Ltd(L)	Power Grid Corporation Of India Ltd(L)
Tata Steel Ltd(L)	Tech Mahindra Ltd(L)
Tata Consultancy Services Ltd(L)	Tata Motors Ltd(L)

We store the data in 6 files, with a naming convention as [d=daily, w=weekly, m=monthly] - <{d,w,m}><{bse,nse}>data1.csv

Eg. wbsedata1.csv represents **weekly BSE data of 10 stocks in the period Jan 1, 2014, to Dec 31, 2018**. The data and plots have been very properly organized.

Question 1.

We first read the adjusted closing prices of all stocks from the CSV files (using pandas), and then draw the plots of prices against time for 3 cases, i.e., daily, weekly, and monthly.

The plots have been drawn from page _**5**_ onwards.

Question 2.

For this question, we first compute returns for stock prices, which are calculated by:

$$R(i) = \frac{S(i)-S(i-1)}{S(i-1)} \; and \; R(0) = 0$$

The normalized returns are then computed by:

$$\hat{R(i)} = \frac{R(i)-\mu}{\sigma}, \mu = sample\,mean, \; \sigma = sample\,SD$$

We now simply plot the histograms and super-impose on them the graph $N(0,1)$. In order to compare these 2 graphs, we scale down the histogram using the parameter, `density=true in plt.hist()` of python.

The plots have been drawn from page _**25**_ onwards.

Observations:

- The first and very obvious observation is the striking similarity in the graph of N(0,1) and the histogram. {This is also slightly obvious because we are observing the Central Limit Theorem, which dictates that the distribution of these normalized returns has to be N(0,1)}
- Near the tails of these plots, the histogram deviates slightly from the N(0,1) plot. We see that while N(0,1) goes to 0 at these points, the stock

does not always go because the practical market scenario is not ideal and is influenced by factors like economic fluctuations, company decisions, etc.

Question 3.

For this question, the process followed is exactly the same as Question 2, except for the computation of the returns, which is now done as:

$$R(i) = \log_e\left(1 + \frac{S(i)-S(i-1)}{S(i-1)}\right) and\, R(0) = 0$$

The plots have been drawn from page **_45_** onwards.

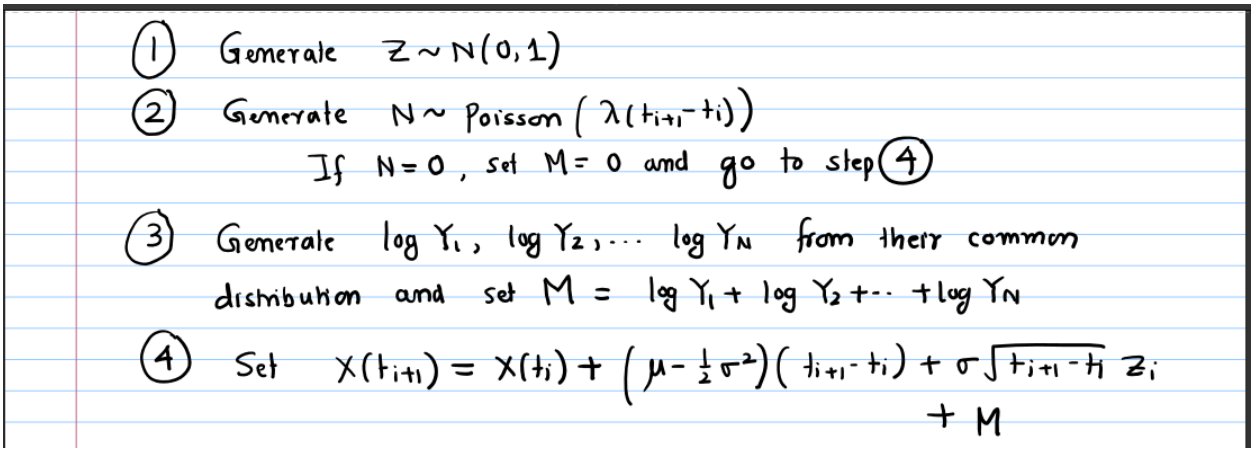
Observations:

- The observations are exactly similar to question 2, but in this case, we see less deviation between the N(0,1) curve and the histograms.

Question 4.

For this question, the jump-diffusion model was used to predict the stock prices for the year 2018 in a daily fashion by calculating μ and σ from the data till 31 Dec 2017.

The basic algorithm has been explained below:



Thereafter $S(t_{i+1})$ is obtained using $S(t_{i+1}) = e^{X(t_{i+1})}$.

The plots have been drawn from page _**65**_ onwards.

Question 5.

The process here is the same as question 4, only we have modified the number of observations since this number depends on the number of time points in our data set which will be different for daily, weekly, and monthly observations.

The plots have been drawn from page _**75**_ onwards.

Extras...

For this lab, we will need to make use of the following packages. The installation instructions are given alongside.

Kindly use pip3 since the code must be run in python 3 as mentioned previously.

```
Numpy - pip3 install numpy
Matplotlib - pip3 install matplotlib
Pandas - pip3 install pandas
```

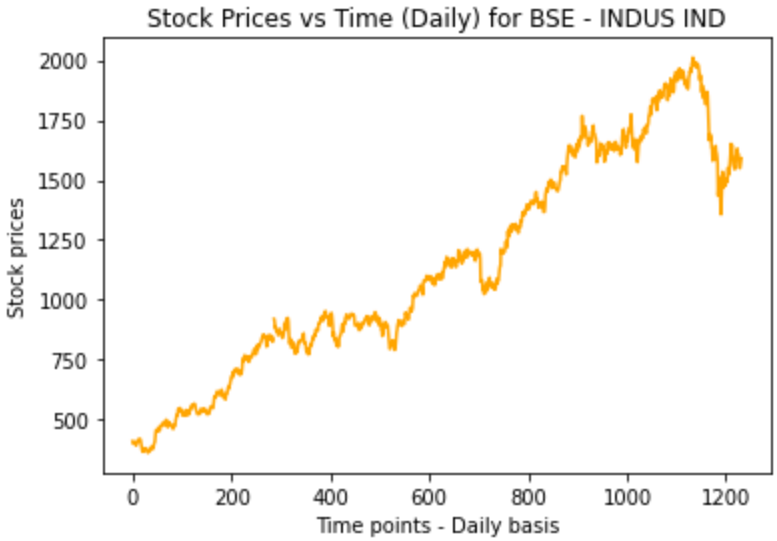
Index for Plots:

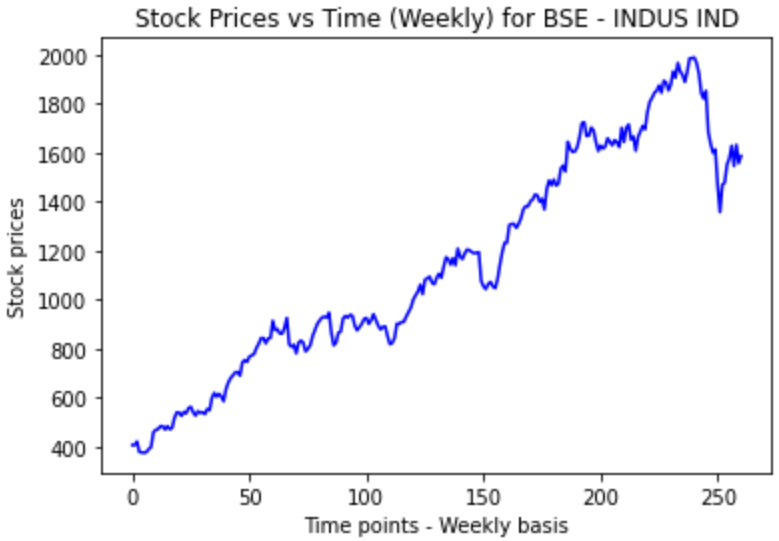
All plots can be found in their respective folders inside the ZIP file I have submitted!

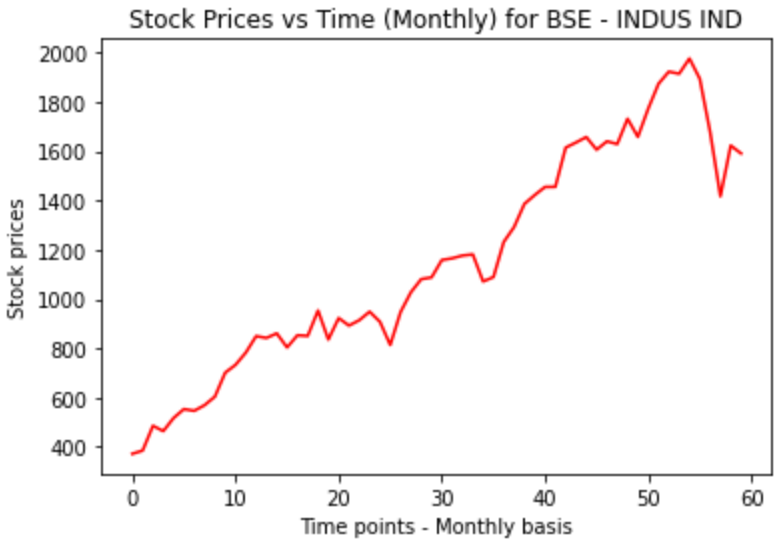
Plots

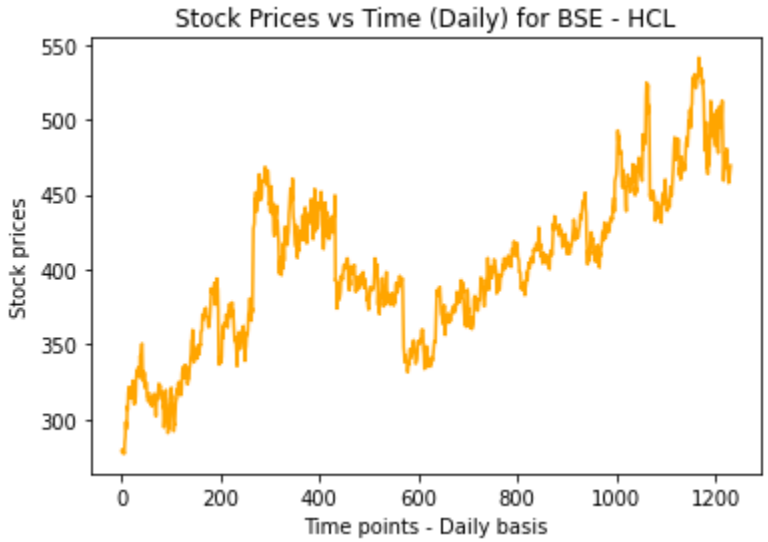
Question 1.

BSE:








Stock Prices vs Time (Daily) for BSE - HCL
Stock prices
Time points - Daily basis
550
500
450
400
350
300
0
200
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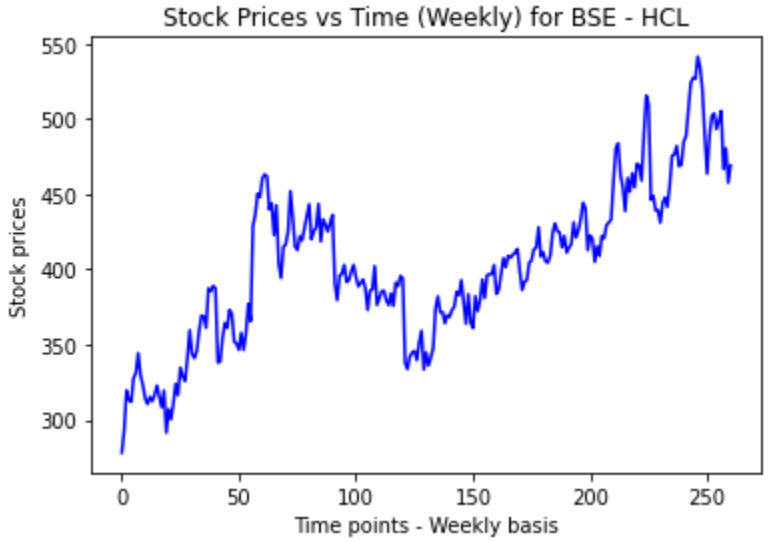
600
800
1000
1200


Stock Prices vs Time (Weekly) for BSE - HCL
Stock prices
Time points - Weekly basis
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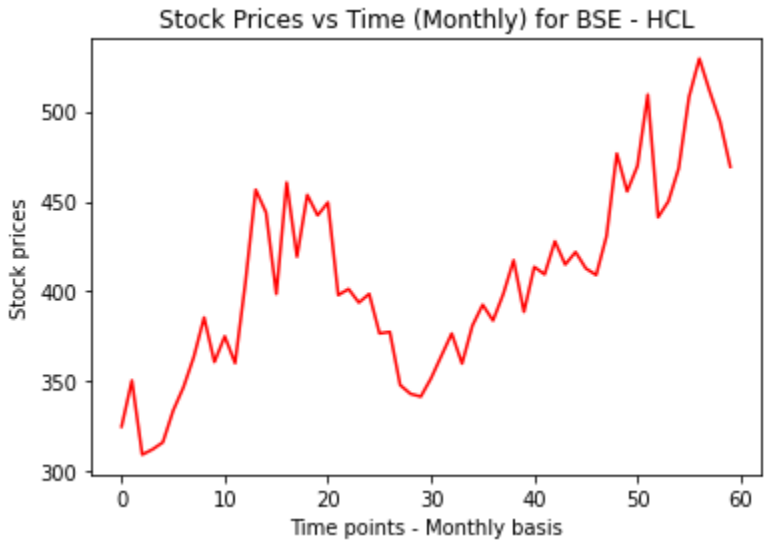
200
250


Stock Prices vs Time (Monthly) for BSE - HCL
Stock prices
Time points - Monthly basis
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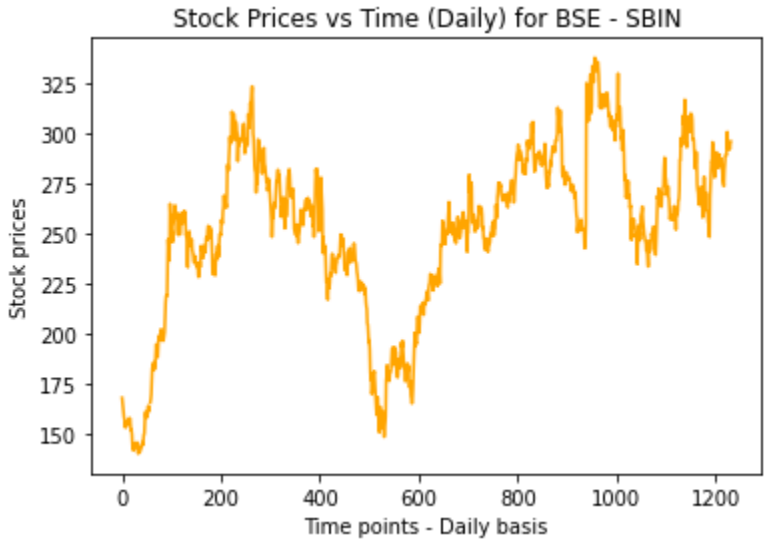
Stock Prices vs Time (Daily) for BSE - SBIN
Stock prices
Time points - Daily basis
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225
200
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1000
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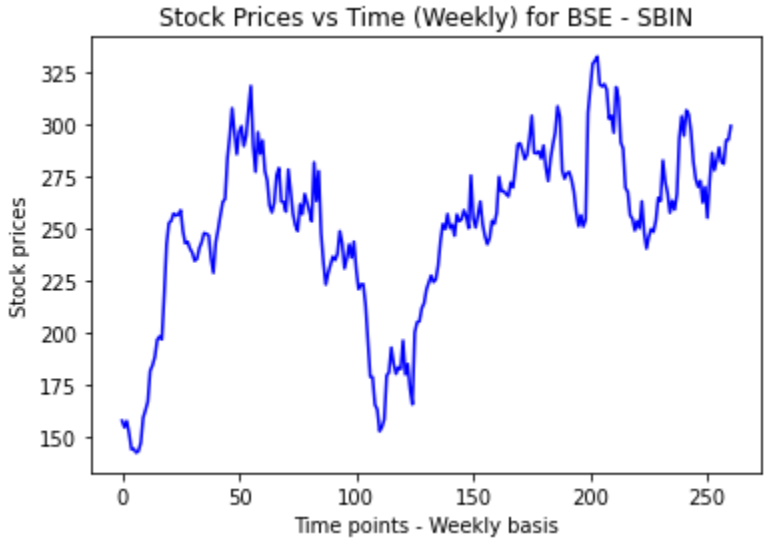
Stock Prices vs Time (Weekly) for BSE - SBIN
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Time points - Weekly basis
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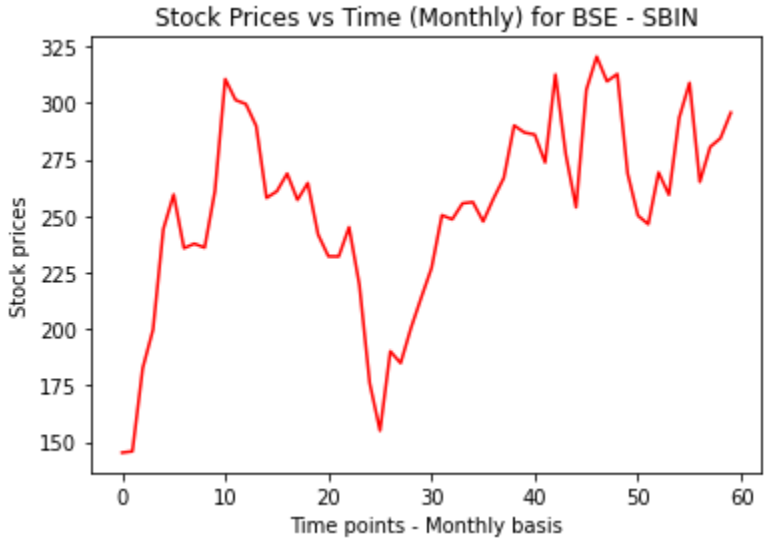
Stock Prices vs Time (Monthly) for BSE - SBIN
Stock prices
Time points - Monthly basis
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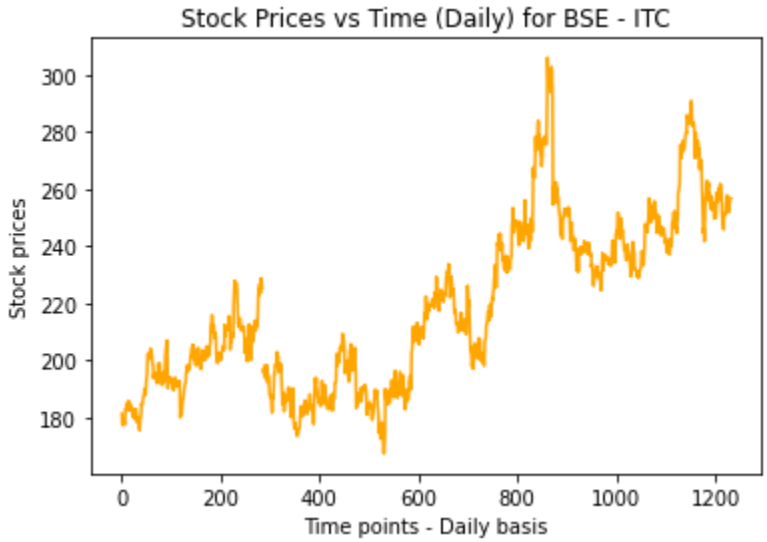
Stock Prices vs Time (Daily) for BSE - ITC
Stock prices
Time points - Daily basis
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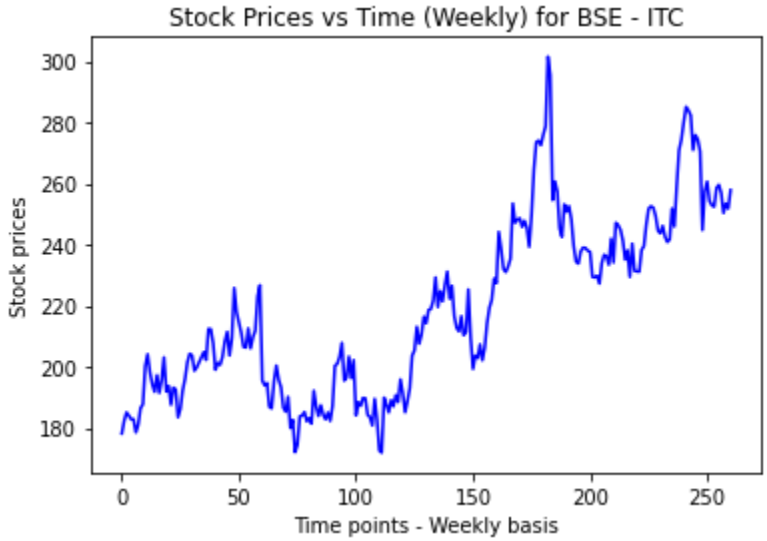
Stock Prices vs Time (Weekly) for BSE - ITC
Stock prices
Time points - Weekly basis
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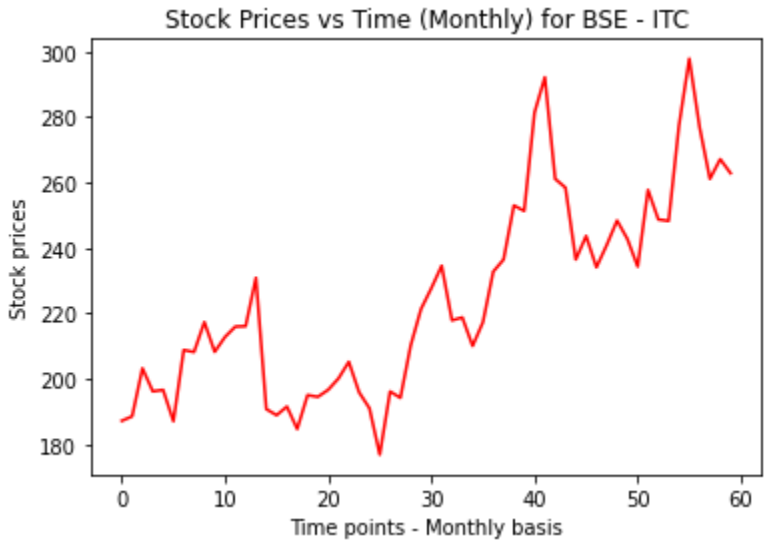
Stock Prices vs Time (Monthly) for BSE - ITC
Stock prices
Time points - Monthly basis
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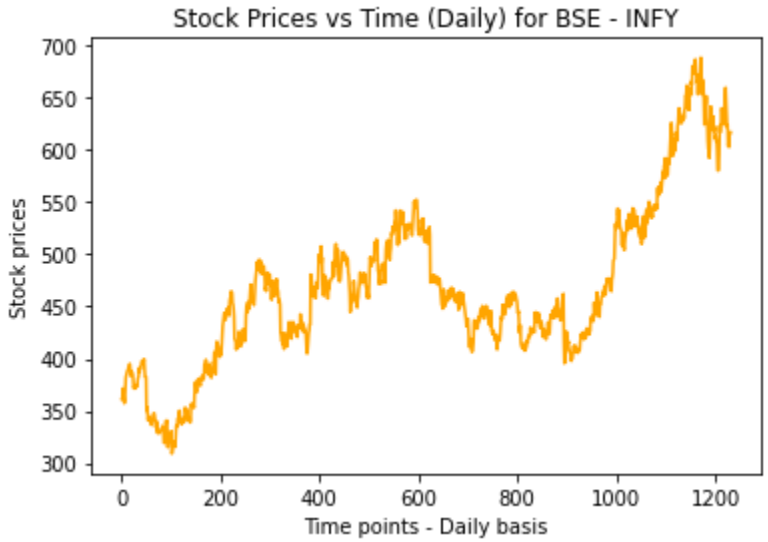
Stock Prices vs Time (Daily) for BSE - INFY
Stock prices
Time points - Daily basis
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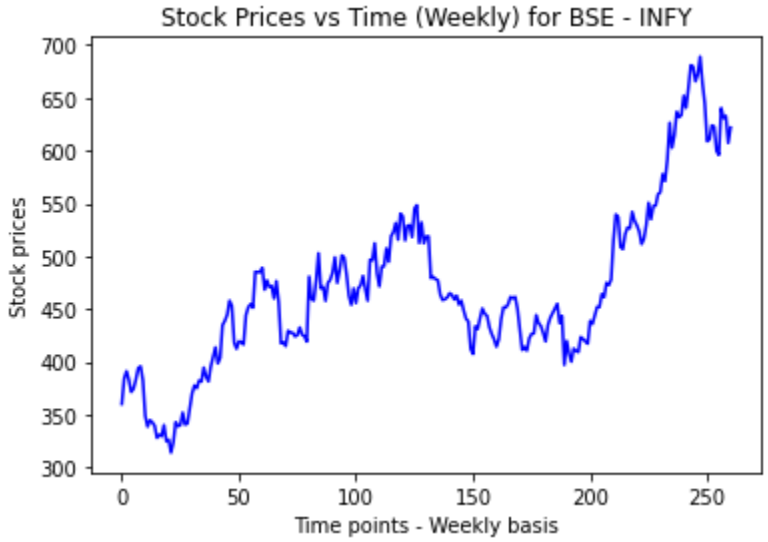
Stock Prices vs Time (Weekly) for BSE - INFY
Stock prices
Time points - Weekly basis
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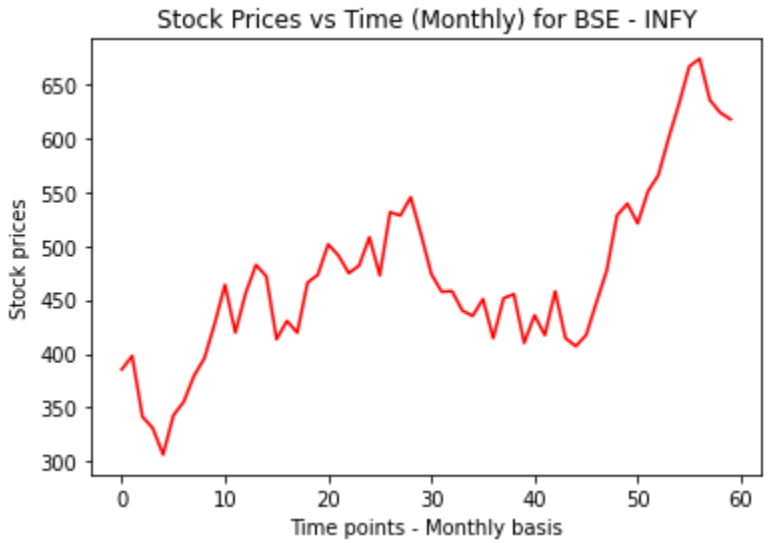
Stock Prices vs Time (Monthly) for BSE - INFY
Stock prices
Time points - Monthly basis
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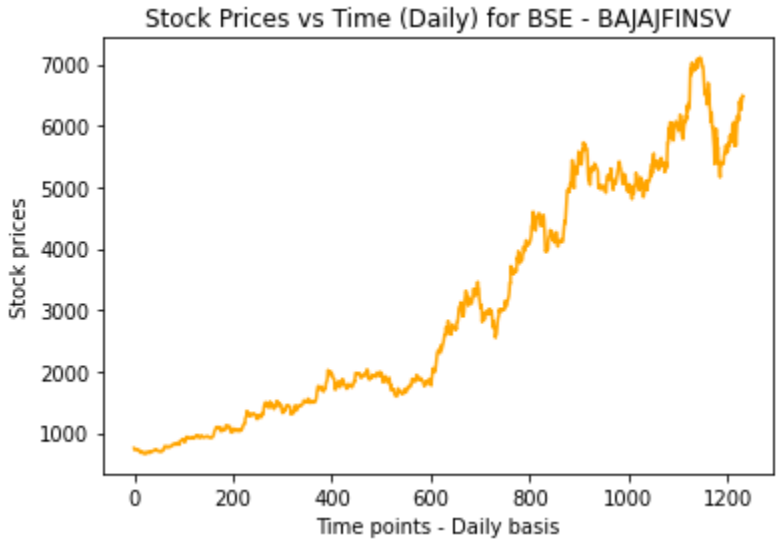
Stock Prices vs Time (Daily) for BSE - BAJAJFINSV
Stock prices
Time points - Daily basis
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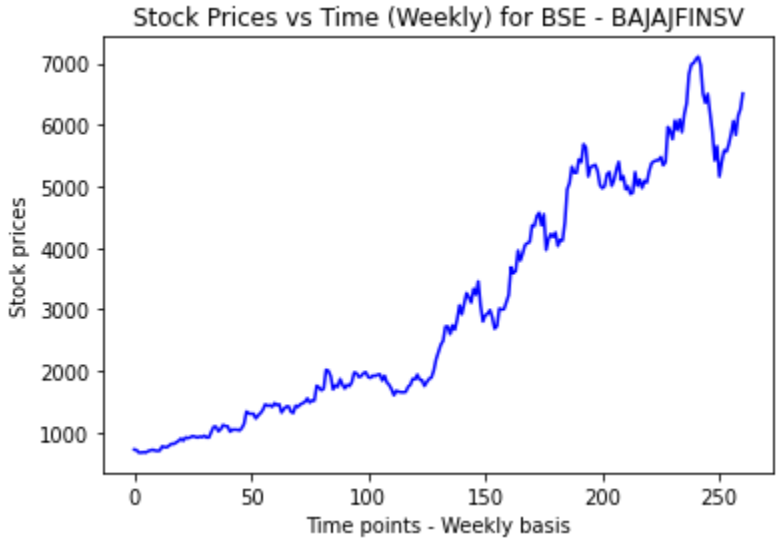
Stock Prices vs Time (Weekly) for BSE - BAJAJFINSV
Stock prices
Time points - Weekly basis
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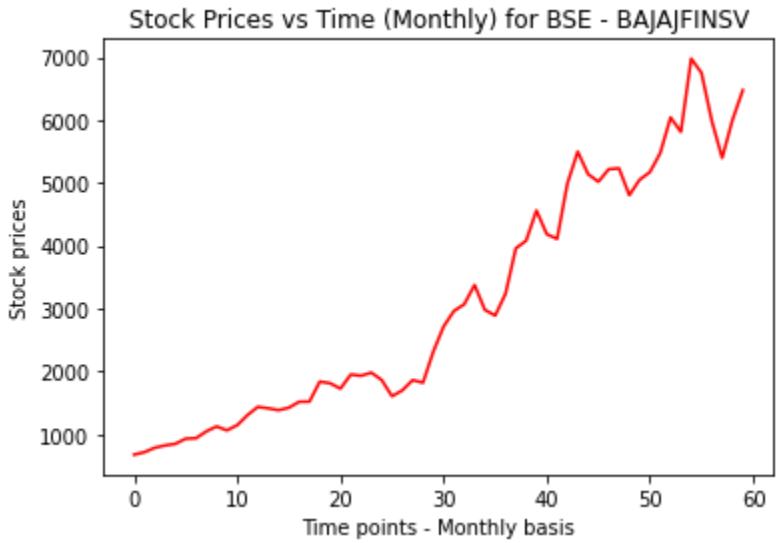
Stock Prices vs Time (Monthly) for BSE - BAJAJFINSV
Stock prices
Time points - Monthly basis
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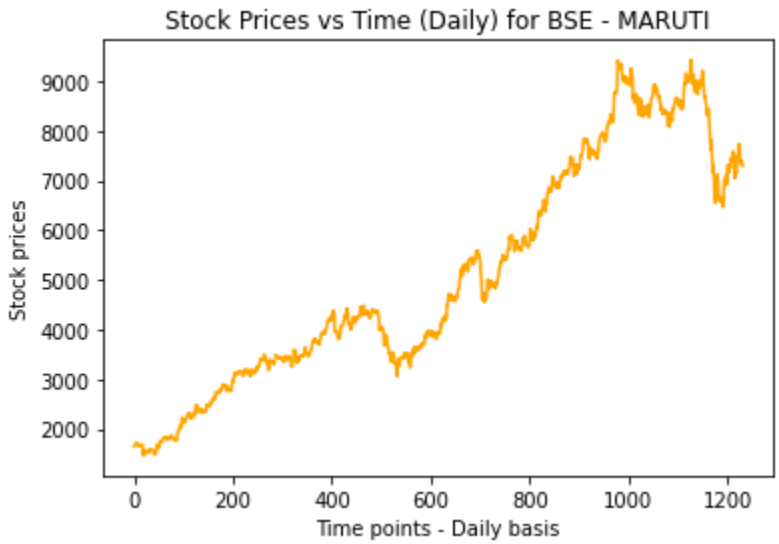
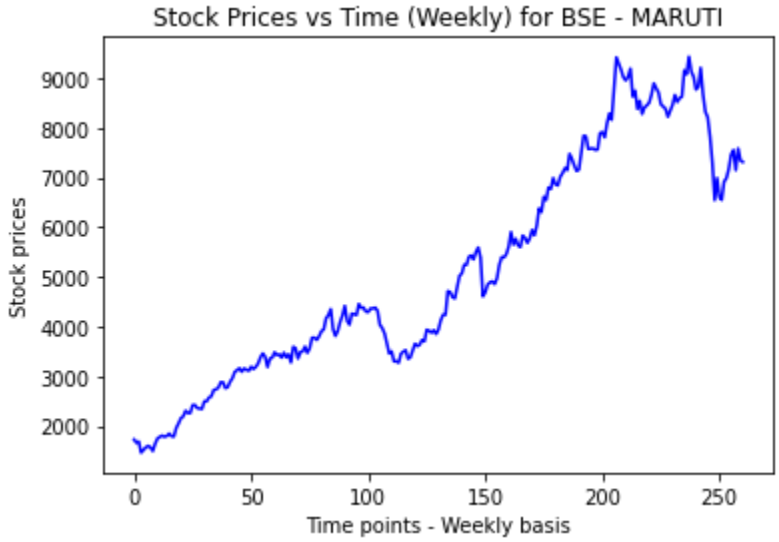
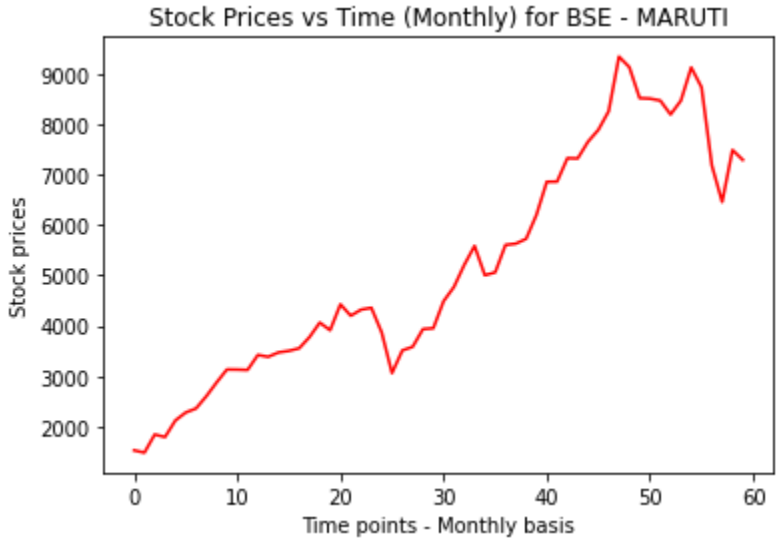
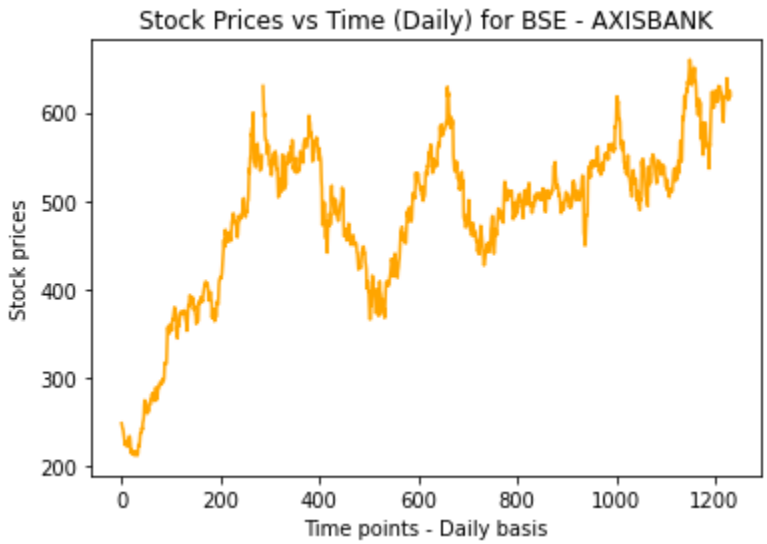

Stock Prices vs Time (Daily) for BSE - MARUTI
Stock prices
Time points - Daily basis


Stock Prices vs Time (Weekly) for BSE - MARUTI
Stock prices
Time points - Weekly basis


Stock Prices vs Time (Monthly) for BSE - MARUTI
Stock prices
Time points - Monthly basis


Stock Prices vs Time (Daily) for BSE - AXISBANK
Stock prices
Time points - Daily basis
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Stock Prices vs Time (Weekly) for BSE - AXISBANK
Stock prices
Time points - Weekly basis
200
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Stock Prices vs Time (Monthly) for BSE - AXISBANK
Stock prices
Time points - Monthly basis
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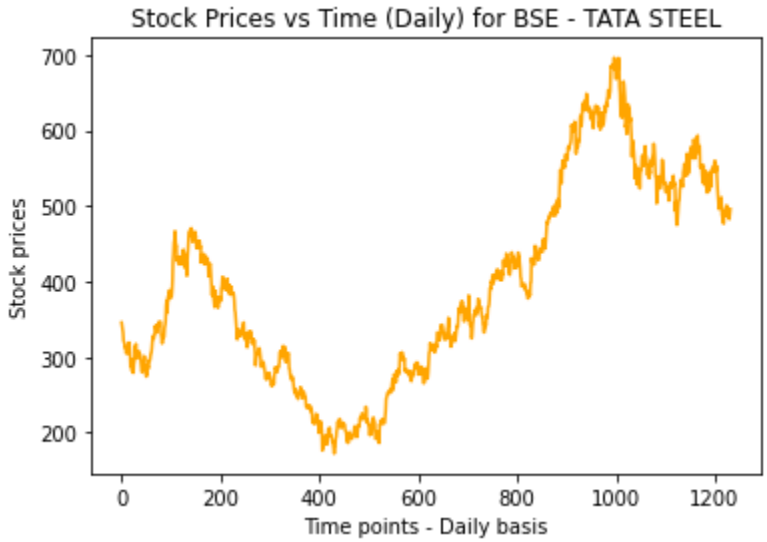
Stock Prices vs Time (Daily) for BSE - TATA STEEL
Stock prices
Time points - Daily basis
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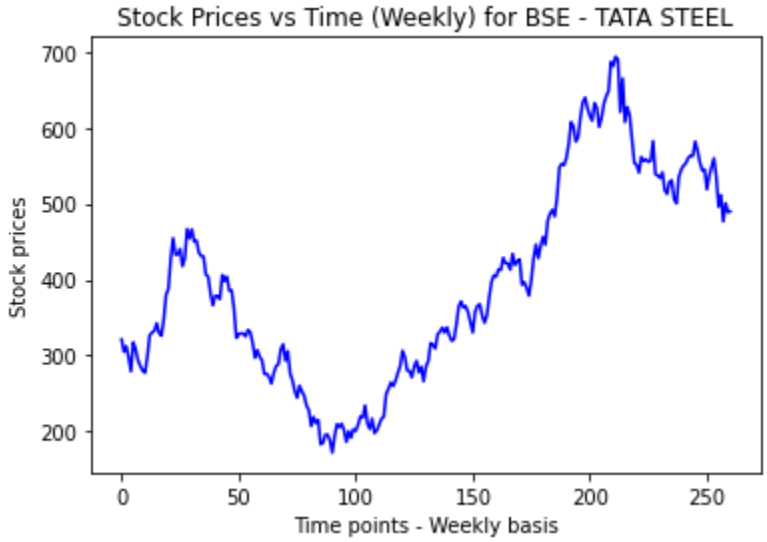
Stock Prices vs Time (Weekly) for BSE - TATA STEEL
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Time points - Weekly basis
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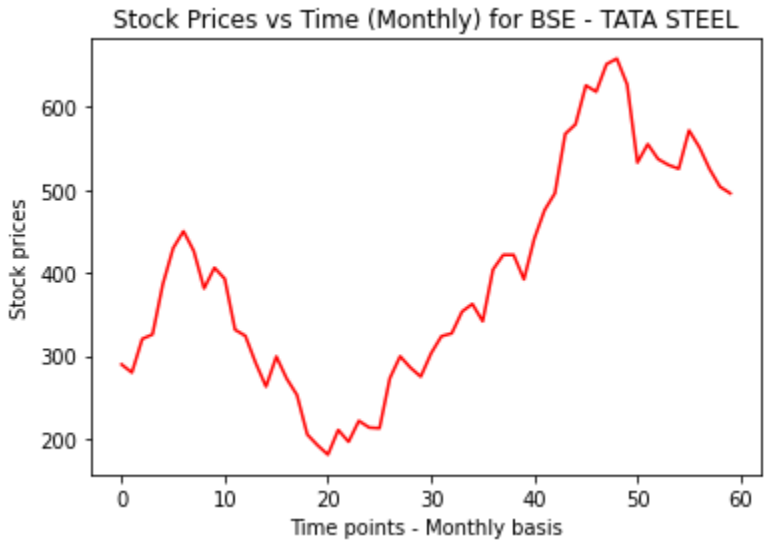
Stock Prices vs Time (Monthly) for BSE - TATA STEEL
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Time points - Monthly basis
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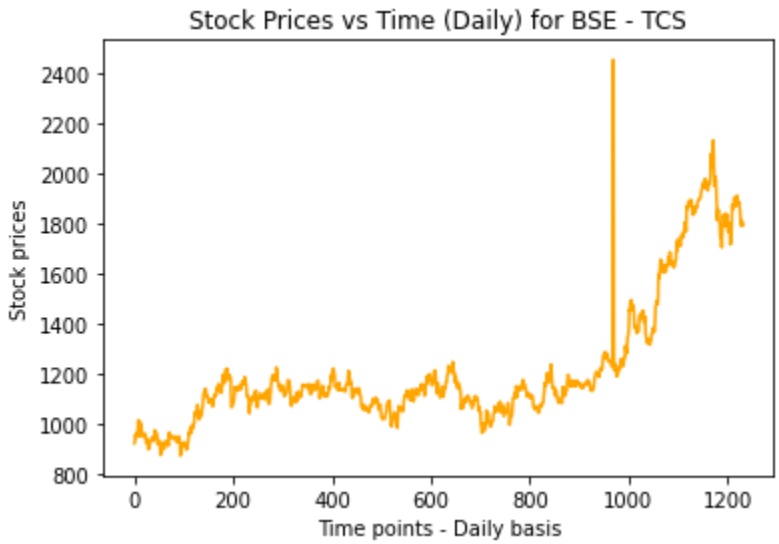
Stock Prices vs Time (Daily) for BSE - TCS
Stock prices
Time points - Daily basis
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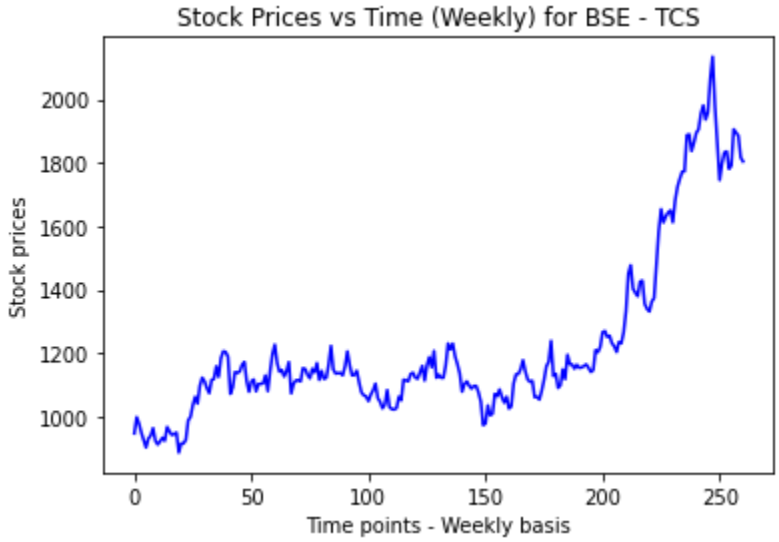
Stock Prices vs Time (Weekly) for BSE - TCS
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Time points - Weekly basis
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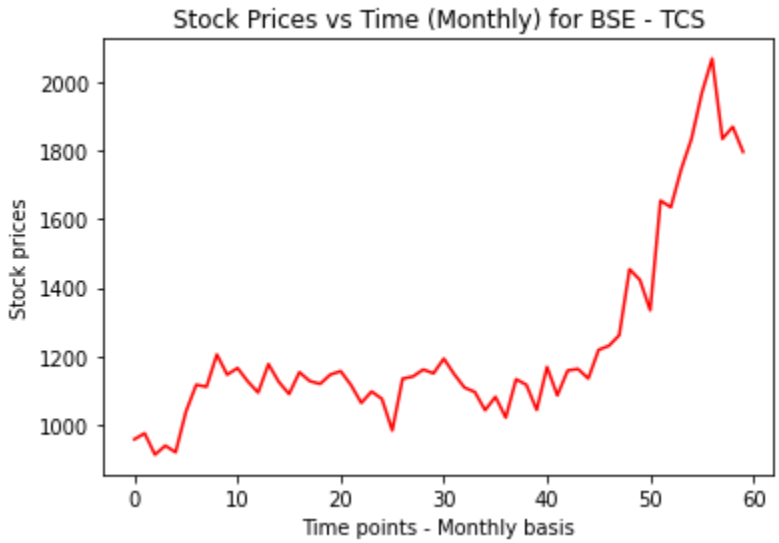
Stock Prices vs Time (Monthly) for BSE - TCS
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Time points - Monthly basis
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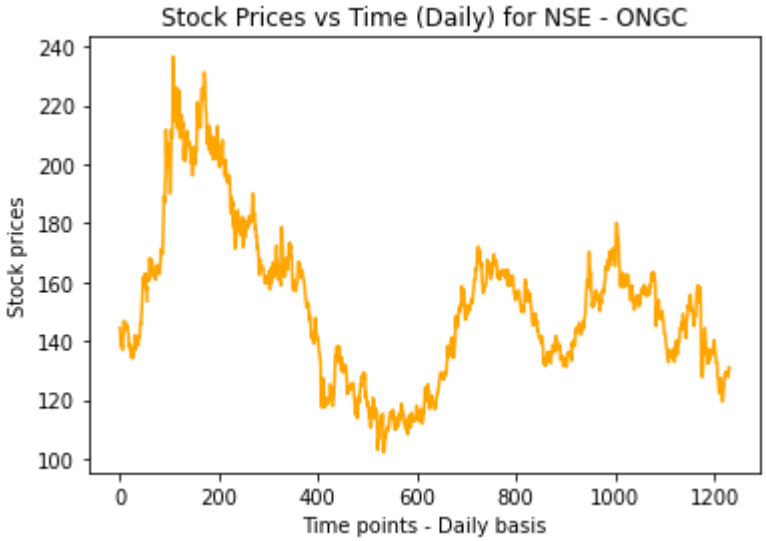
NSE:


Stock Prices vs Time (Daily) for NSE - ONGC
Stock prices
Time points - Daily basis
240
220
200
180
160
140
120
100
0
200
400
600
800
1000
1200


Stock Prices vs Time (Weekly) for NSE - ONGC
Stock prices
Time points - Weekly basis
220
200
180
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120
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100
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200
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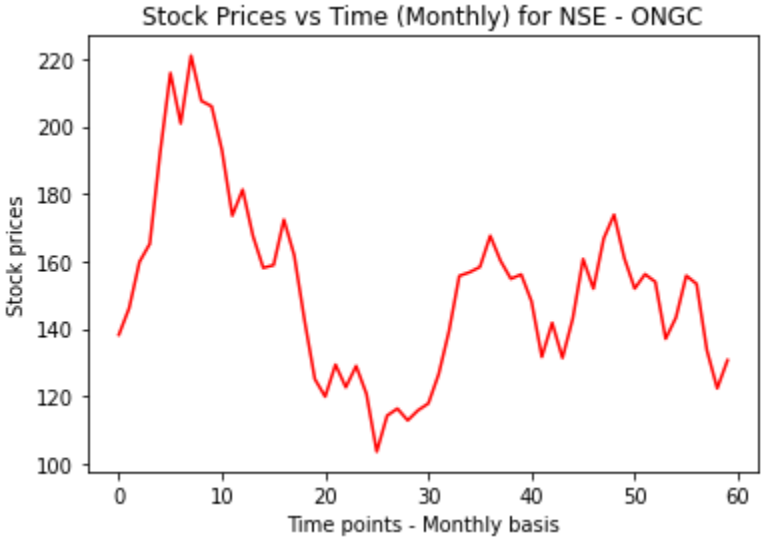
Stock Prices vs Time (Monthly) for NSE - ONGC
Stock prices
Time points - Monthly basis
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100
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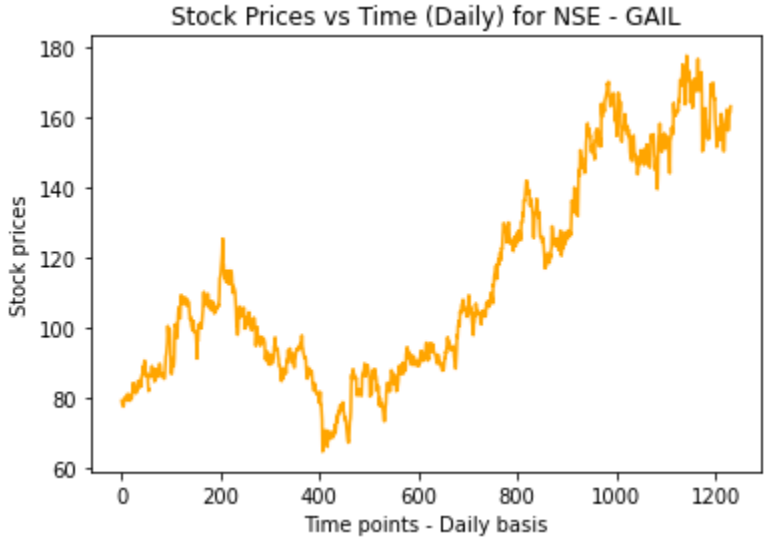
Stock Prices vs Time (Daily) for NSE - GAIL
Stock prices
Time points - Daily basis
180
160
140
120
100
80
60
0
200
400
600
800
1000
1200


Stock Prices vs Time (Weekly) for NSE - GAIL
Stock prices
Time points - Weekly basis
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100
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50
100
150
200
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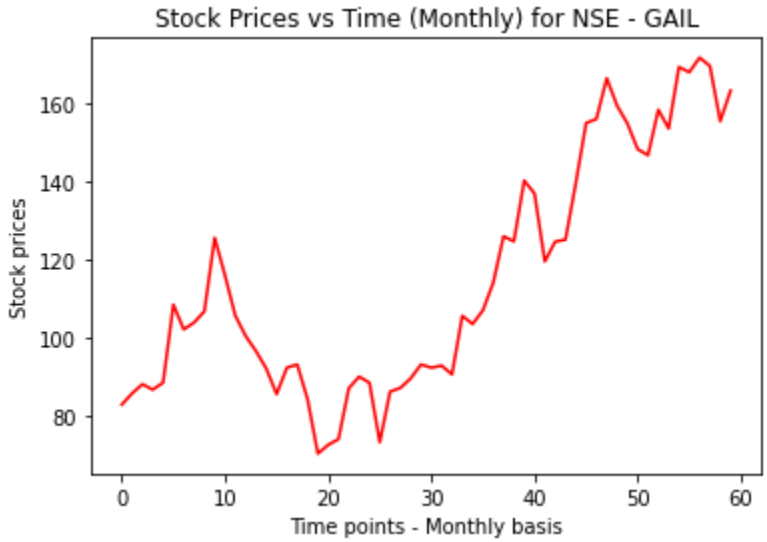
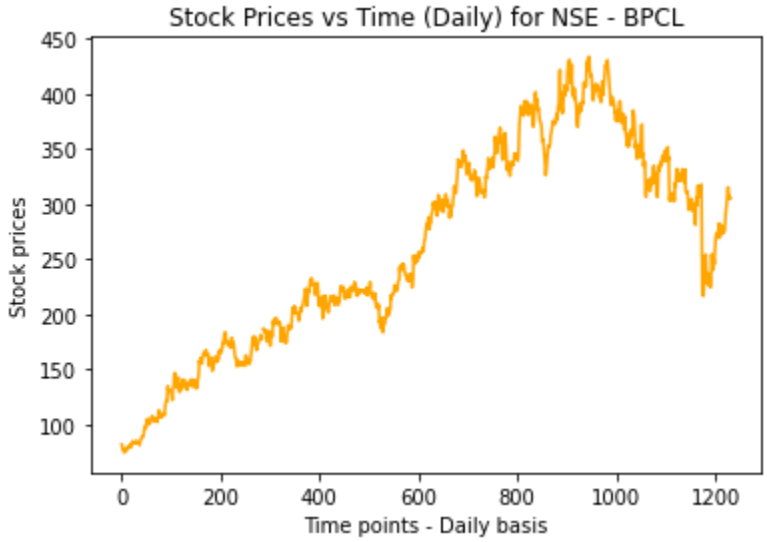
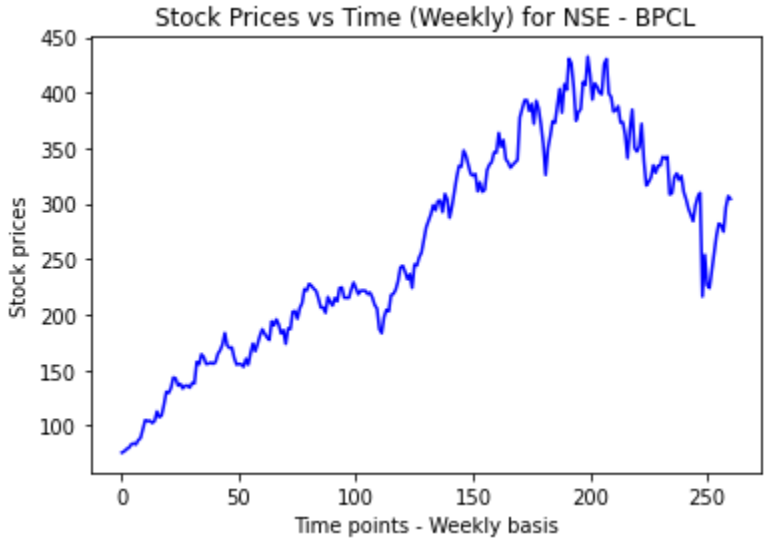
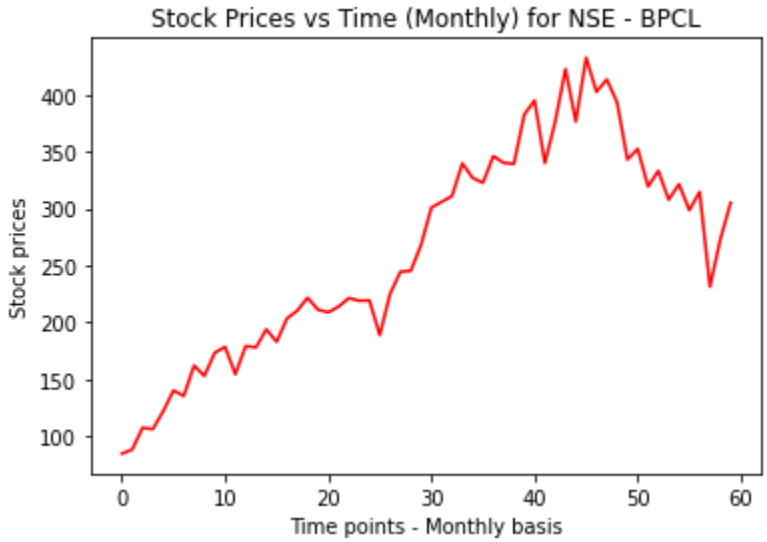

Stock Prices vs Time (Monthly) for NSE - GAIL
Stock prices
Time points - Monthly basis


Stock Prices vs Time (Daily) for NSE - BPCL
Stock prices
Time points - Daily basis


Stock Prices vs Time (Weekly) for NSE - BPCL
Stock prices
Time points - Weekly basis


Stock Prices vs Time (Monthly) for NSE - BPCL
Stock prices
Time points - Monthly basis
100
150
200
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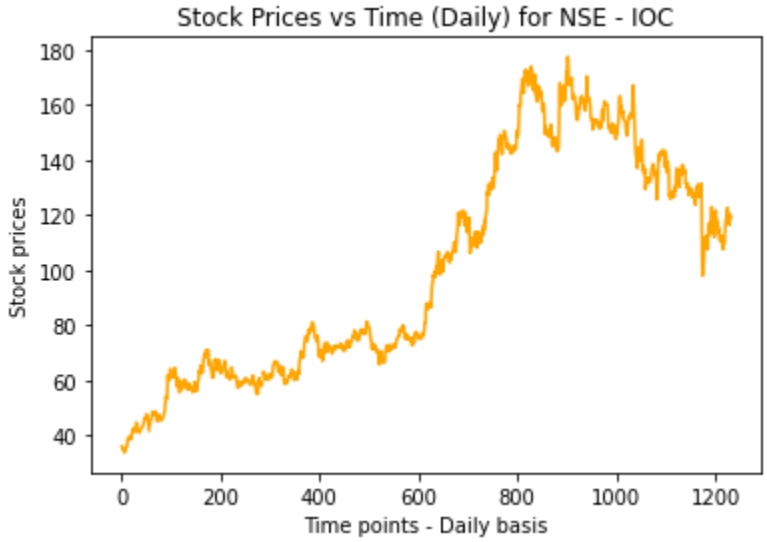
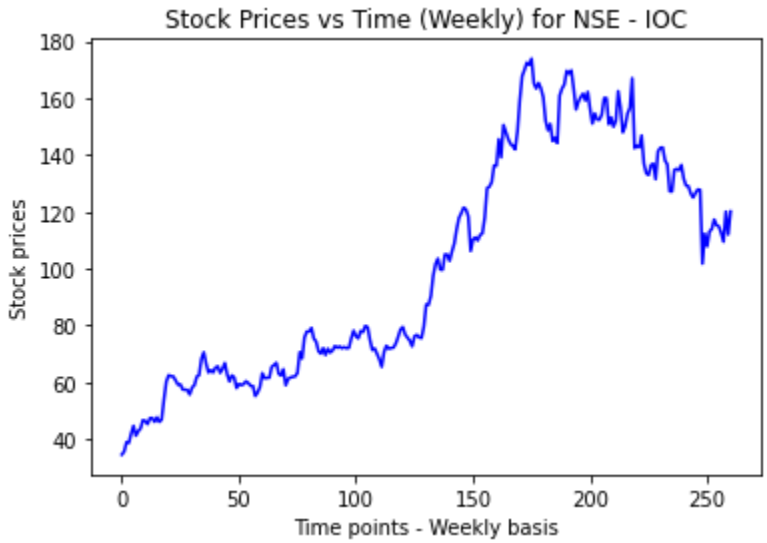
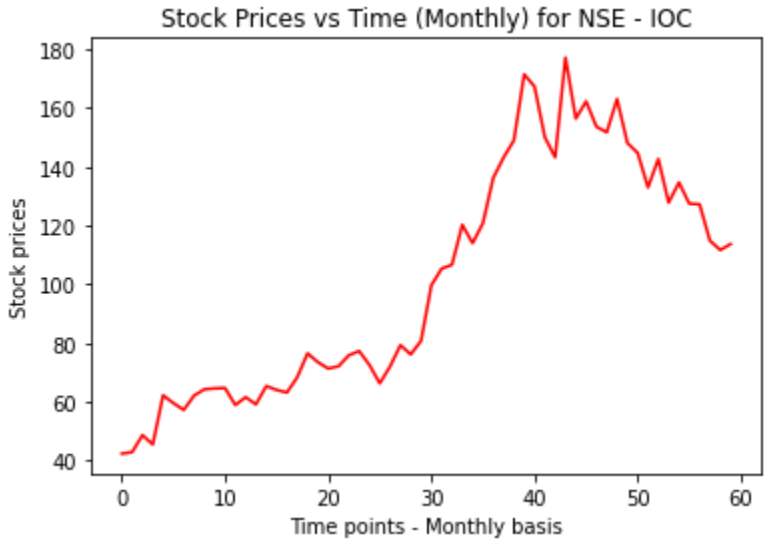
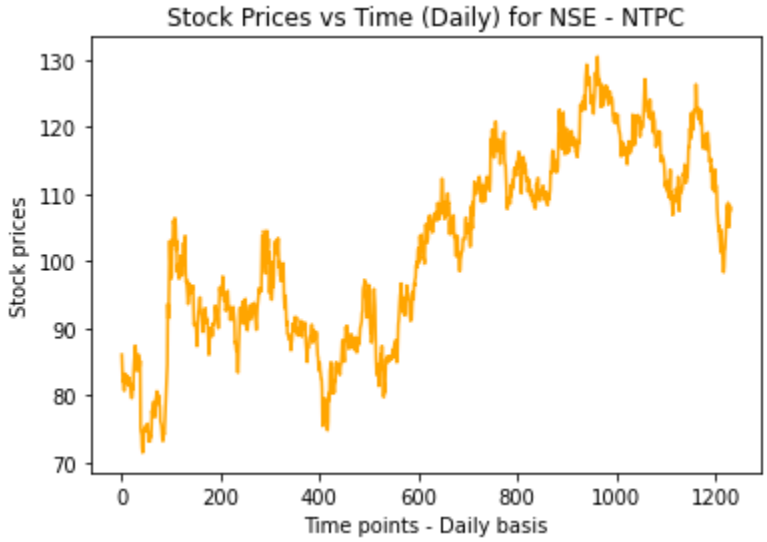
50
60

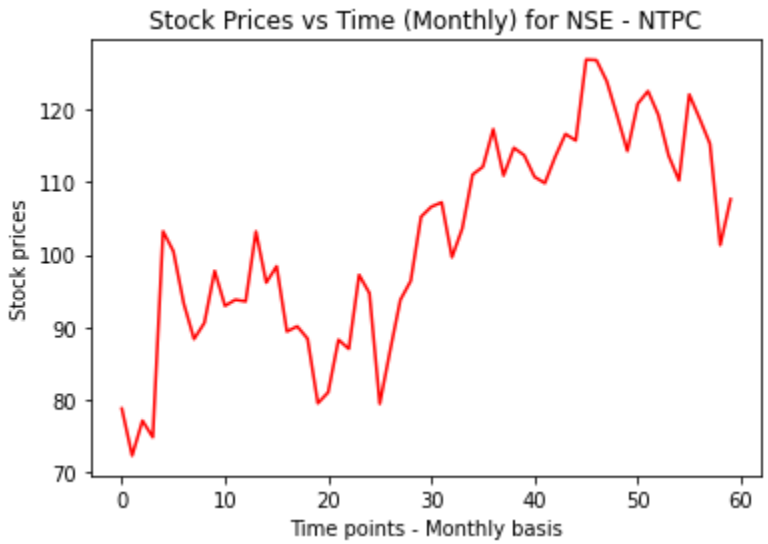

Stock Prices vs Time (Daily) for NSE - IOC
Stock prices
Time points - Daily basis
40
60
80
100
120
140
160
180
0
200
400
600
800
1000
1200

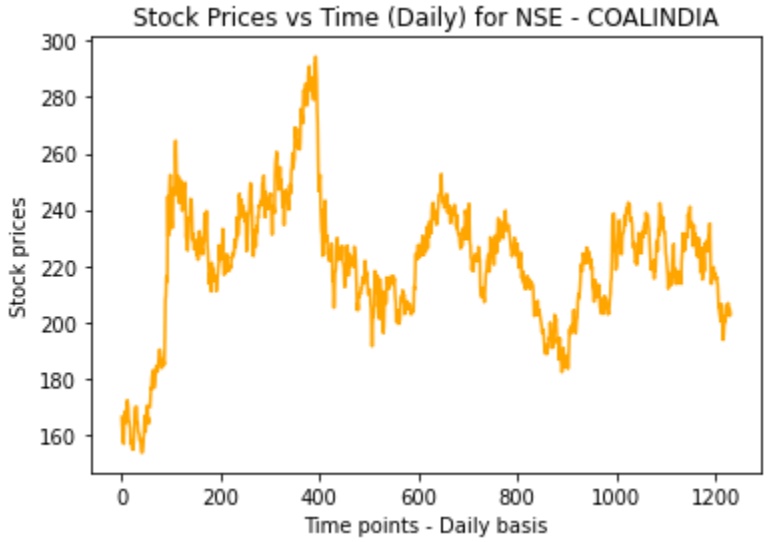

Stock Prices vs Time (Weekly) for NSE - IOC
Stock prices
Time points - Weekly basis
40
60
80
100
120
140
160
180
0
50
100
150
200
250

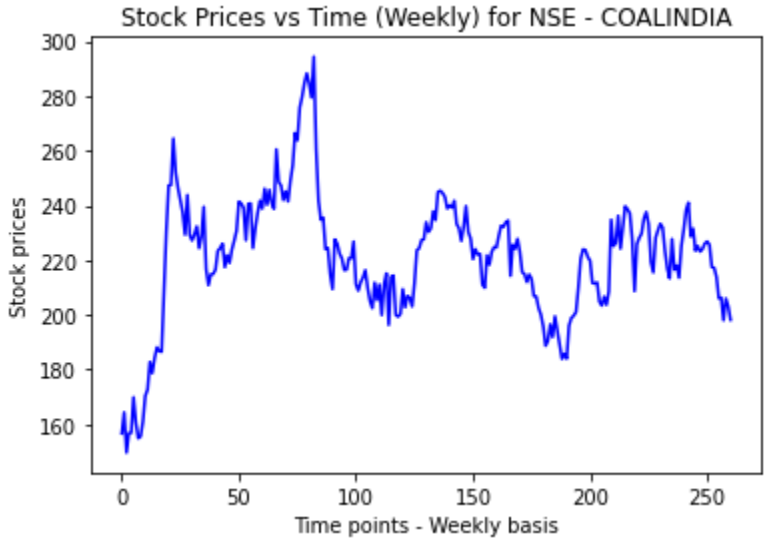

Stock Prices vs Time (Monthly) for NSE - IOC
Stock prices
Time points - Monthly basis

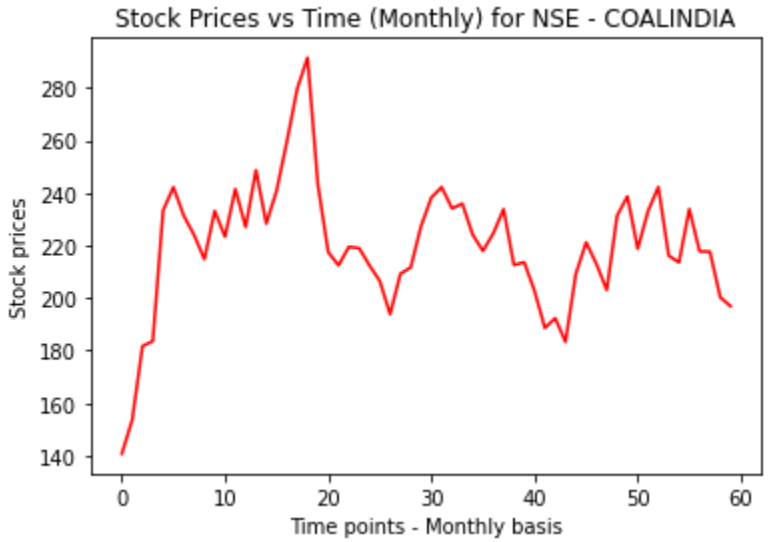

Stock Prices vs Time (Daily) for NSE - NTPC
Stock prices
Time points - Daily basis

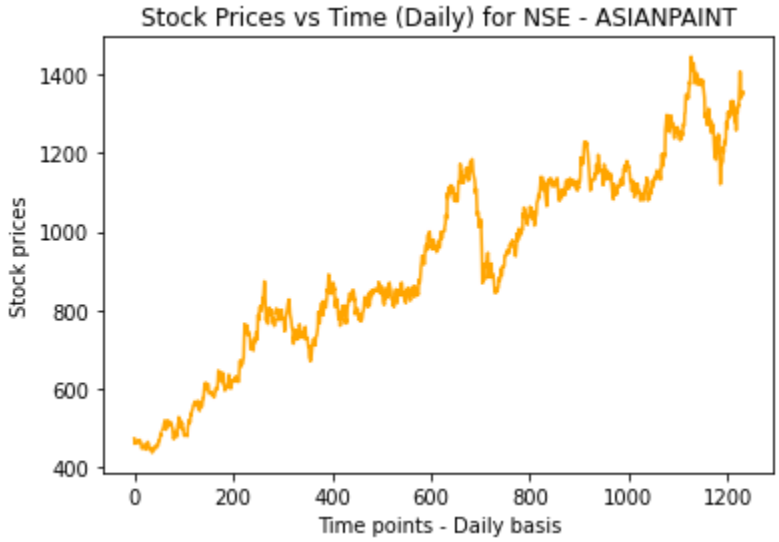

Stock Prices vs Time (Weekly) for NSE - NTPC
Stock prices
Time points - Weekly basis

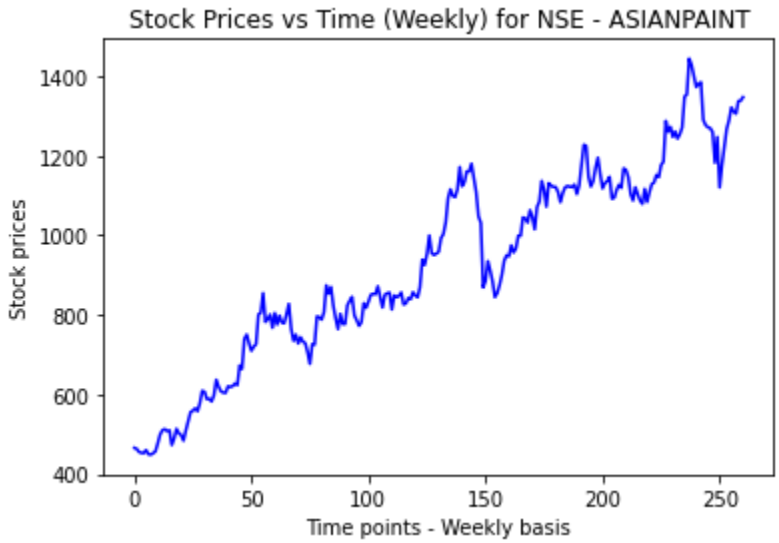

Stock Prices vs Time (Monthly) for NSE - NTPC
Stock prices
Time points - Monthly basis


Stock Prices vs Time (Daily) for NSE - COALINDIA
Stock prices
Time points - Daily basis

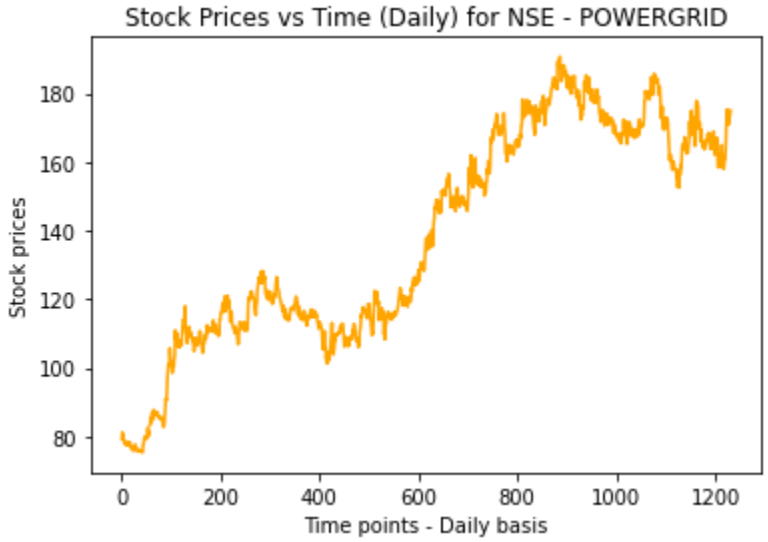

Stock Prices vs Time (Weekly) for NSE - COALINDIA
Stock prices
Time points - Weekly basis

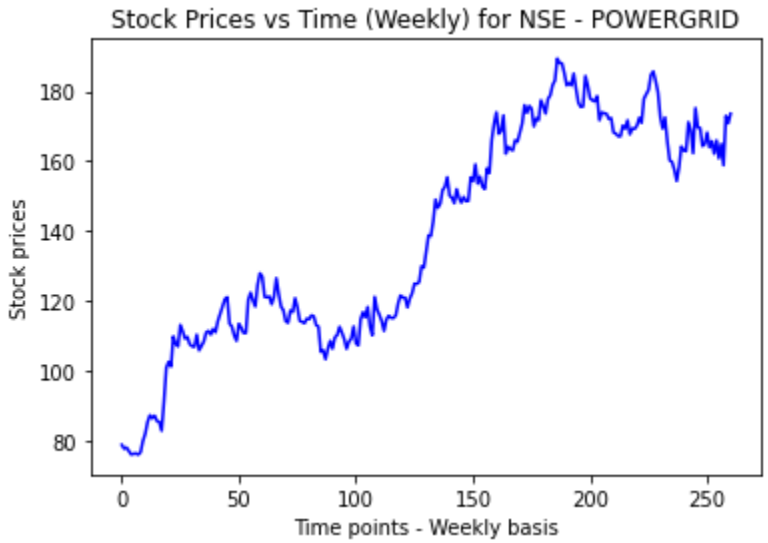

Stock Prices vs Time (Monthly) for NSE - COALINDIA
Stock prices
Time points - Monthly basis

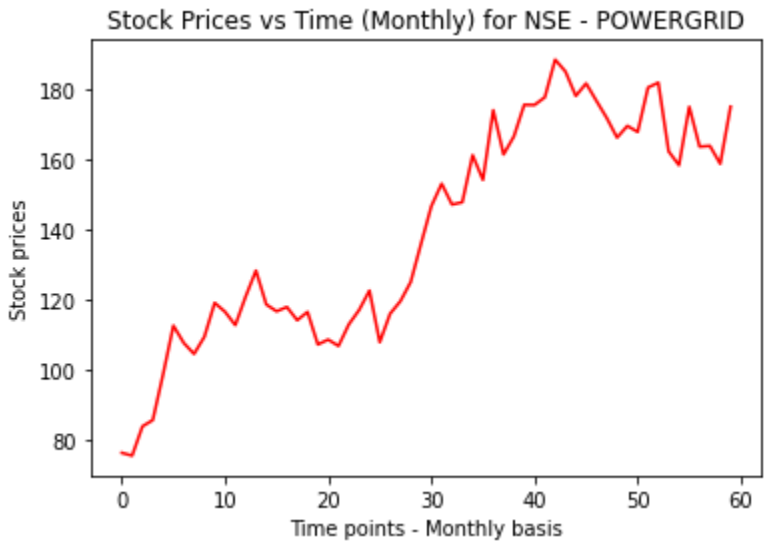

Stock Prices vs Time (Daily) for NSE - ASIANPAINT
Stock prices
Time points - Daily basis

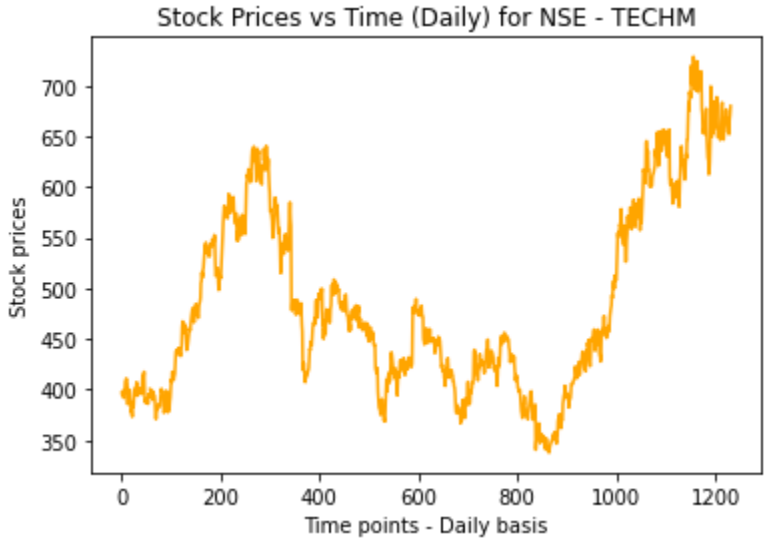

Stock Prices vs Time (Weekly) for NSE - ASIANPAINT
Stock prices
Time points - Weekly basis

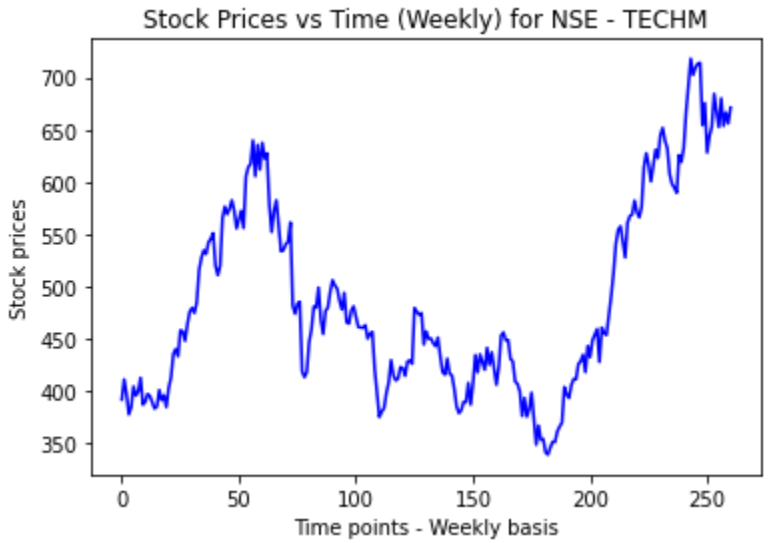

Stock Prices vs Time (Monthly) for NSE - ASIANPAINT
Stock prices
Time points - Monthly basis
400
600
800
1000
1200
1400
0
10
20
30
40
50
60

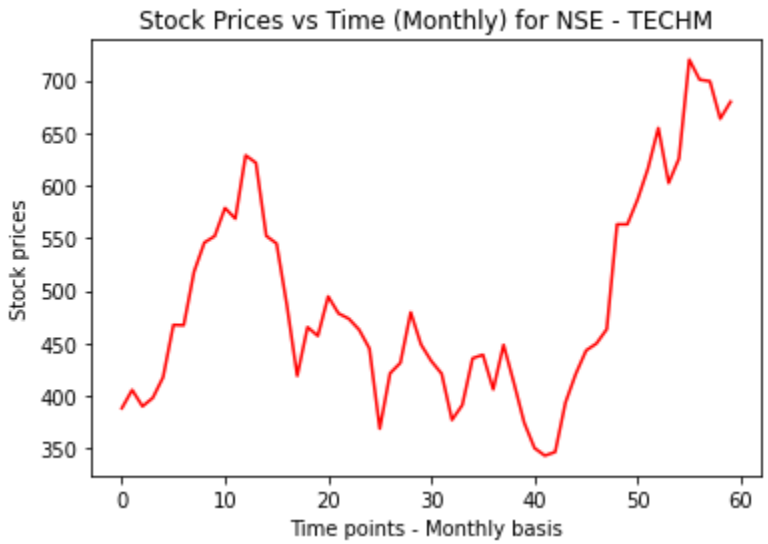

Stock Prices vs Time (Daily) for NSE - POWERGRID
Stock prices
Time points - Daily basis
80
100
120
140
160
180
0
200
400
600
800
1000
1200

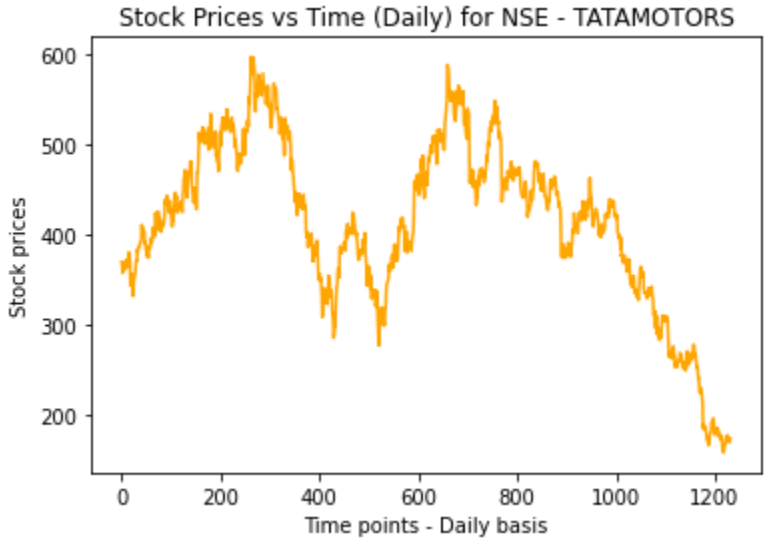

Stock Prices vs Time (Weekly) for NSE - POWERGRID
Stock prices
Time points - Weekly basis
80
100
120
140
160
180
0
50
100
150
200
250

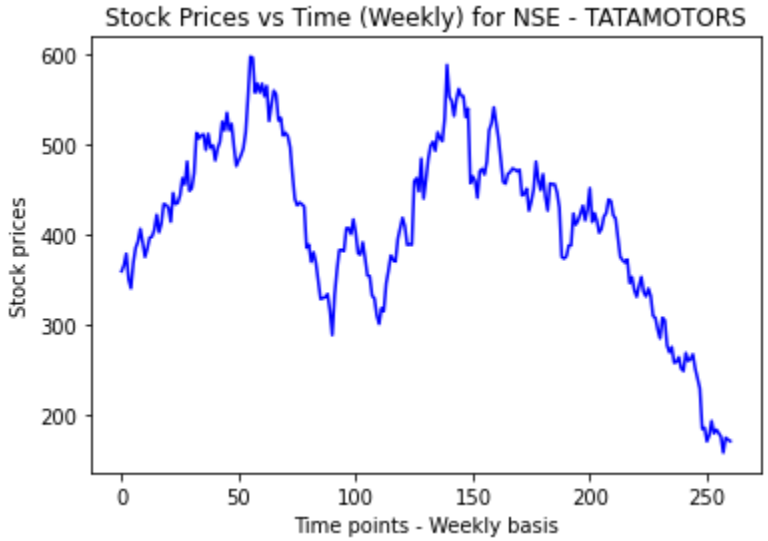

Stock Prices vs Time (Monthly) for NSE - POWERGRID
Stock prices
Time points - Monthly basis

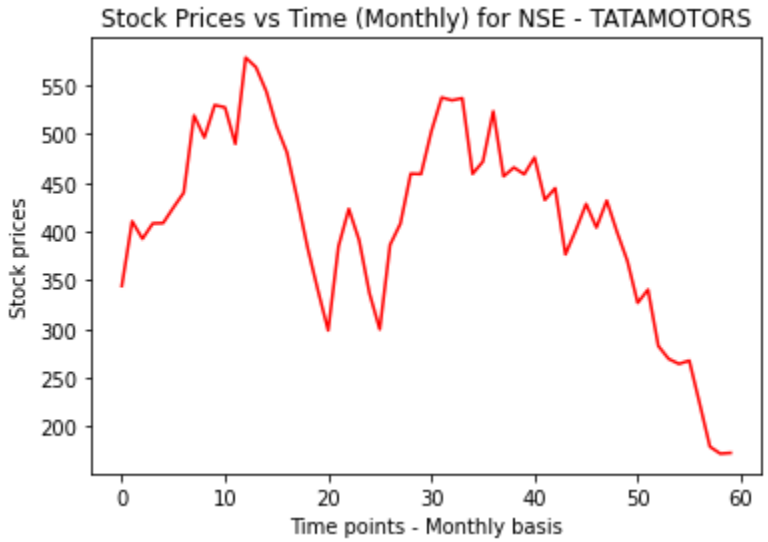

Stock Prices vs Time (Daily) for NSE - TECHM
Stock prices
Time points - Daily basis


Stock Prices vs Time (Weekly) for NSE - TECHM
Stock prices
Time points - Weekly basis


Stock Prices vs Time (Monthly) for NSE - TECHM
Stock prices
Time points - Monthly basis

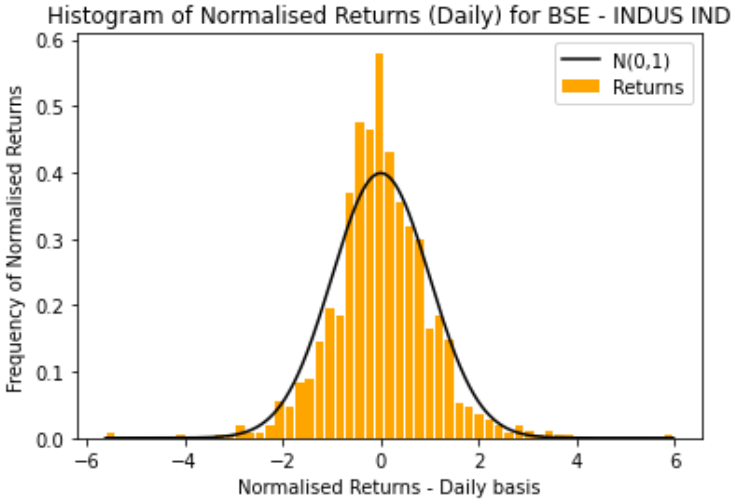

Stock Prices vs Time (Daily) for NSE - TATAMOTORS
Stock prices
Time points - Daily basis

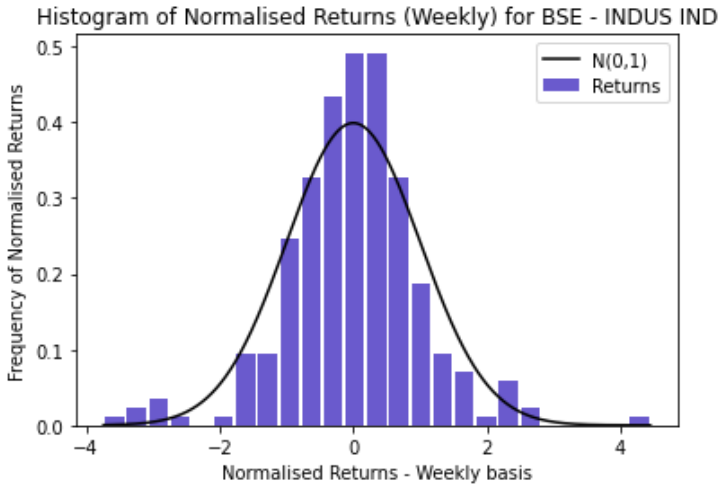

Stock Prices vs Time (Weekly) for NSE - TATAMOTORS
Stock prices
Time points - Weekly basis

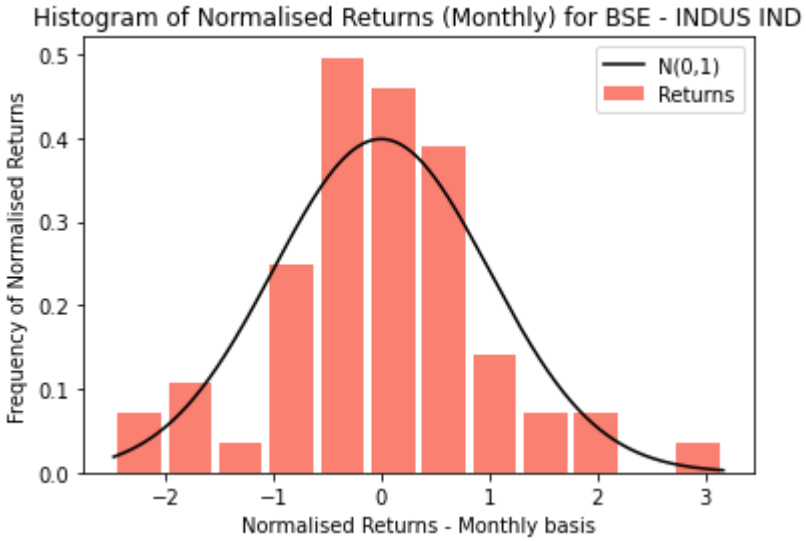


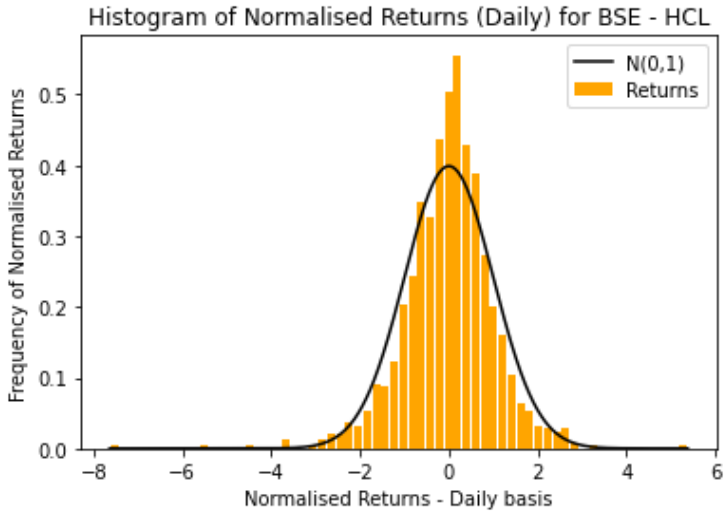
Question 2.

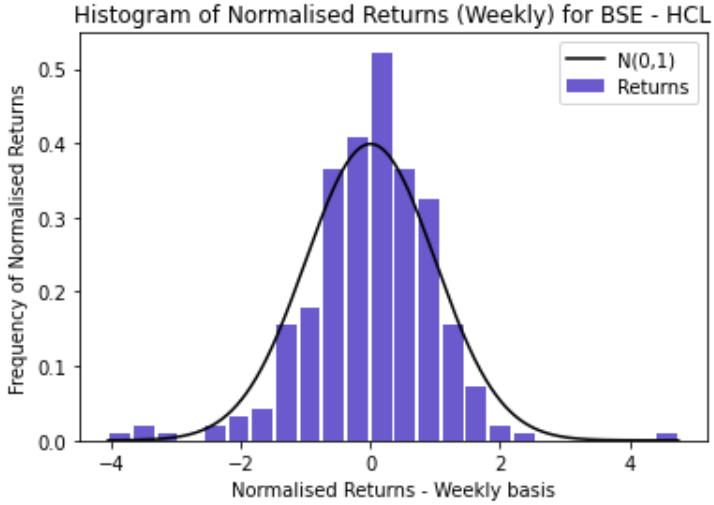
NSE:

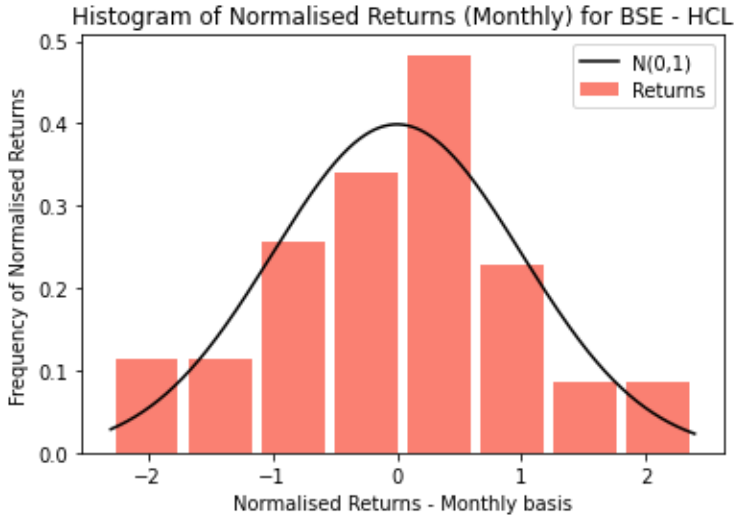


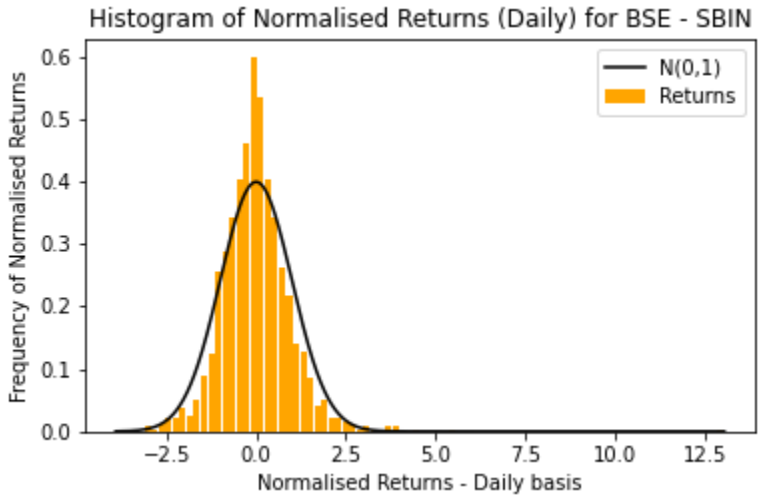


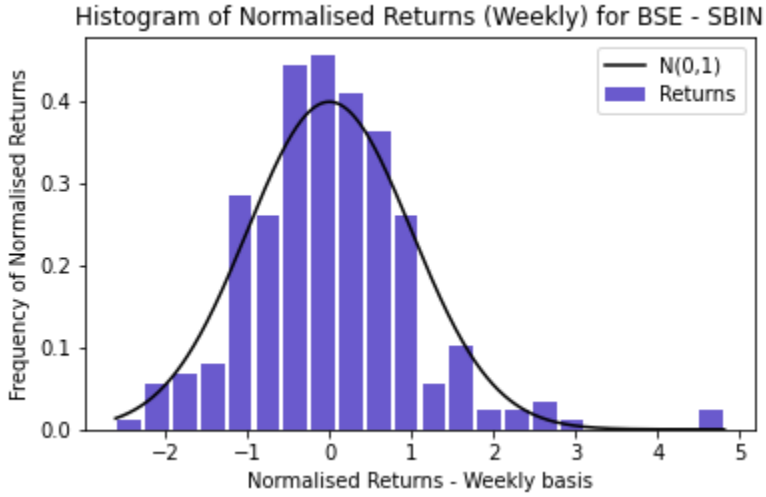

Histogram of Normalised Returns (Monthly) for BSE - INDUS IND
N(0,1)
Returns
Frequency of Normalised Returns
0.0
0.1
0.2
0.3
0.4
0.5
−2
−1
0
1
2
3
Normalised Returns - Monthly basis

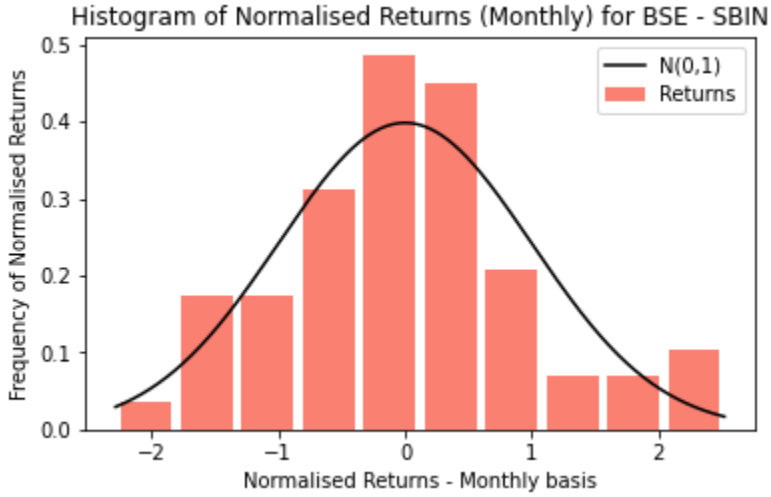

Histogram of Normalised Returns (Daily) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

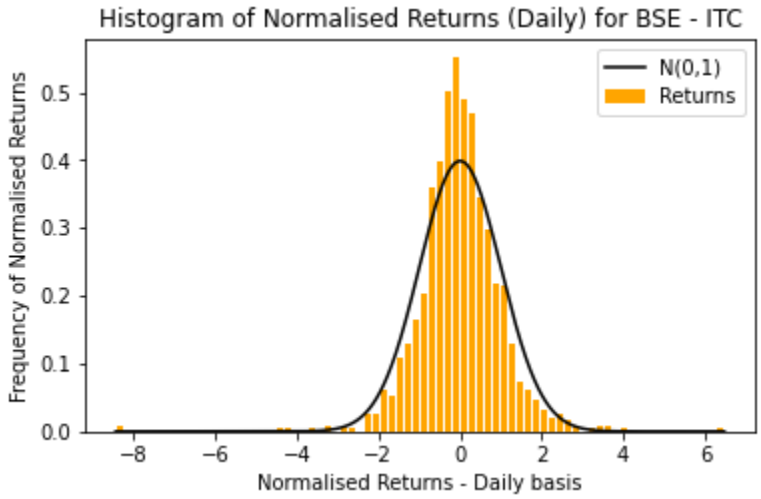

Histogram of Normalised Returns (Weekly) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

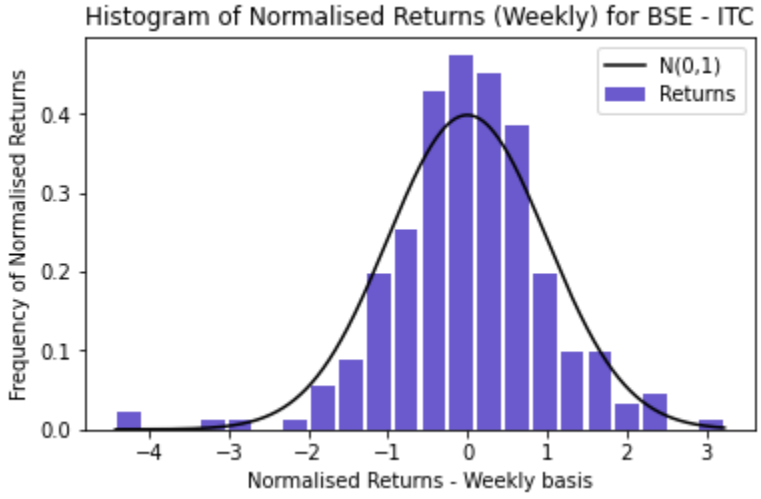

Histogram of Normalised Returns (Monthly) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

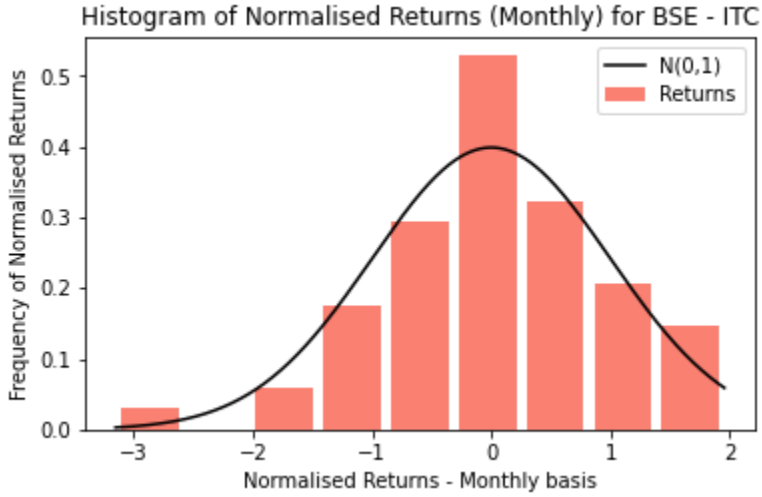

Histogram of Normalised Returns (Daily) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

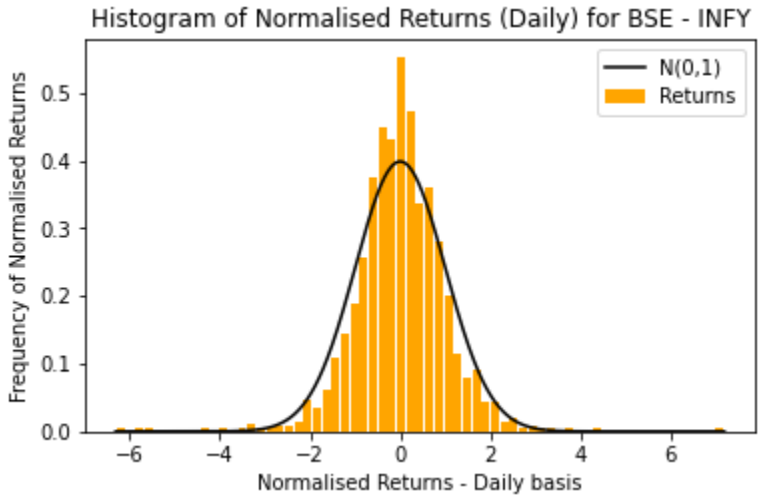

Histogram of Normalised Returns (Weekly) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

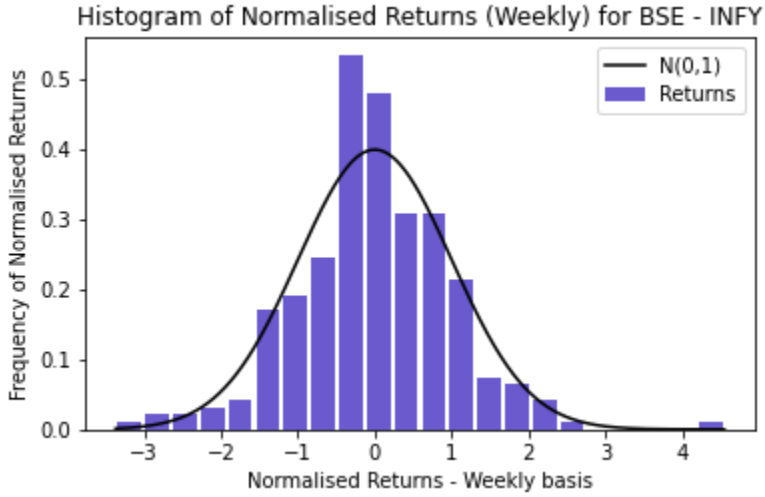

Histogram of Normalised Returns (Monthly) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

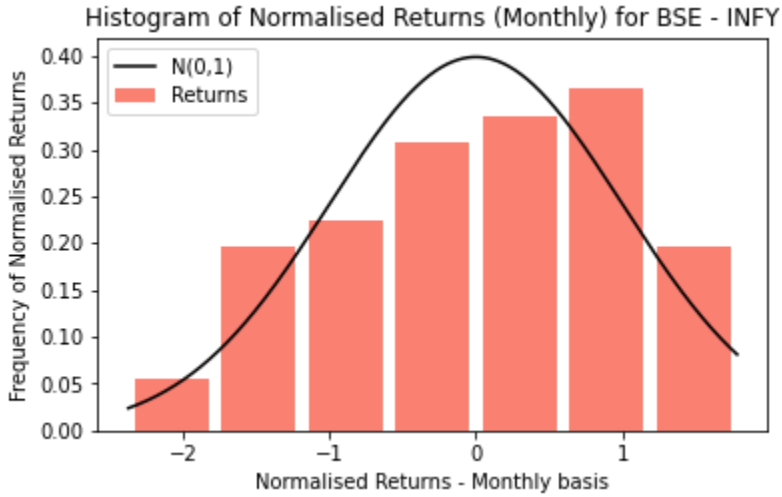

Histogram of Normalised Returns (Daily) for BSE - ITC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

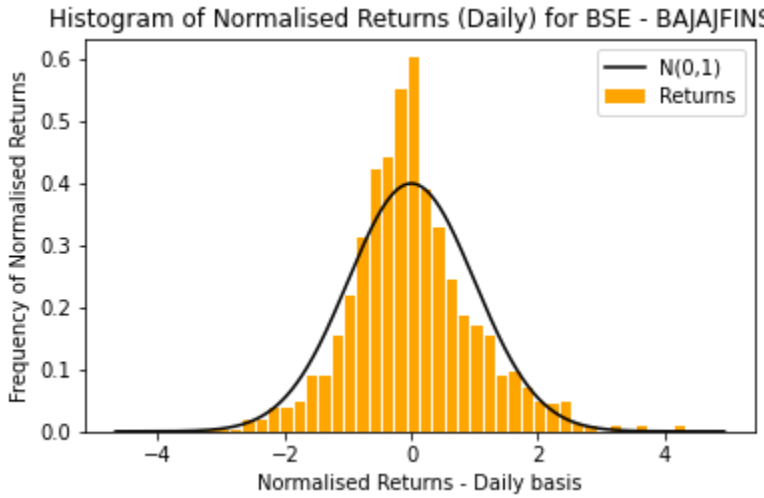

Histogram of Normalised Returns (Weekly) for BSE - ITC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

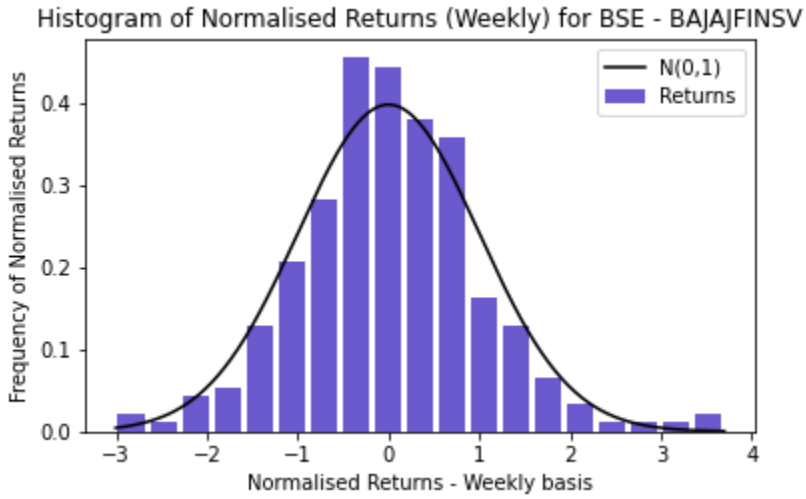

Histogram of Normalised Returns (Monthly) for BSE - ITC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

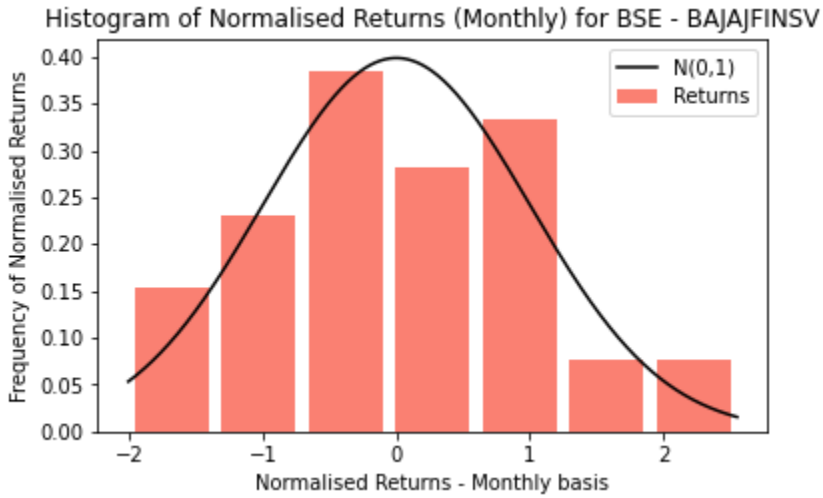

Histogram of Normalised Returns (Daily) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

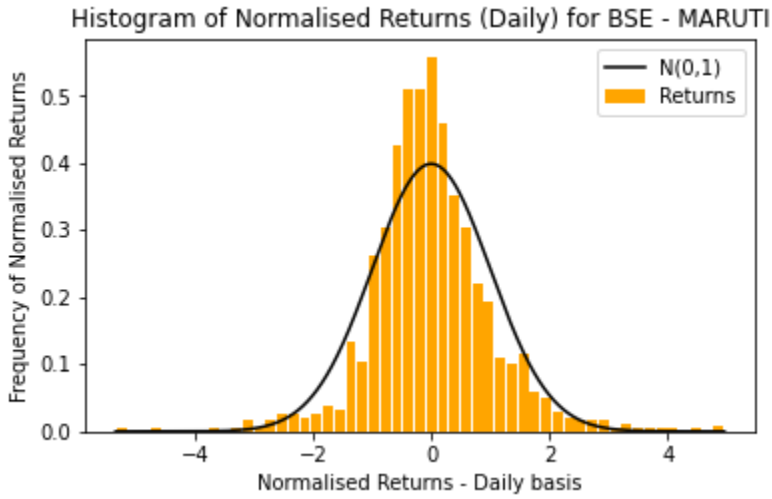

Histogram of Normalised Returns (Weekly) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

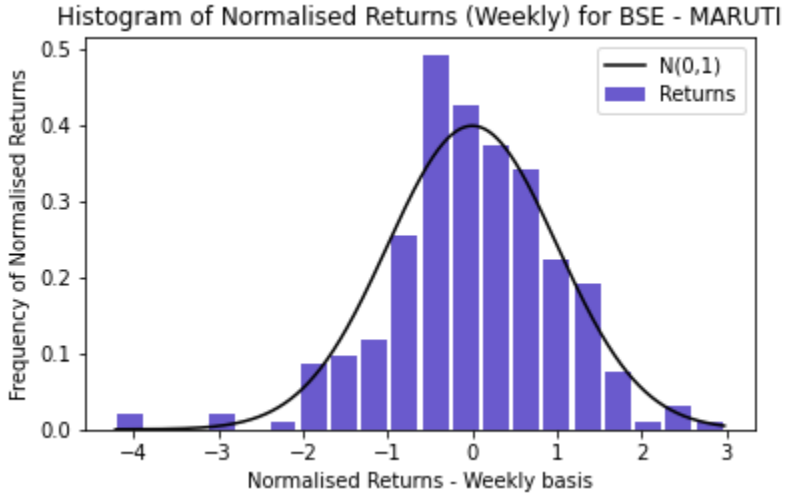

Histogram of Normalised Returns (Monthly) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

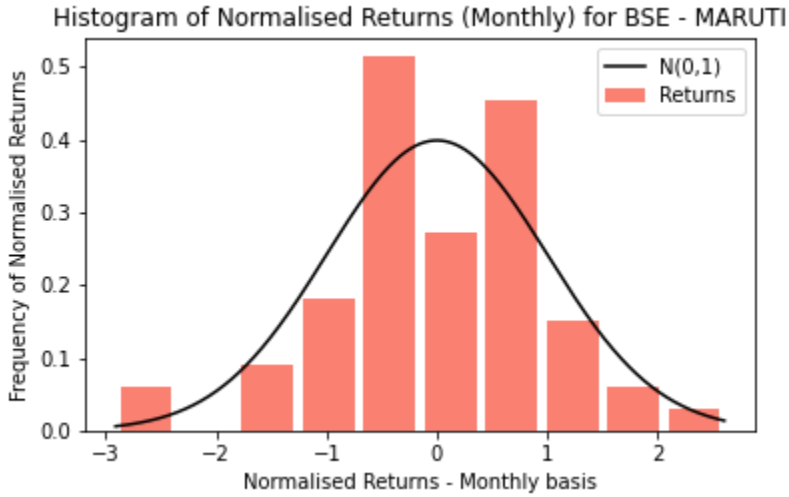

Histogram of Normalised Returns (Daily) for BSE - BAJAJFINSV
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

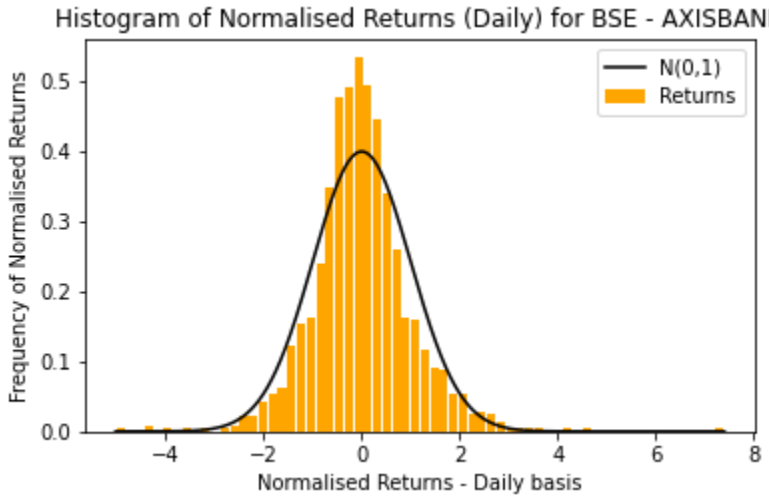

Histogram of Normalised Returns (Weekly) for BSE - BAJAJFINSV
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

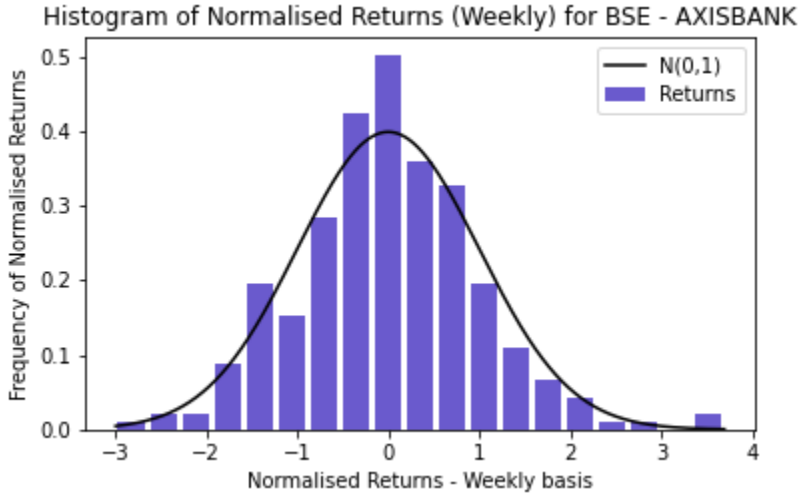

Histogram of Normalised Returns (Monthly) for BSE - BAJAJFINSV
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

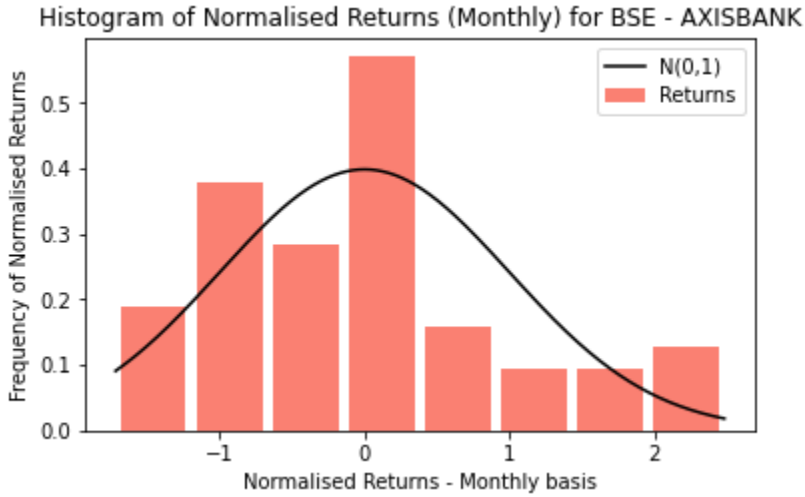

Histogram of Normalised Returns (Daily) for BSE - MARUTI
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

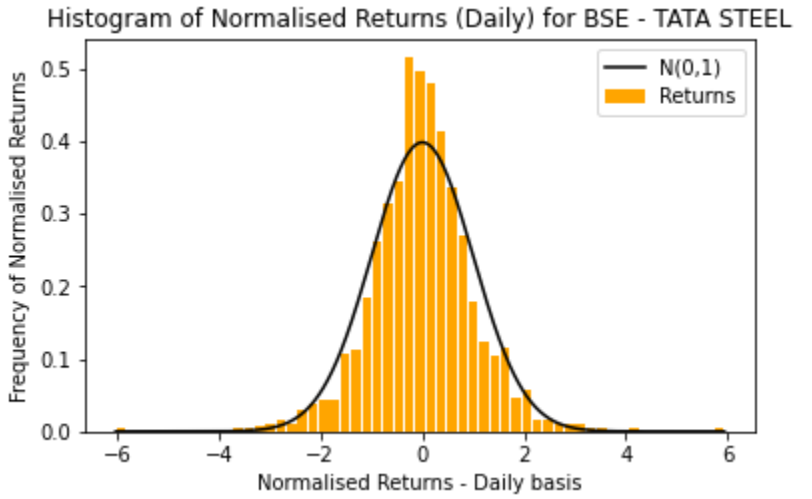

Histogram of Normalised Returns (Weekly) for BSE - MARUTI
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

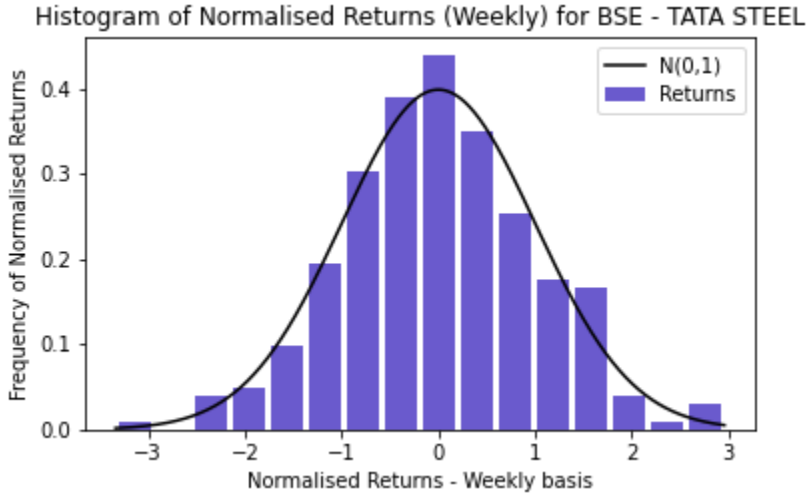

Histogram of Normalised Returns (Monthly) for BSE - MARUTI
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

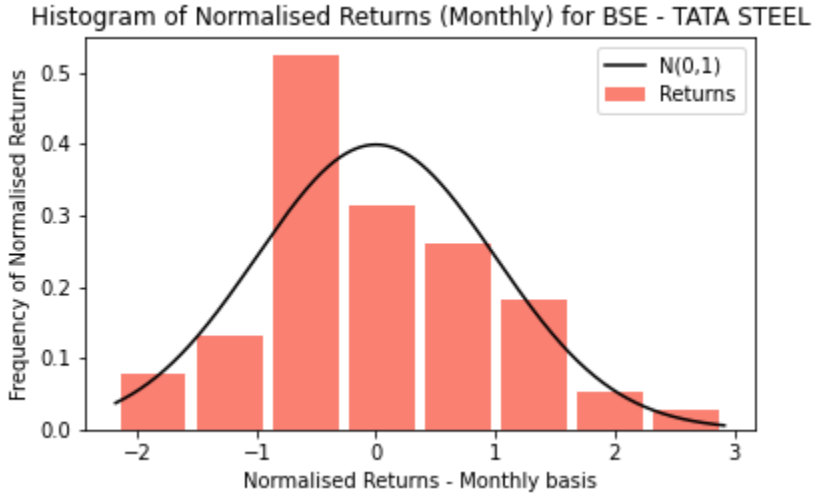

Histogram of Normalised Returns (Daily) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

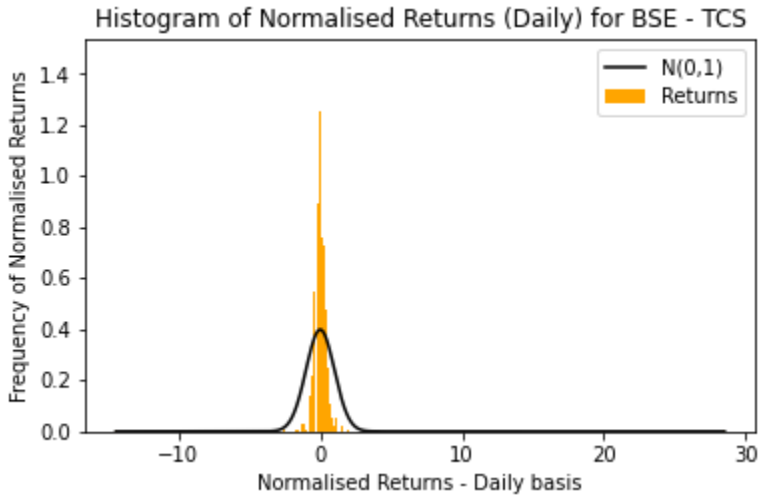

Histogram of Normalised Returns (Weekly) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

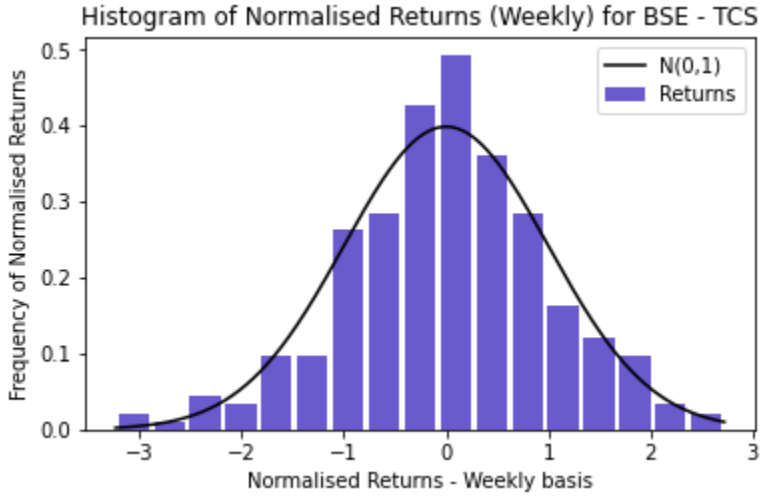

Histogram of Normalised Returns (Monthly) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

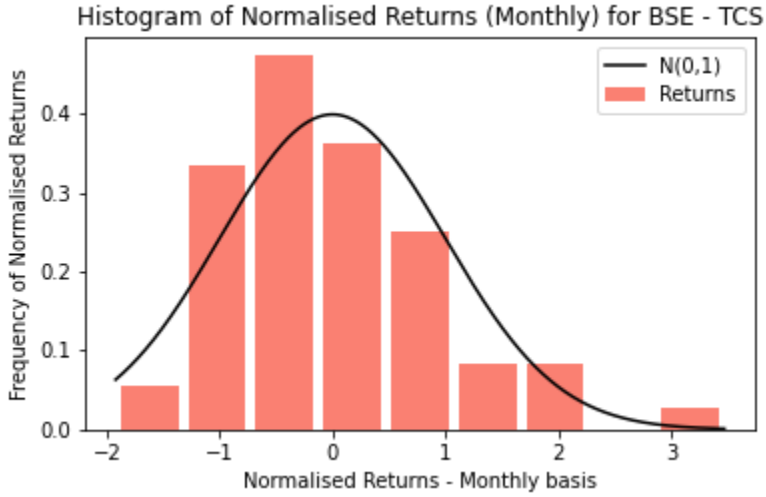

Histogram of Normalised Returns (Daily) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis


Histogram of Normalised Returns (Weekly) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

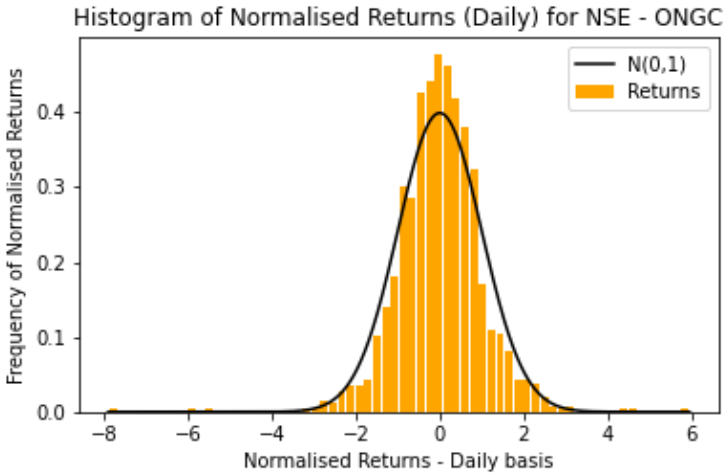

Histogram of Normalised Returns (Monthly) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

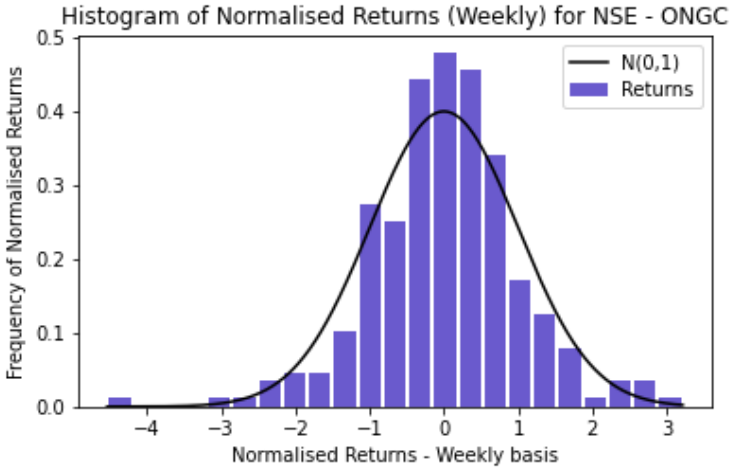

Histogram of Normalised Returns (Daily) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

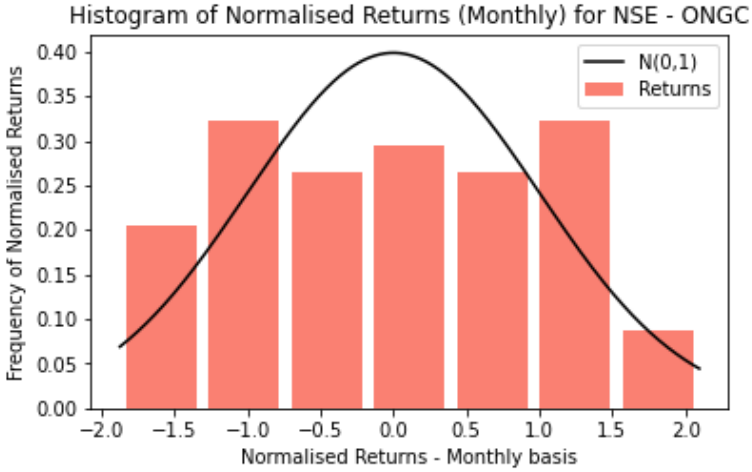

Histogram of Normalised Returns (Weekly) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

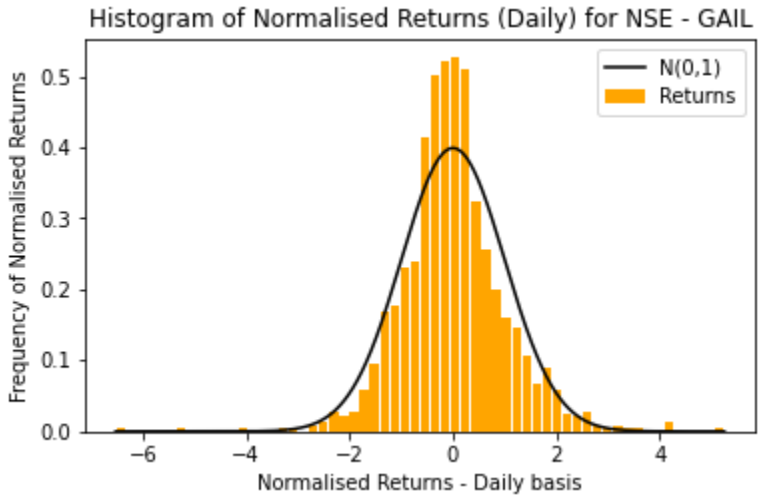

Histogram of Normalised Returns (Monthly) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

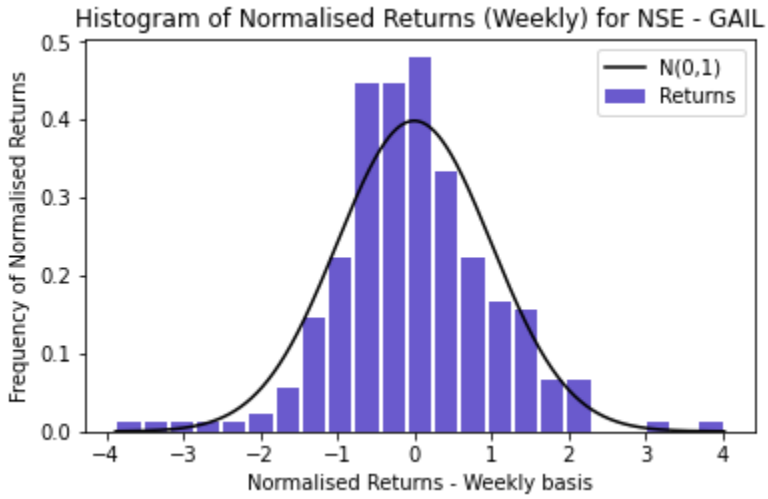
NSE:

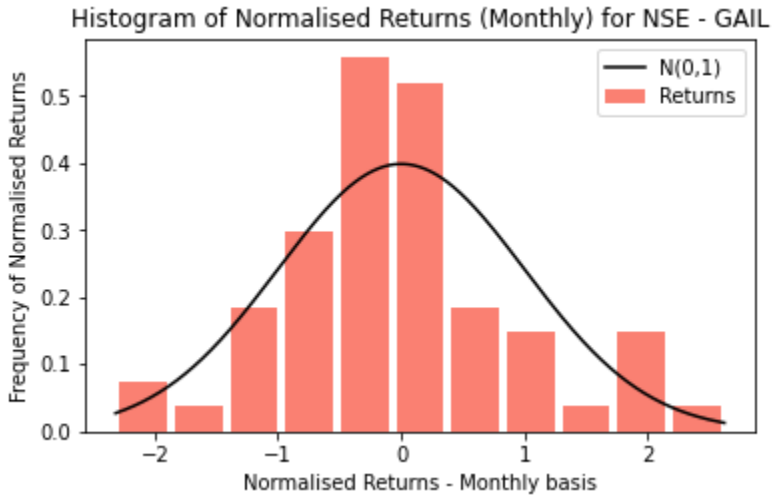

Histogram of Normalised Returns (Daily) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

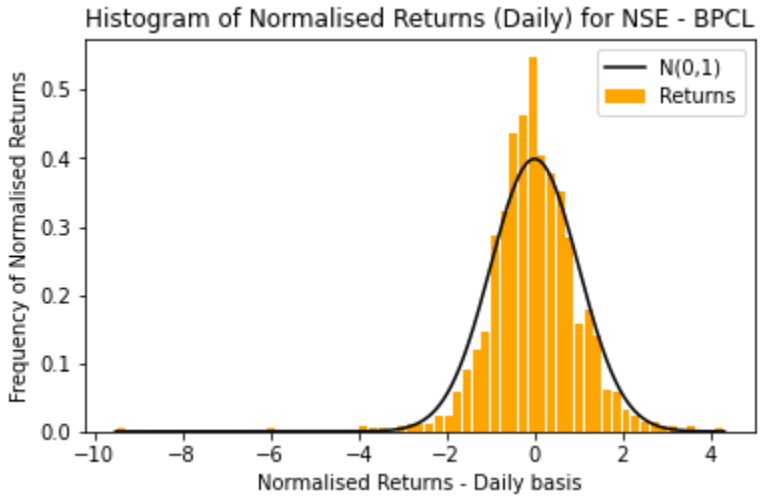

Histogram of Normalised Returns (Weekly) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

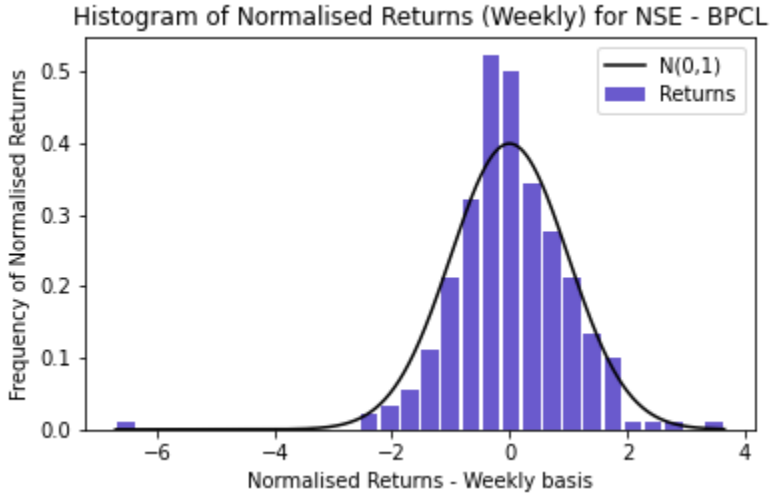

Histogram of Normalised Returns (Monthly) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

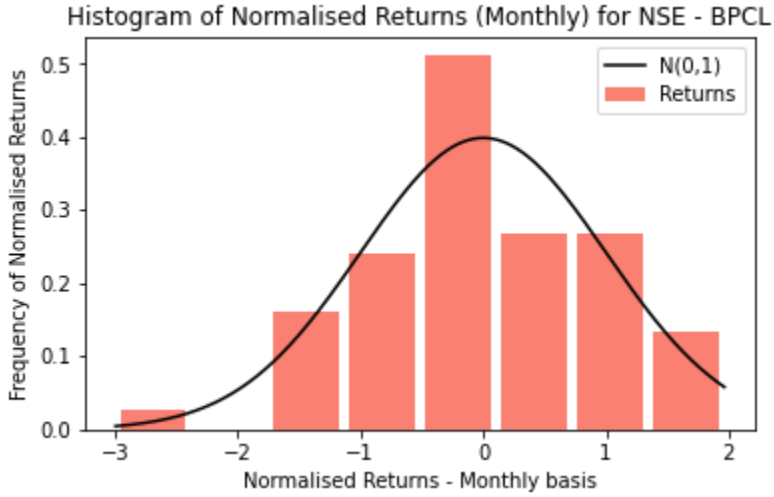

Histogram of Normalised Returns (Daily) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

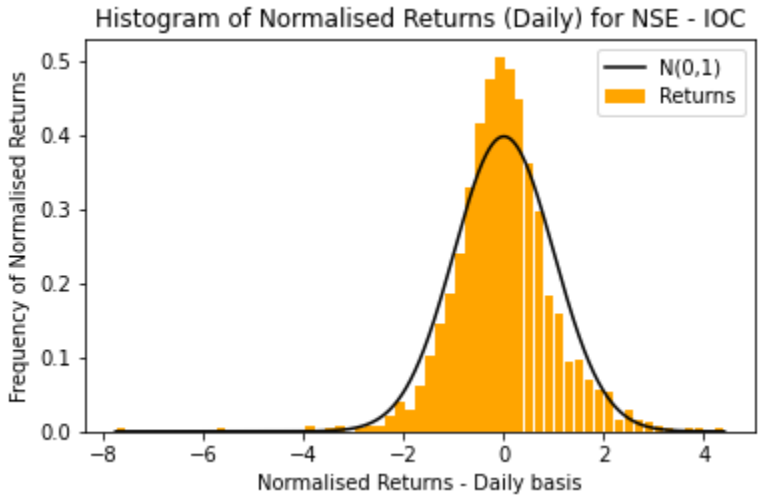

Histogram of Normalised Returns (Weekly) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

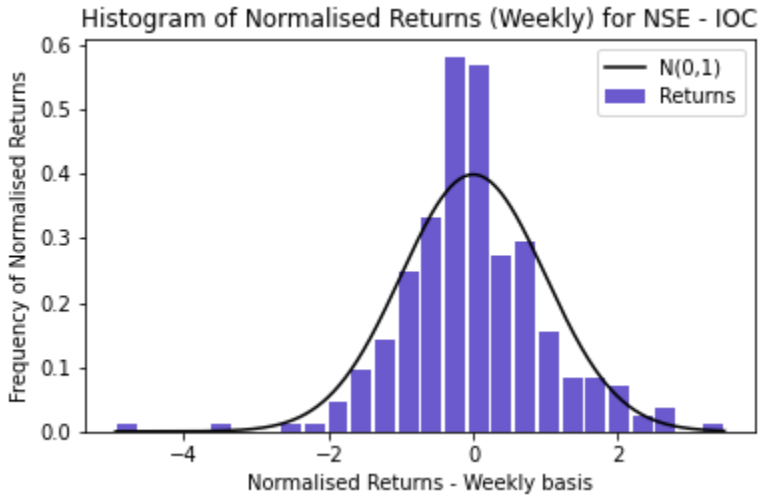

Histogram of Normalised Returns (Monthly) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

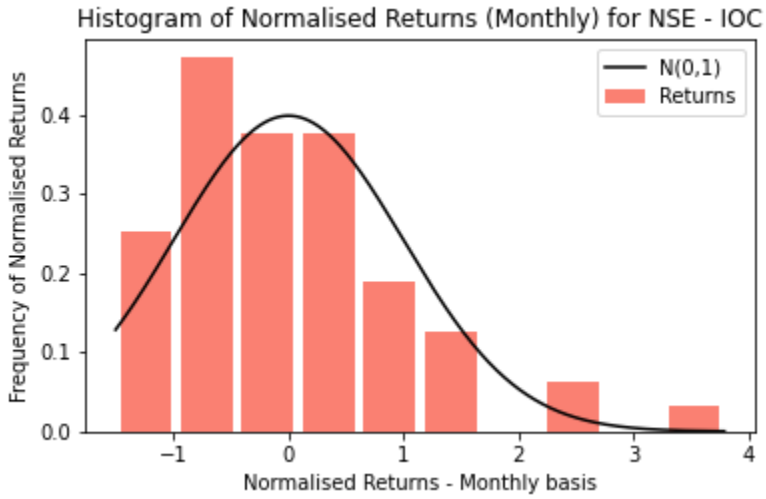

Histogram of Normalised Returns (Daily) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

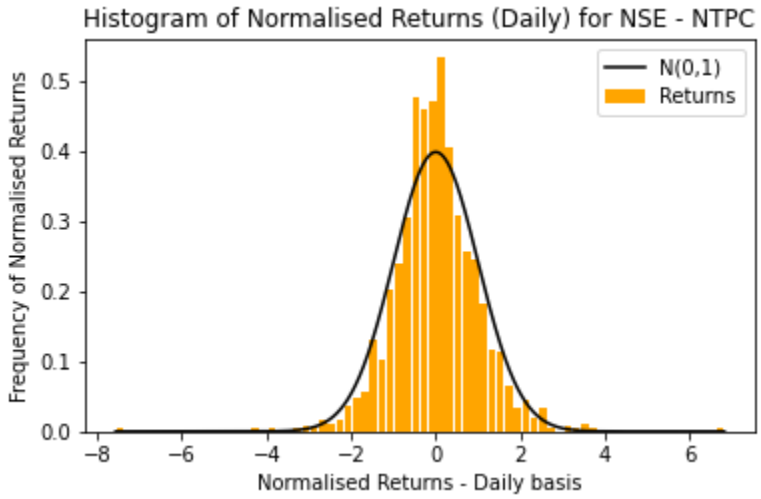

Histogram of Normalised Returns (Weekly) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

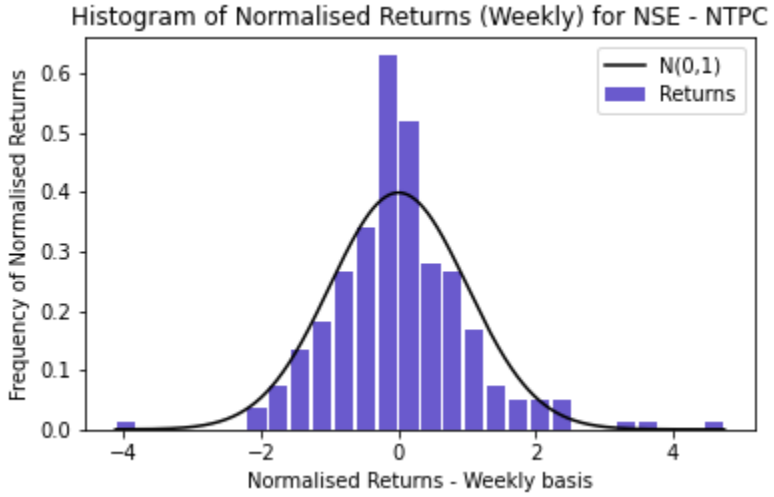

Histogram of Normalised Returns (Monthly) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

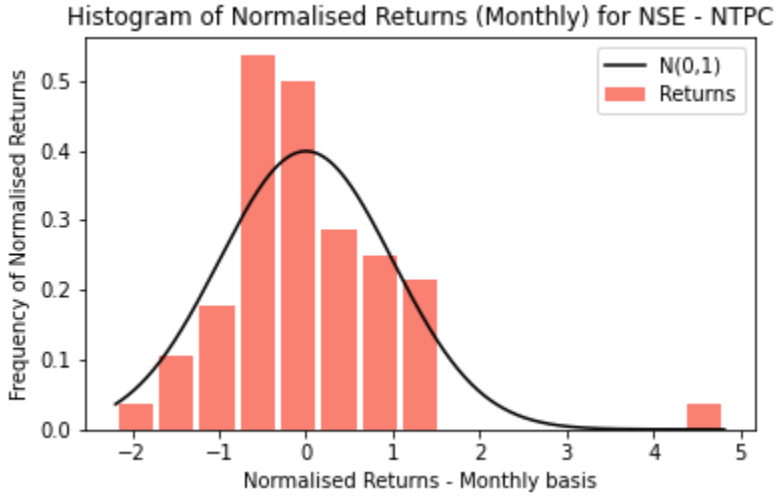

Histogram of Normalised Returns (Daily) for NSE - IOC
Frequency of Normalised Returns
Normalised Returns - Daily basis
N(0,1)
Returns

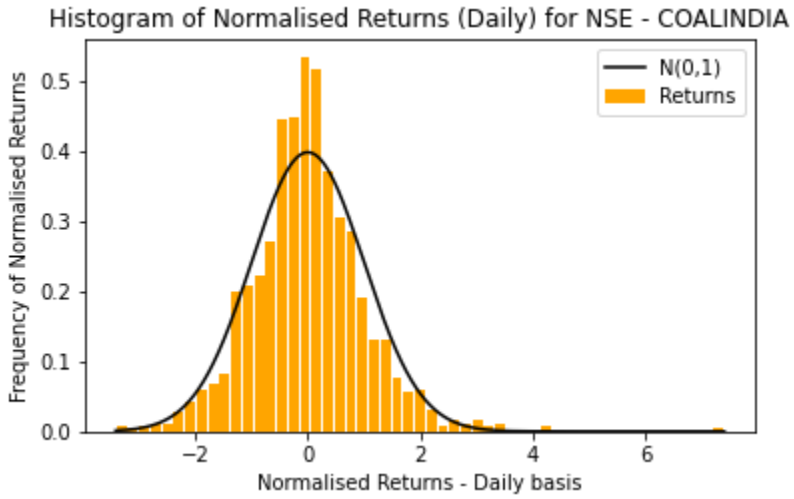

Histogram of Normalised Returns (Weekly) for NSE - IOC
Frequency of Normalised Returns
Normalised Returns - Weekly basis
N(0,1)
Returns

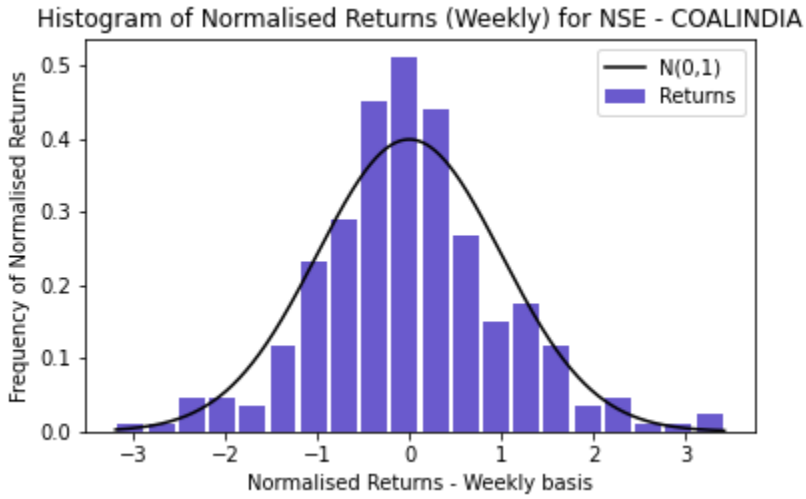

Histogram of Normalised Returns (Monthly) for NSE - IOC
Frequency of Normalised Returns
Normalised Returns - Monthly basis
N(0,1)
Returns

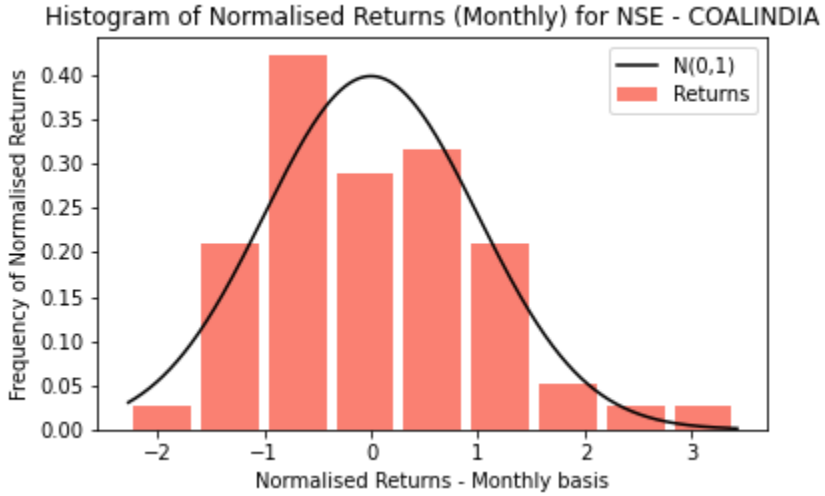

Histogram of Normalised Returns (Daily) for NSE - NTPC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

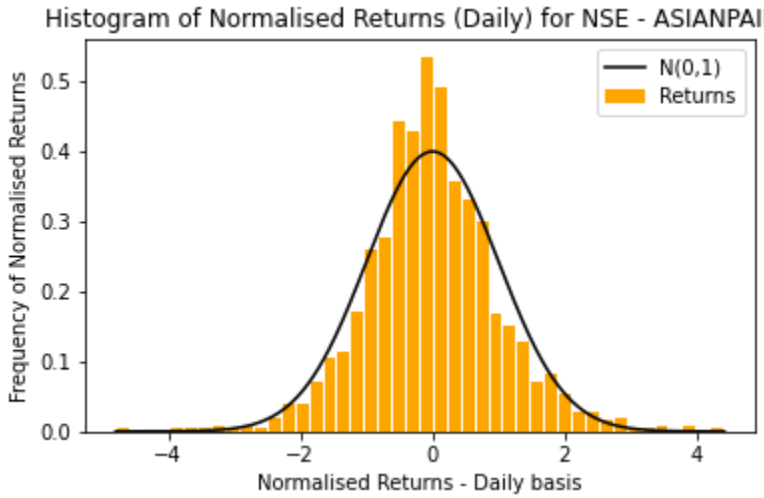

Histogram of Normalised Returns (Weekly) for NSE - NTPC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

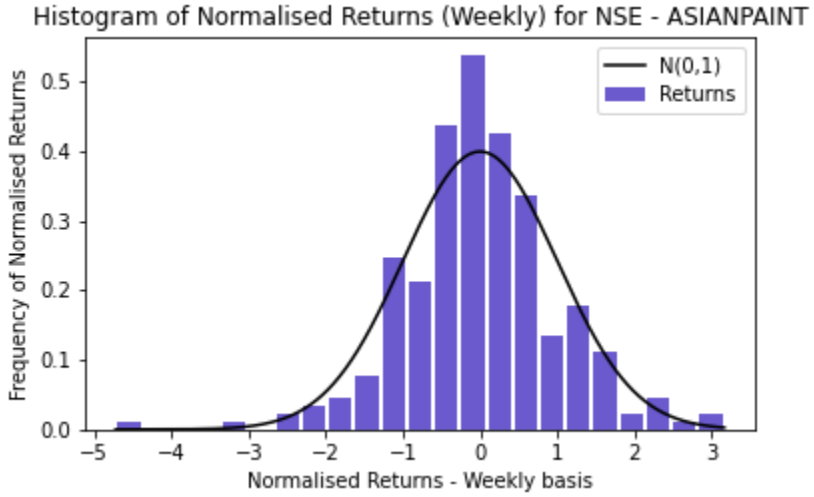

Histogram of Normalised Returns (Monthly) for NSE - NTPC
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

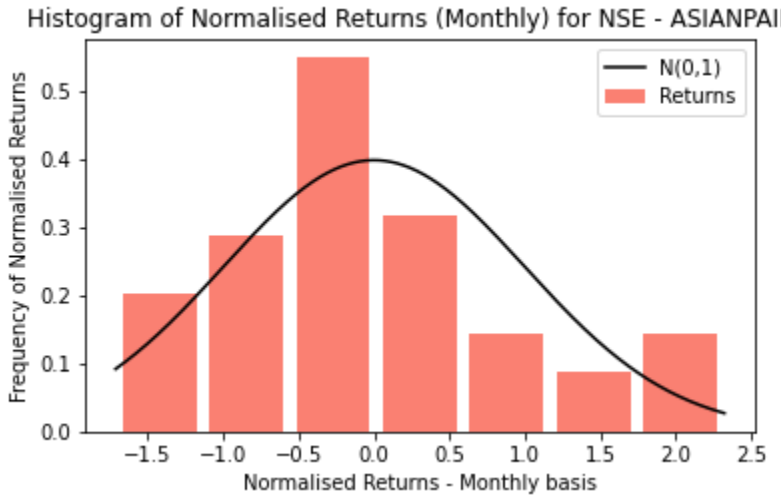

Histogram of Normalised Returns (Daily) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

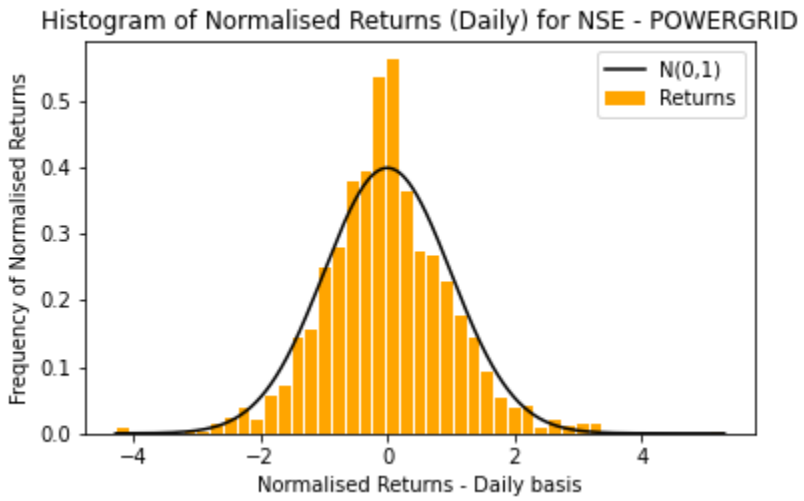

Histogram of Normalised Returns (Weekly) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

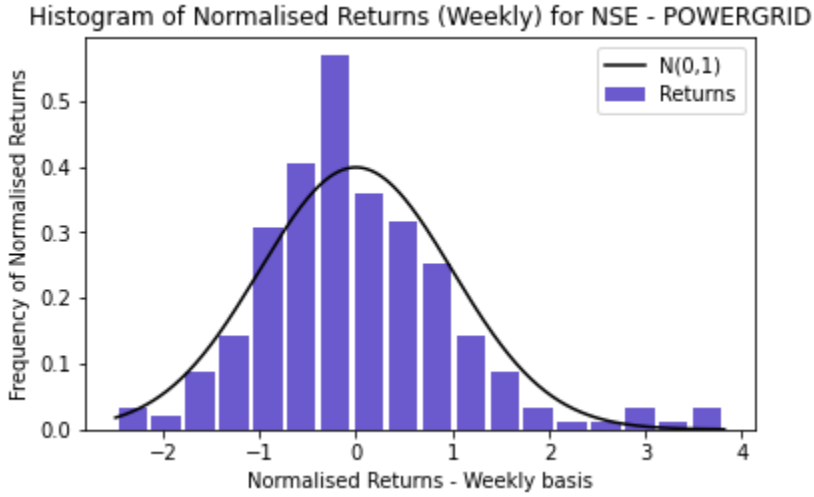

Histogram of Normalised Returns (Monthly) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

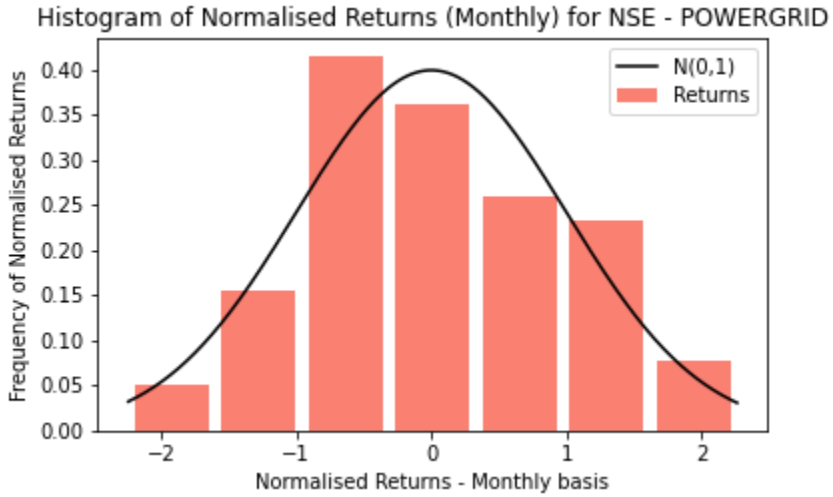

Histogram of Normalised Returns (Daily) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

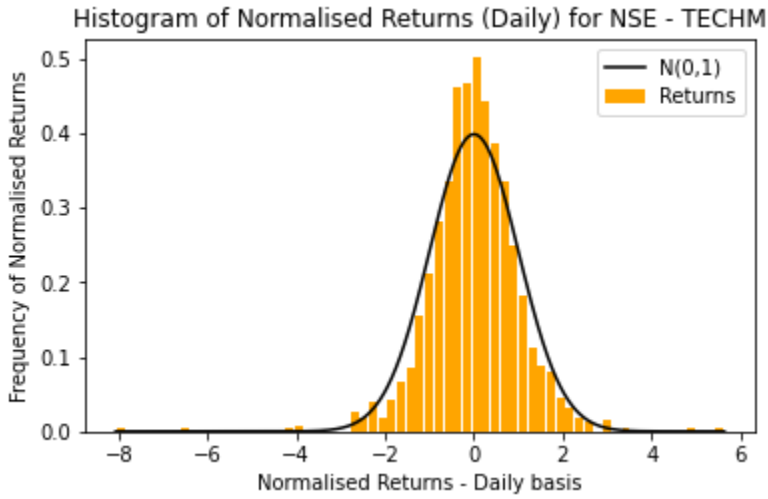

Histogram of Normalised Returns (Weekly) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

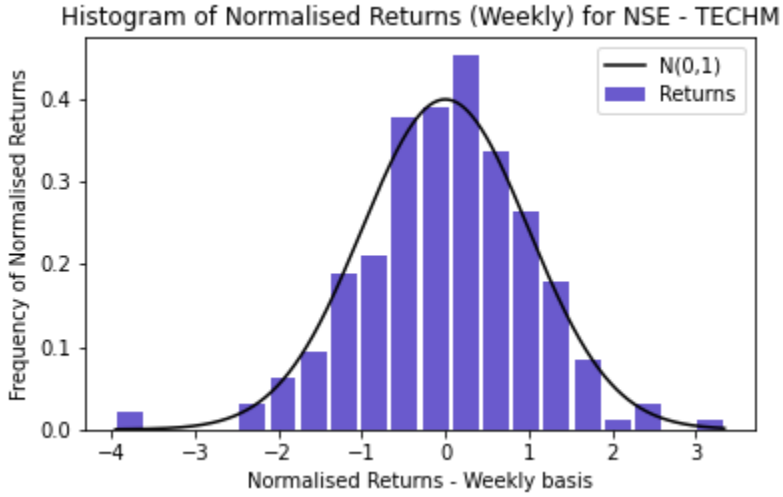

Histogram of Normalised Returns (Monthly) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

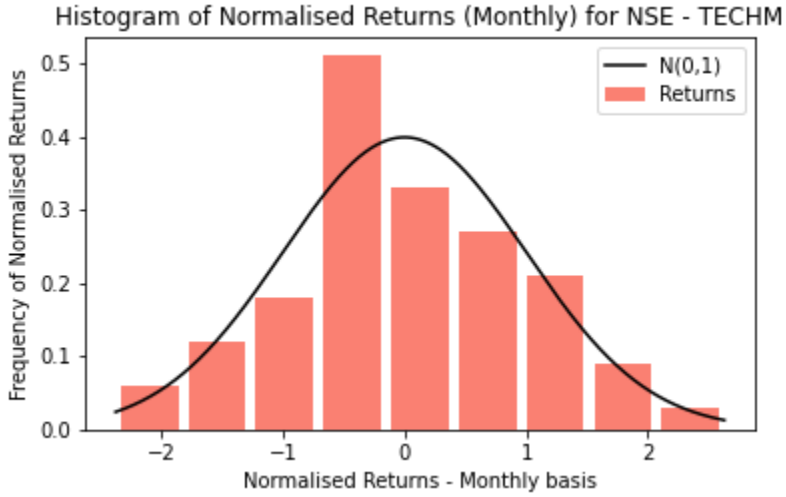

Histogram of Normalised Returns (Daily) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis

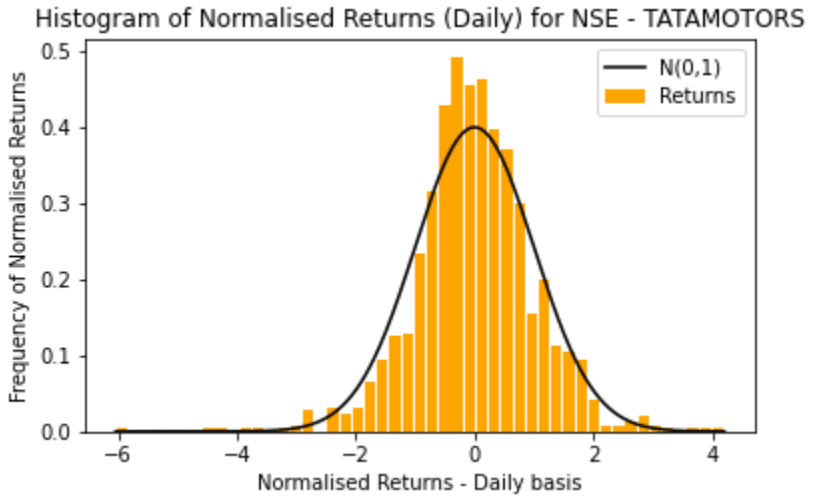

Histogram of Normalised Returns (Weekly) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis

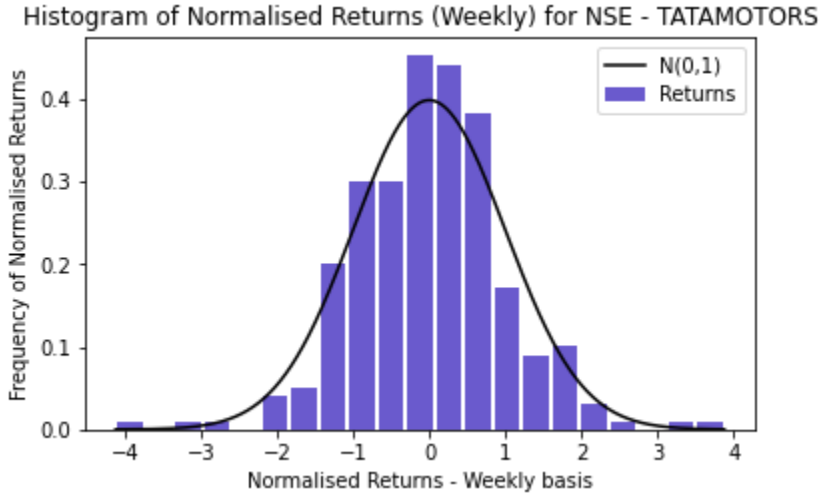

Histogram of Normalised Returns (Monthly) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

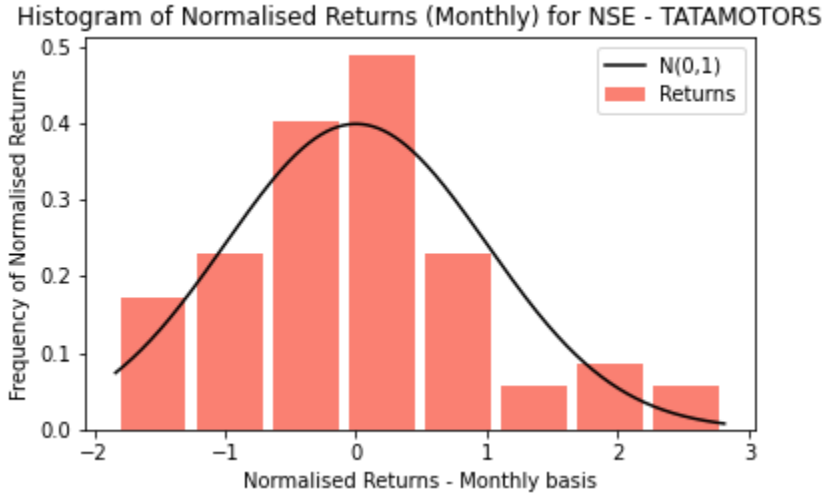

Histogram of Normalised Returns (Daily) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Daily basis


Histogram of Normalised Returns (Weekly) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Weekly basis


Histogram of Normalised Returns (Monthly) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Returns
Normalised Returns - Monthly basis

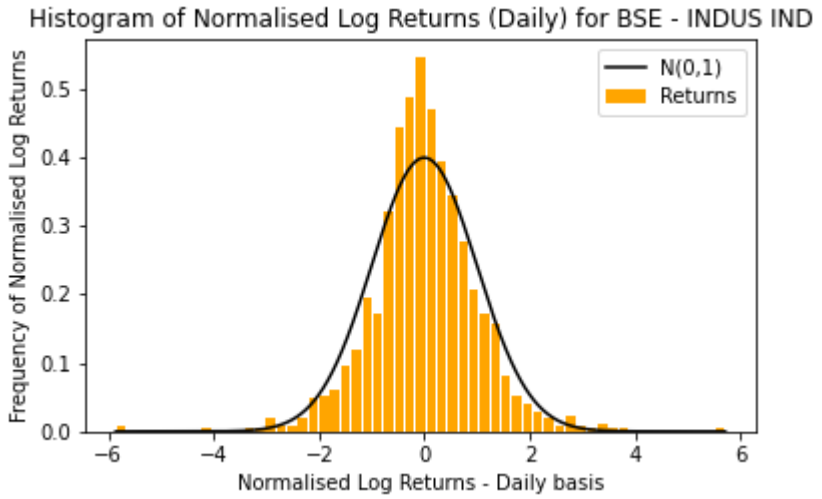

Histogram of Normalised Returns (Daily) for NSE - TATAMOTORS
Frequency of Normalised Returns
Normalised Returns - Daily basis
N(0,1)
Returns

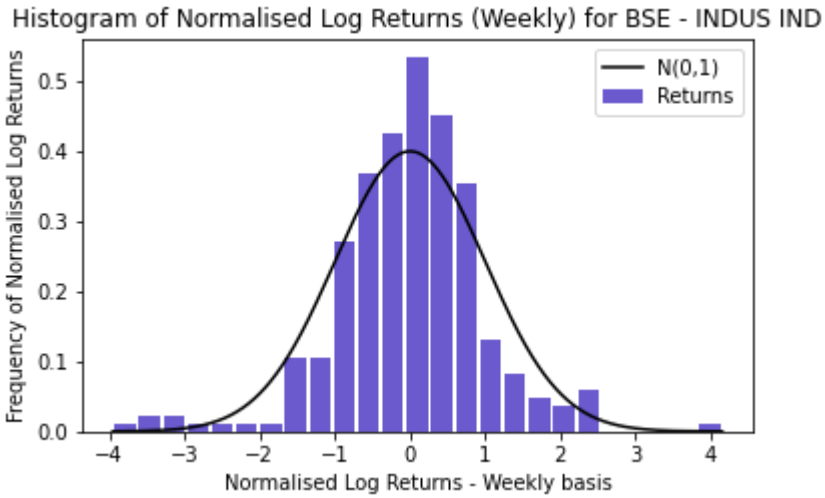

Histogram of Normalised Returns (Weekly) for NSE - TATAMOTORS
Frequency of Normalised Returns
Normalised Returns - Weekly basis
N(0,1)
Returns

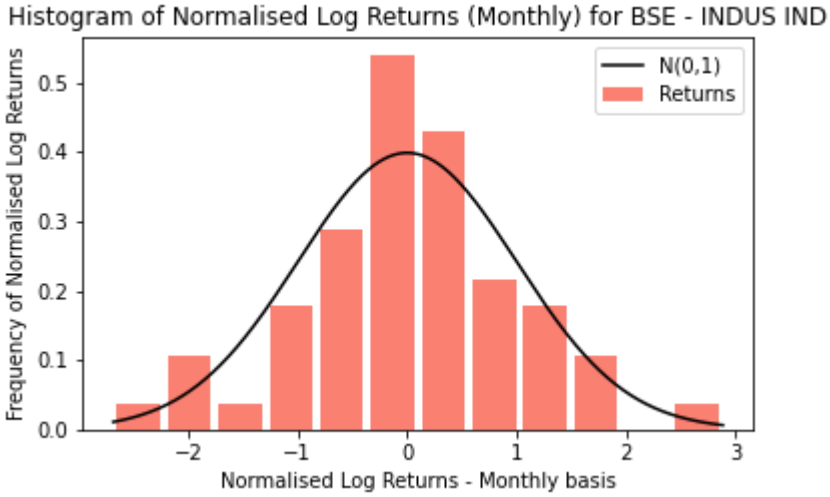

Histogram of Normalised Returns (Monthly) for NSE - TATAMOTORS
Frequency of Normalised Returns
Normalised Returns - Monthly basis
N(0,1)
Returns

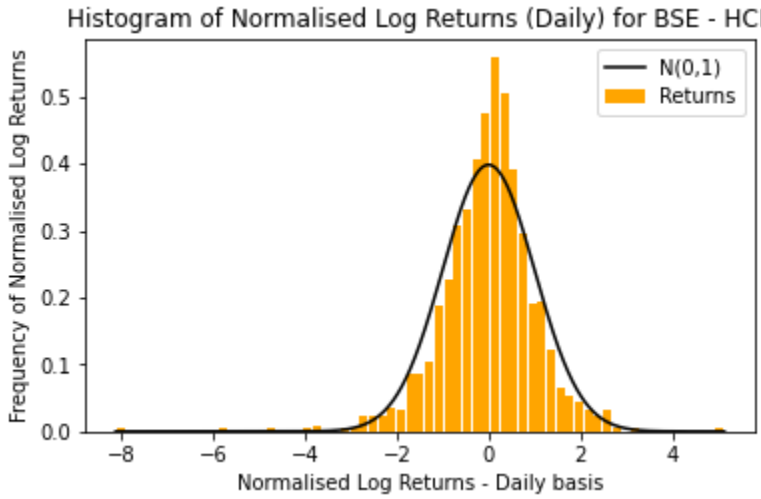
Question 3:

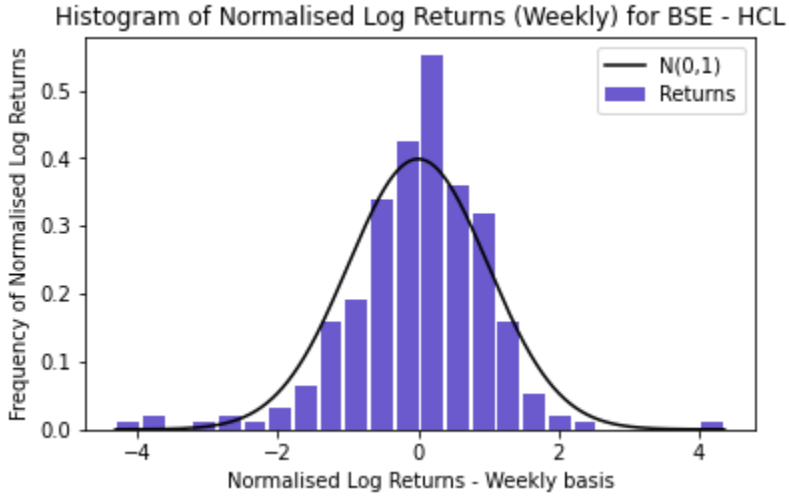
BSE:

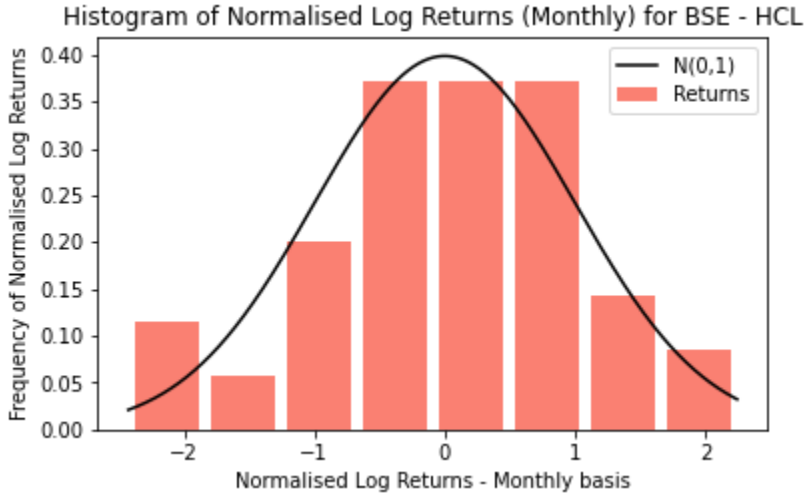

Histogram of Normalised Log Returns (Daily) for BSE - INDUS IND
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

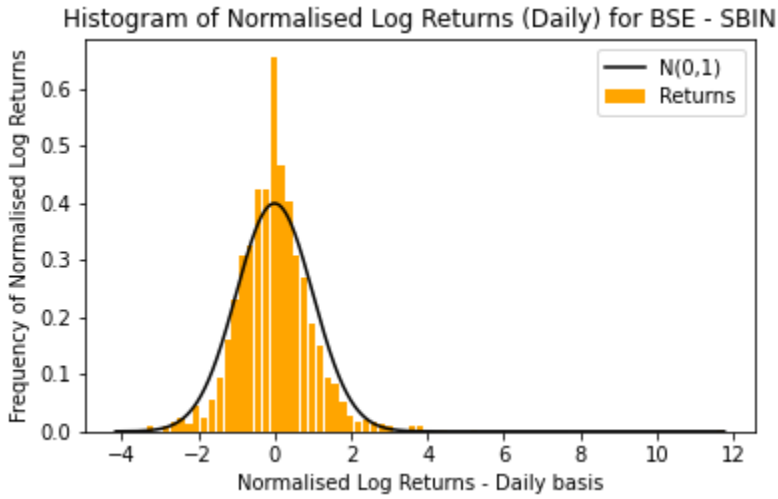

Histogram of Normalised Log Returns (Weekly) for BSE - INDUS IND
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

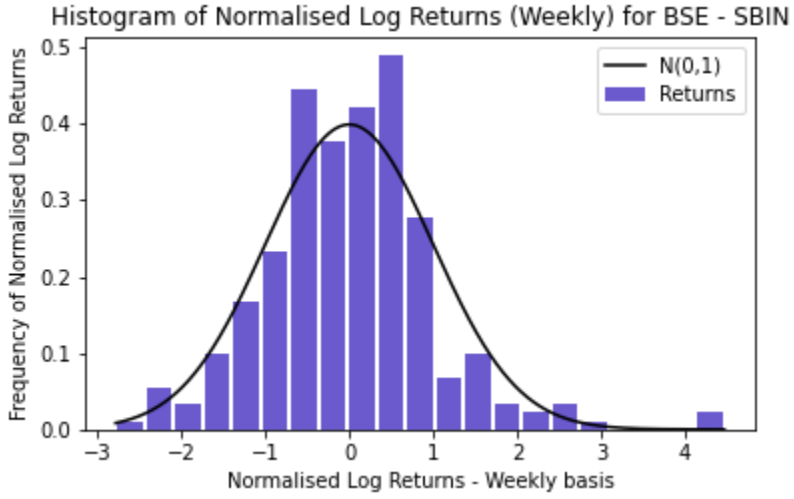

Histogram of Normalised Log Returns (Monthly) for BSE - INDUS IND
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

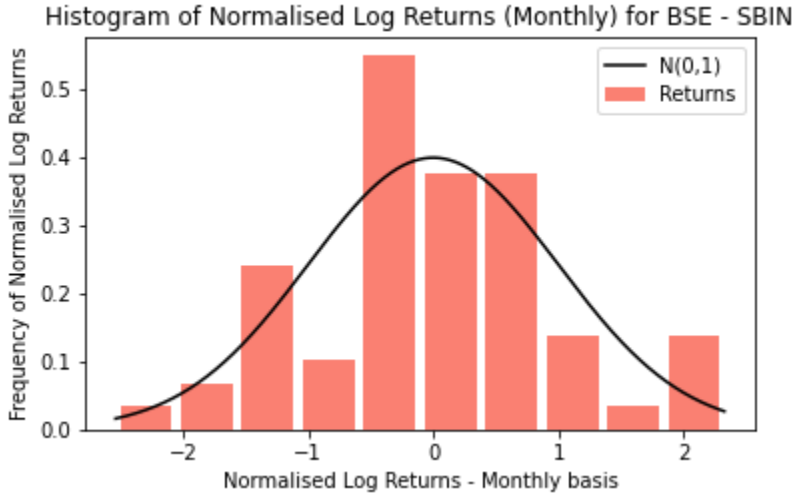

Histogram of Normalised Log Returns (Daily) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

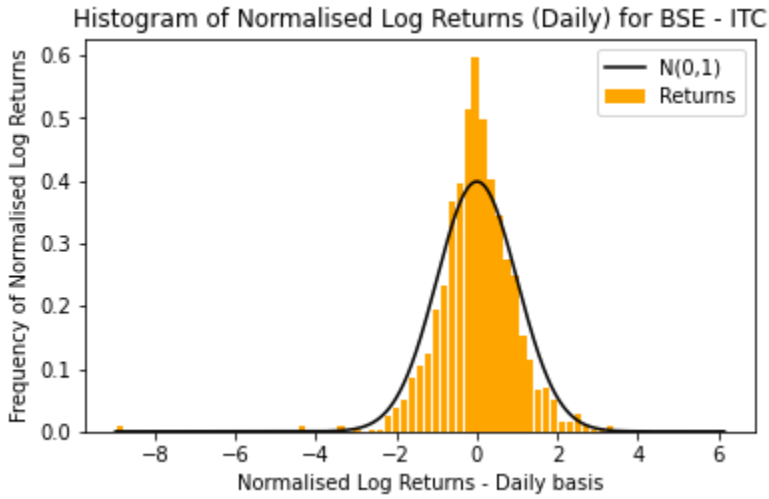

Histogram of Normalised Log Returns (Weekly) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

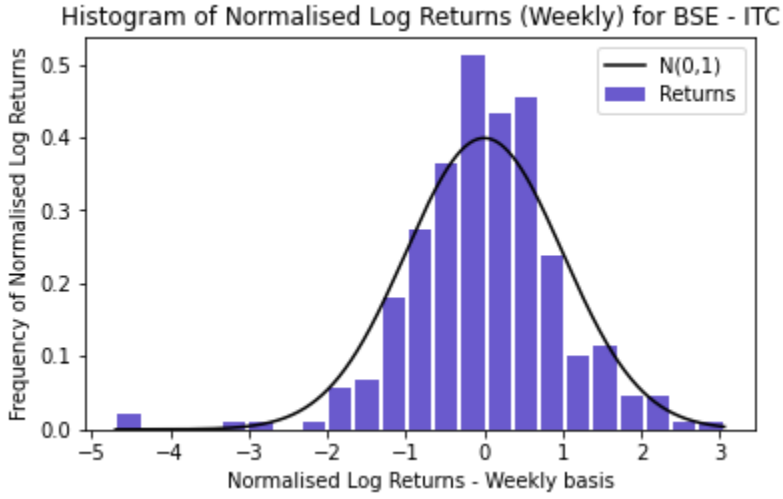

Histogram of Normalised Log Returns (Monthly) for BSE - HCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

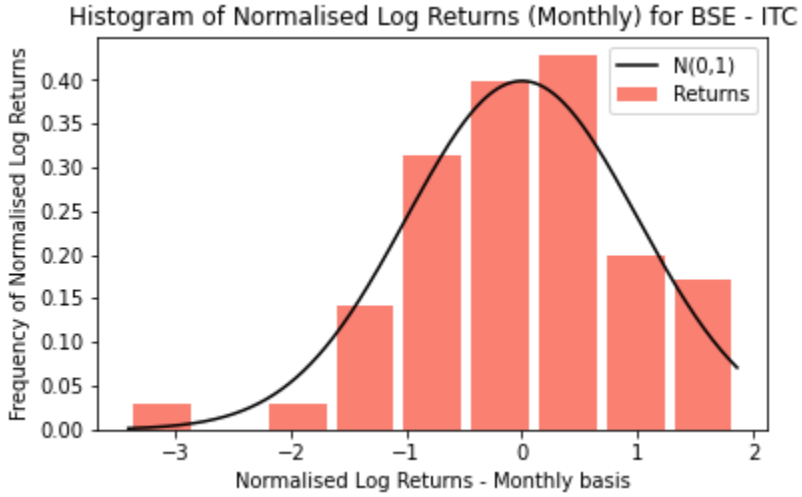

Histogram of Normalised Log Returns (Daily) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

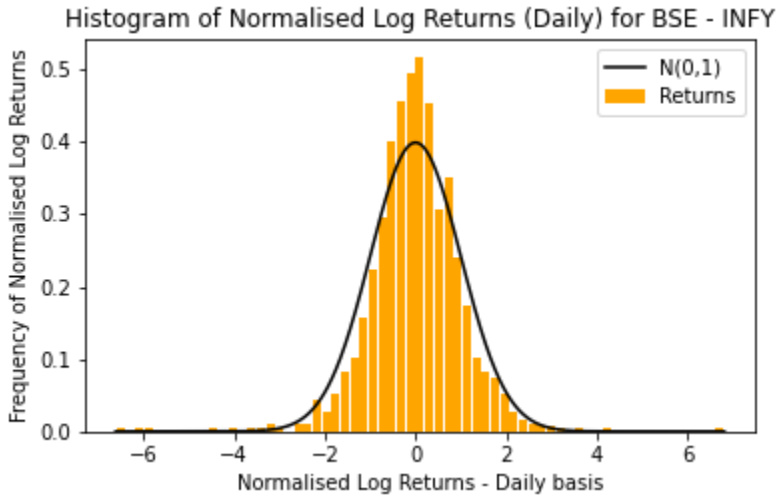

Histogram of Normalised Log Returns (Weekly) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

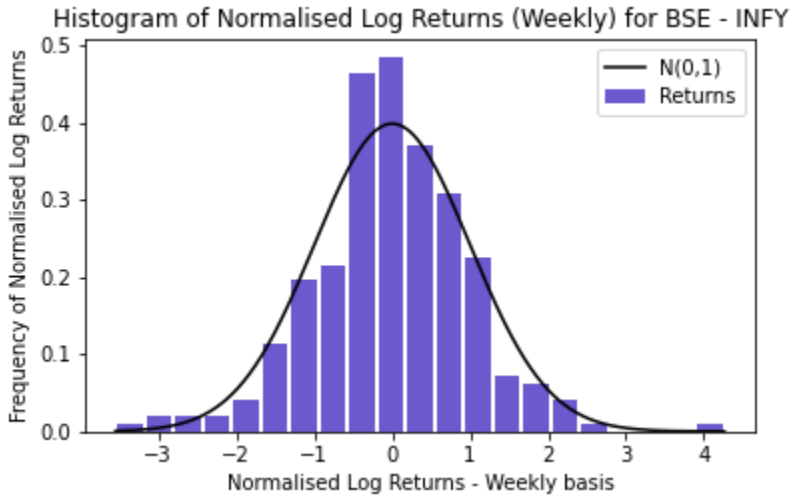

Histogram of Normalised Log Returns (Monthly) for BSE - SBIN
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

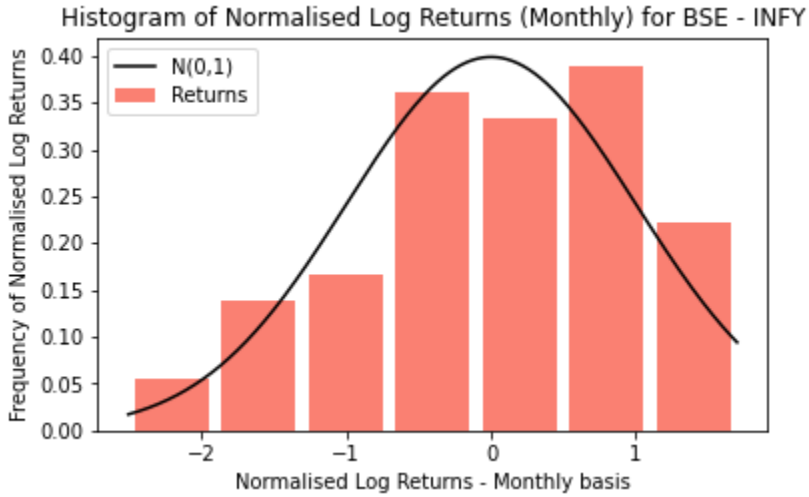

Histogram of Normalised Log Returns (Daily) for BSE - ITC
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis
N(0,1)
Returns

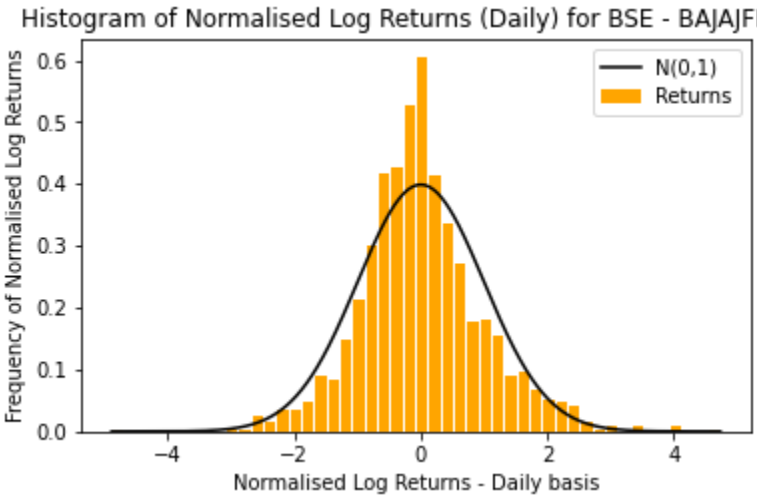

Histogram of Normalised Log Returns (Weekly) for BSE - ITC
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis
N(0,1)
Returns

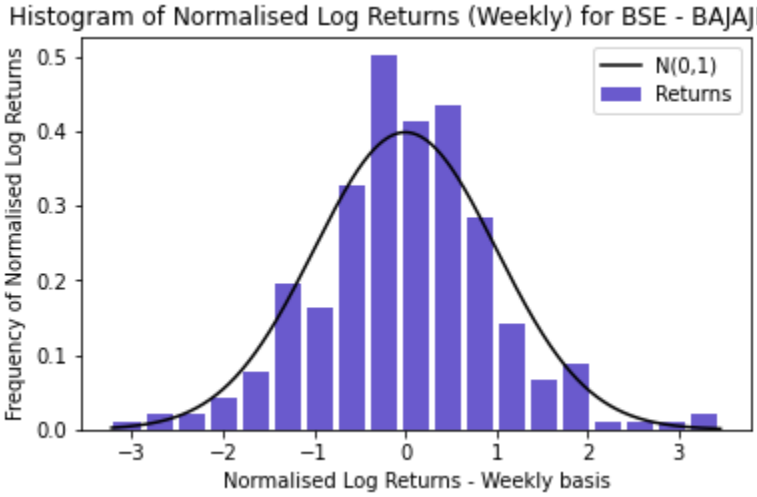

Histogram of Normalised Log Returns (Monthly) for BSE - ITC
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis
N(0,1)
Returns

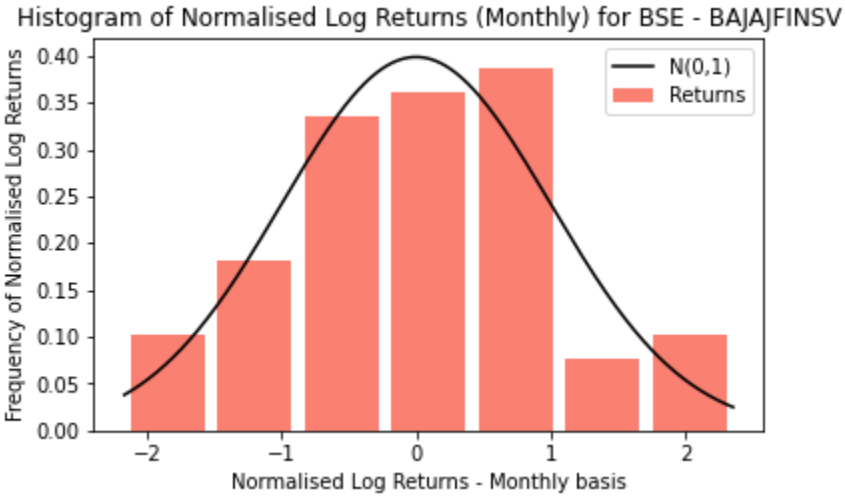

Histogram of Normalised Log Returns (Daily) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

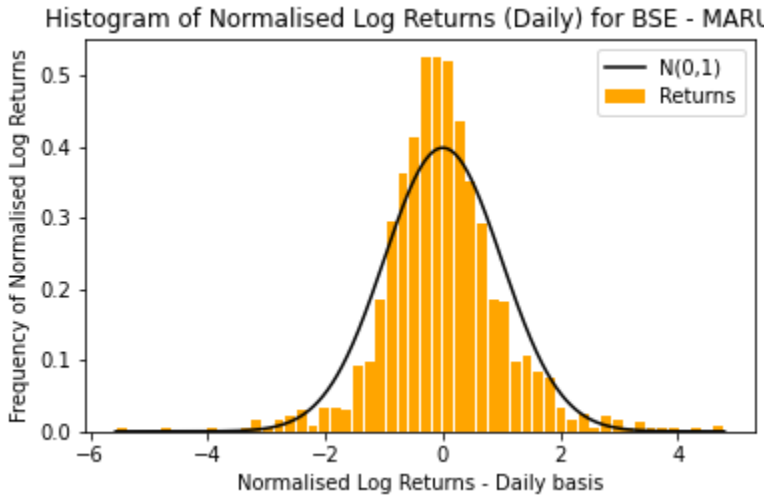

Histogram of Normalised Log Returns (Weekly) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

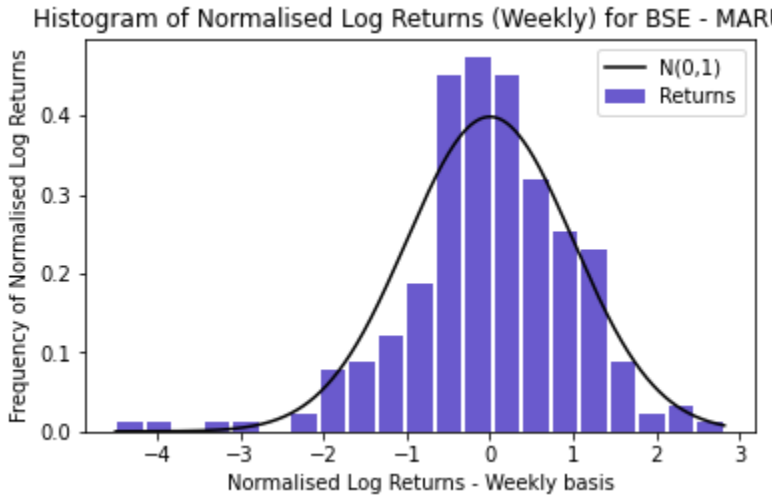

Histogram of Normalised Log Returns (Monthly) for BSE - INFY
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

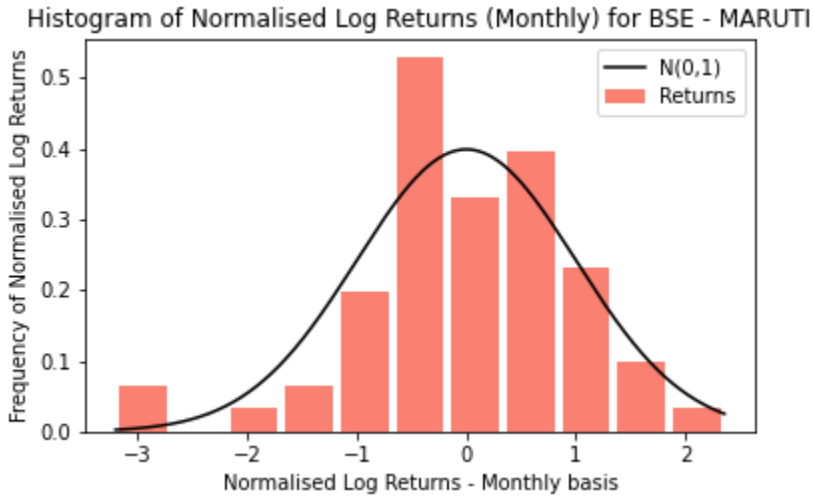

Histogram of Normalised Log Returns (Daily) for BSE - BAJAJFINSV
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis
N(0,1)
Returns

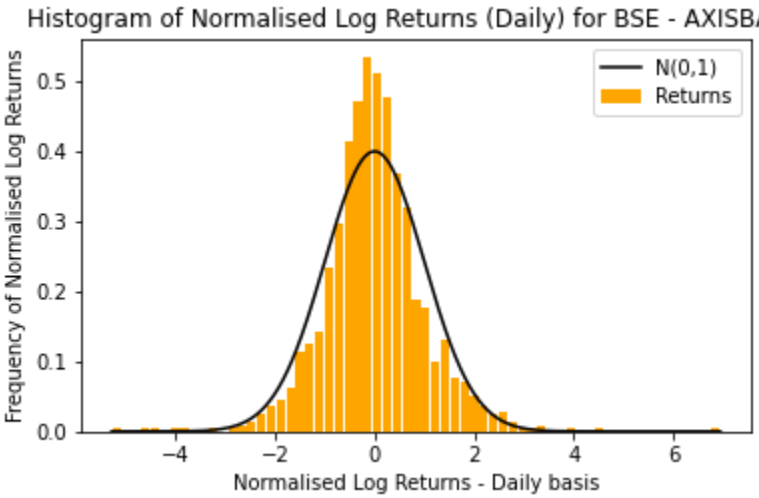

Histogram of Normalised Log Returns (Weekly) for BSE - BAJAJFINSV
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis
N(0,1)
Returns

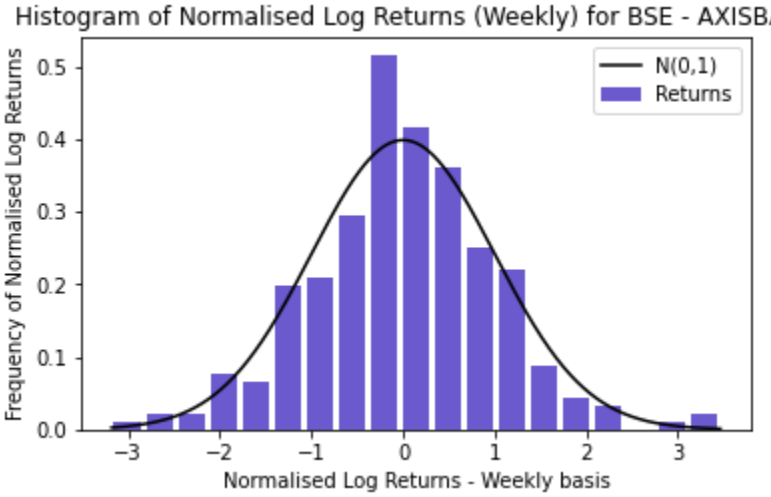

Histogram of Normalised Log Returns (Monthly) for BSE - BAJAJFINSV
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis
N(0,1)
Returns

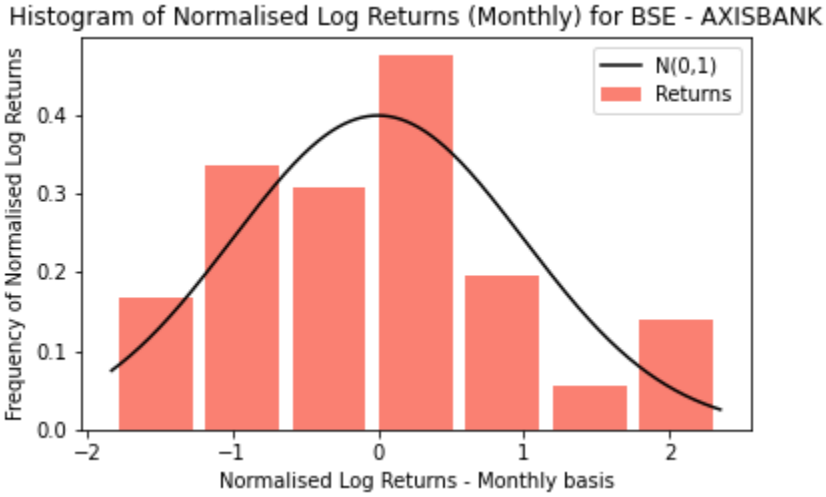

Histogram of Normalised Log Returns (Daily) for BSE - MARUTI
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis
N(0,1)
Returns

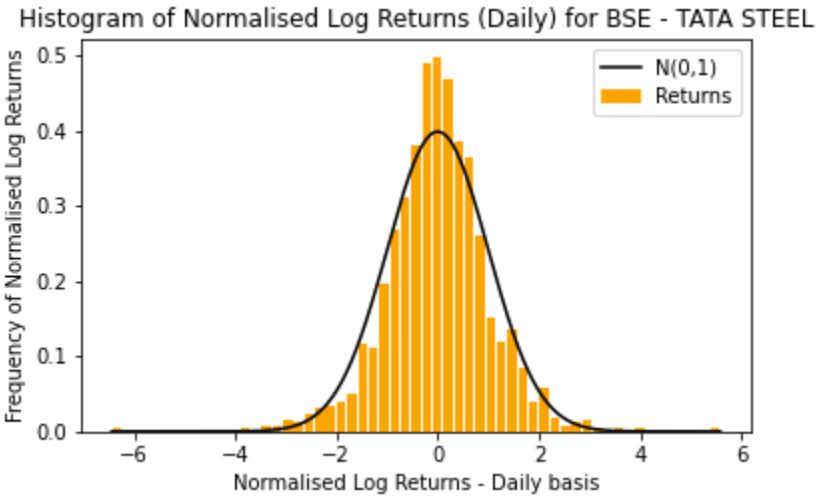

Histogram of Normalised Log Returns (Weekly) for BSE - MARUTI
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis
N(0,1)
Returns

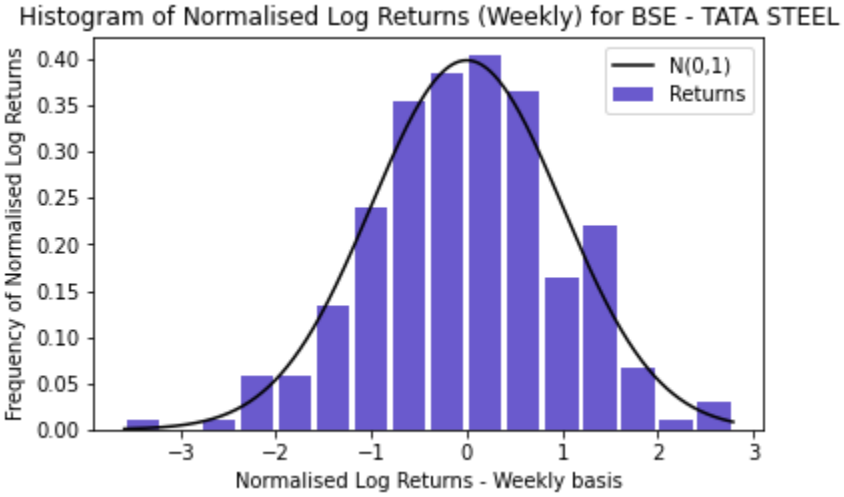

Histogram of Normalised Log Returns (Monthly) for BSE - MARUTI
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis
N(0,1)
Returns

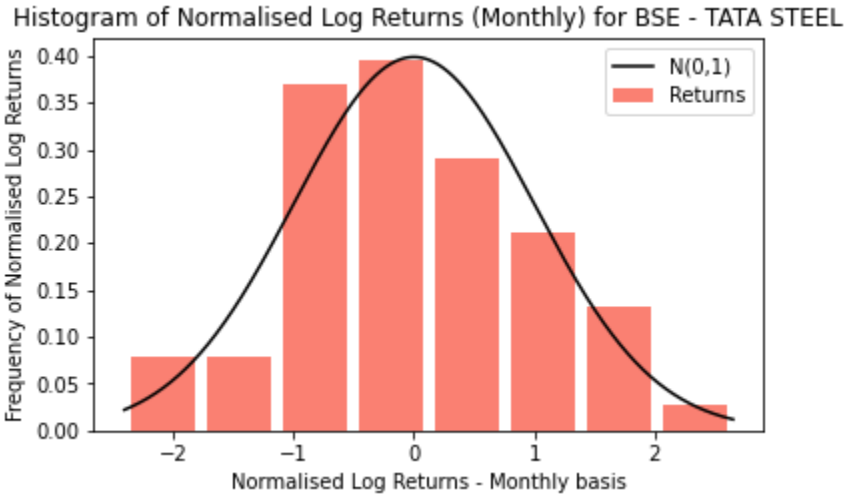

Histogram of Normalised Log Returns (Daily) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

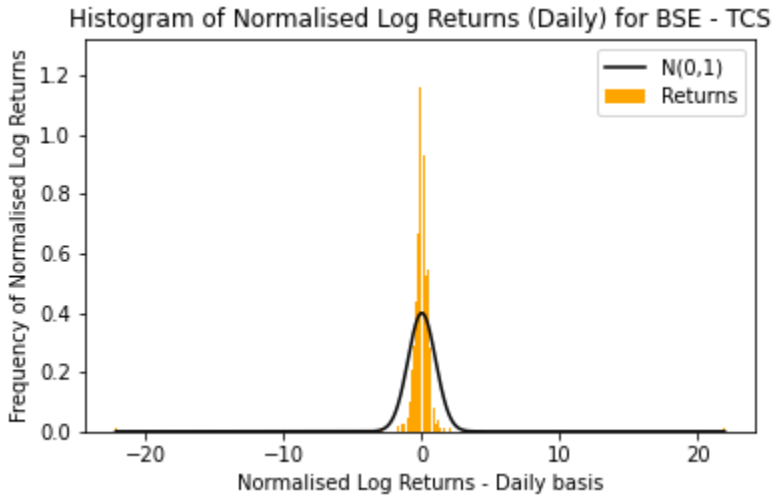

Histogram of Normalised Log Returns (Weekly) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

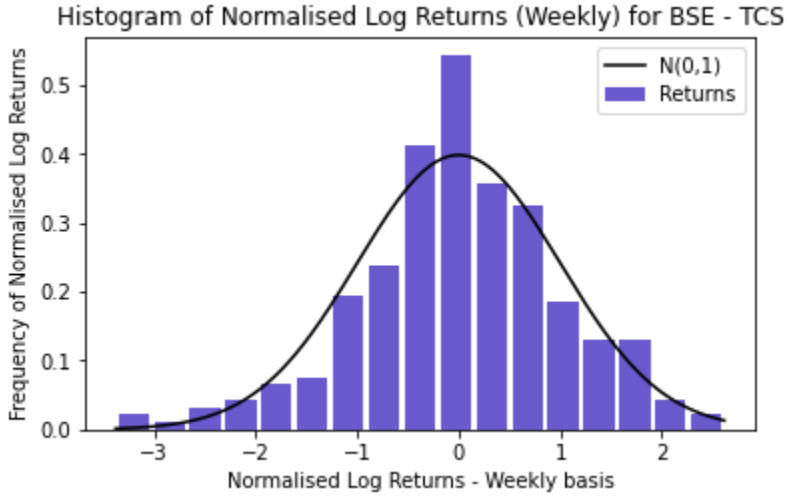

Histogram of Normalised Log Returns (Monthly) for BSE - AXISBANK
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

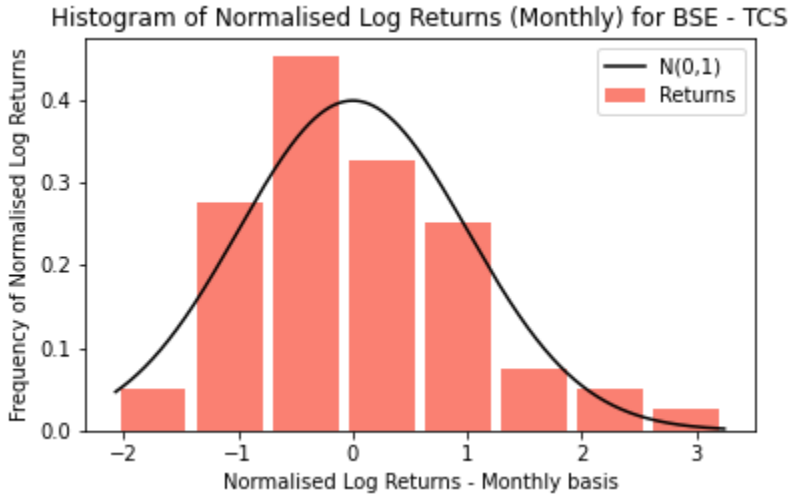

Histogram of Normalised Log Returns (Daily) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis


Histogram of Normalised Log Returns (Weekly) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

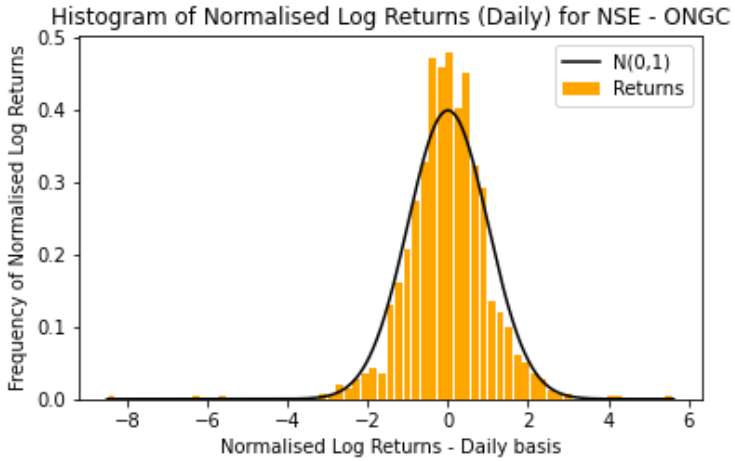

Histogram of Normalised Log Returns (Monthly) for BSE - TATA STEEL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

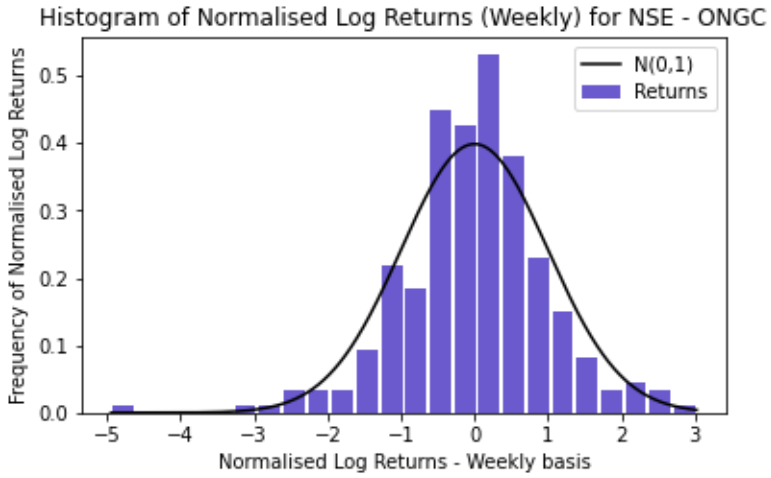

Histogram of Normalised Log Returns (Daily) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

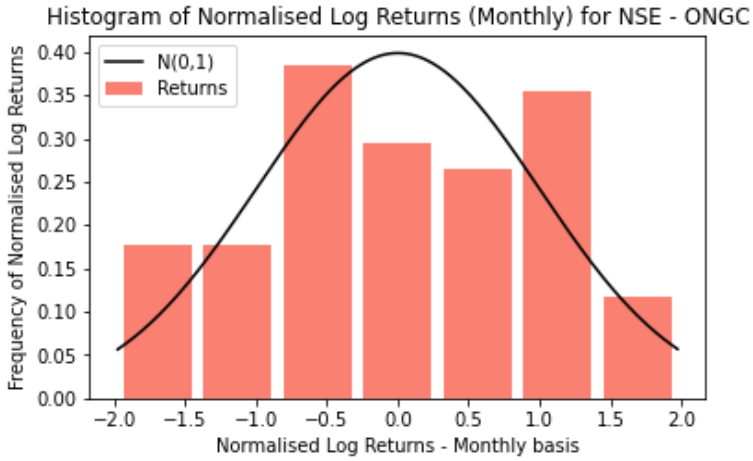

Histogram of Normalised Log Returns (Weekly) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

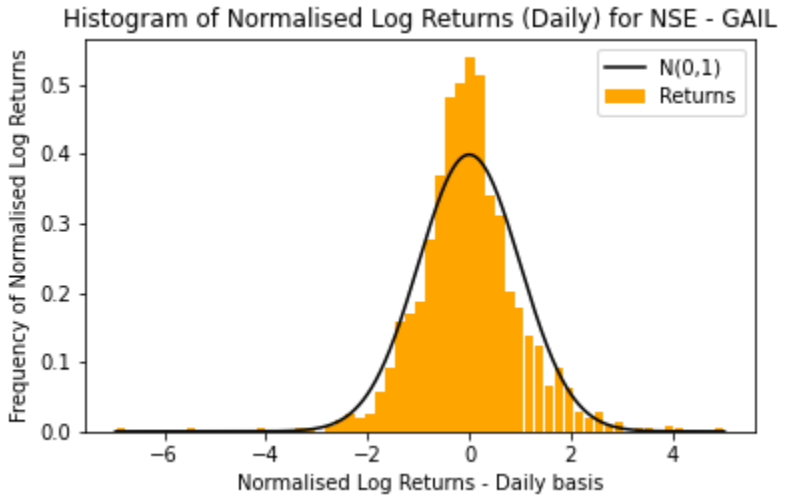

Histogram of Normalised Log Returns (Monthly) for BSE - TCS
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

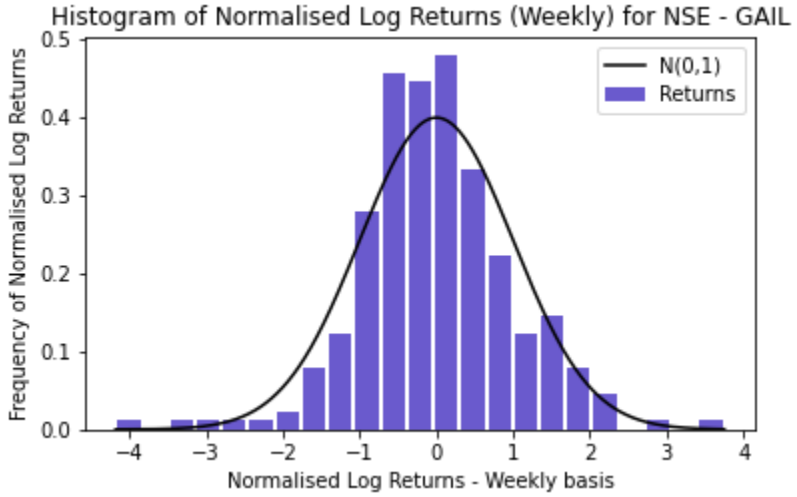
NSE:

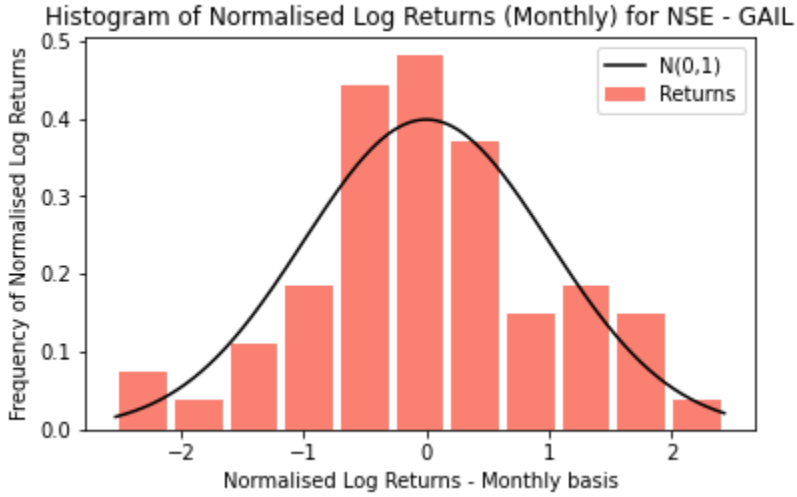

Histogram of Normalised Log Returns (Daily) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

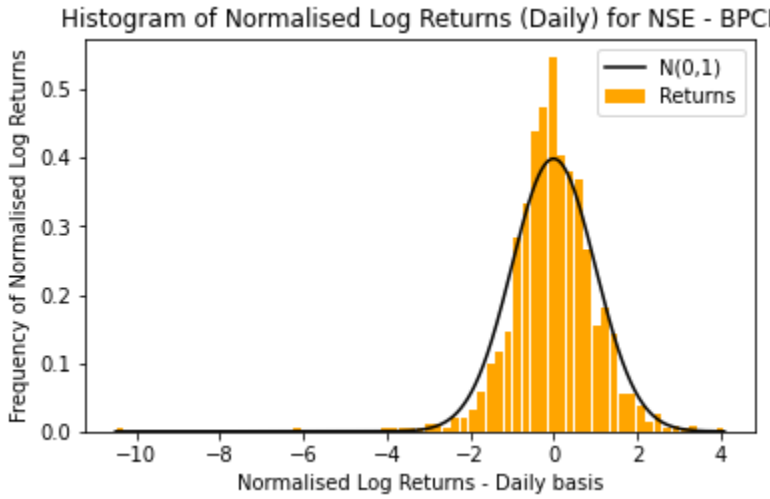

Histogram of Normalised Log Returns (Weekly) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

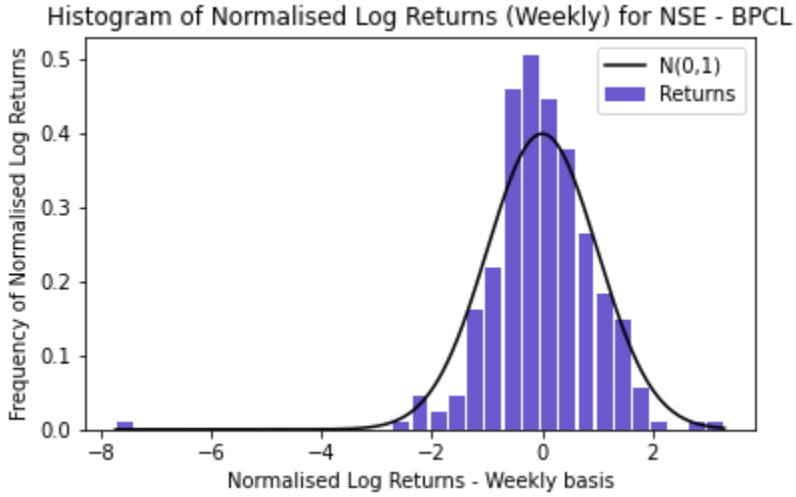

Histogram of Normalised Log Returns (Monthly) for NSE - ONGC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

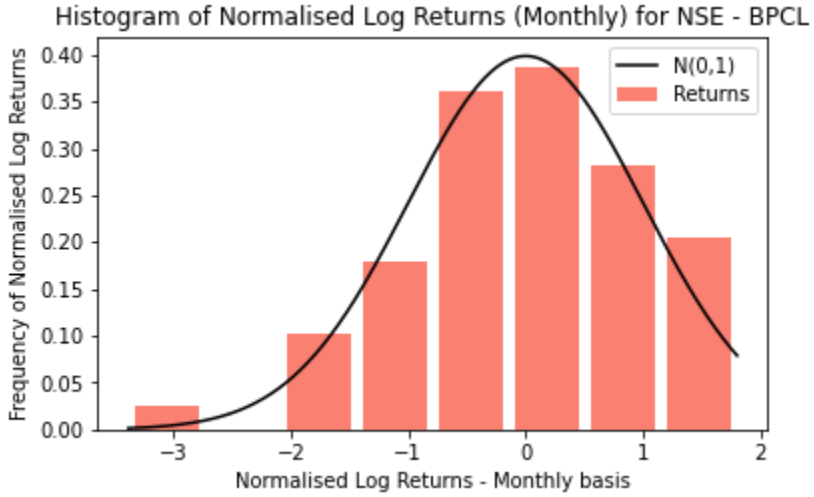

Histogram of Normalised Log Returns (Daily) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

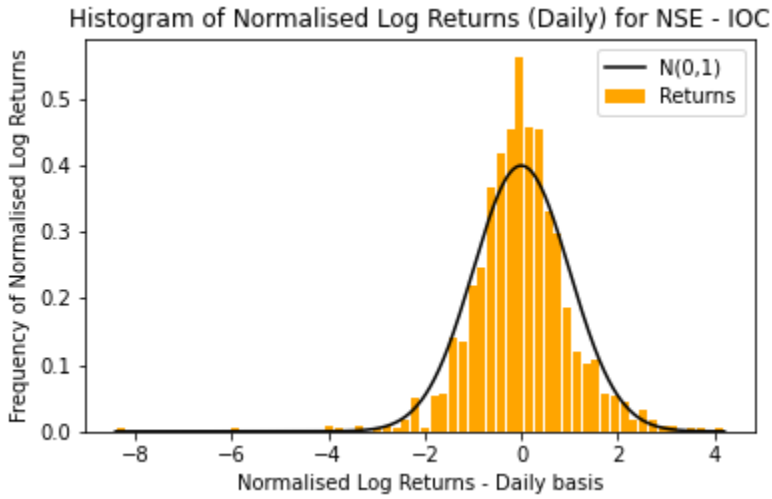

Histogram of Normalised Log Returns (Weekly) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

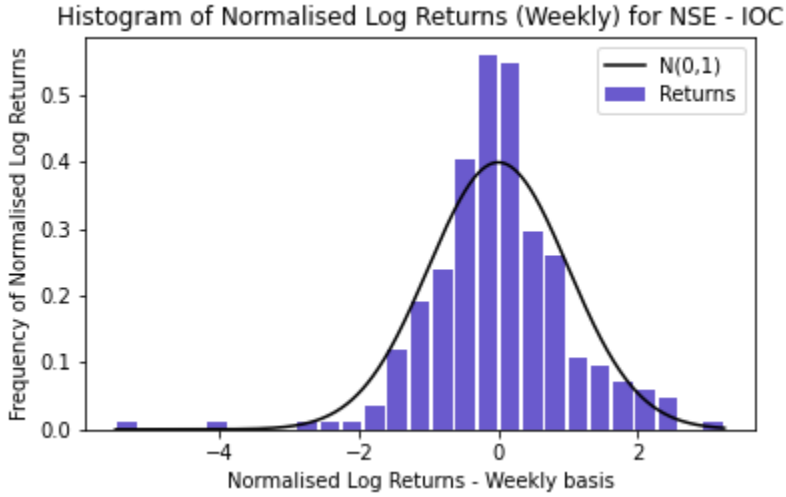

Histogram of Normalised Log Returns (Monthly) for NSE - GAIL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

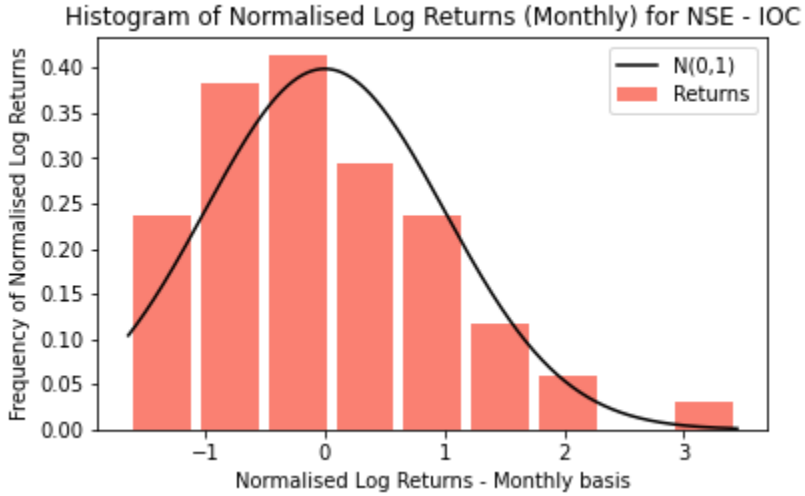

Histogram of Normalised Log Returns (Daily) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

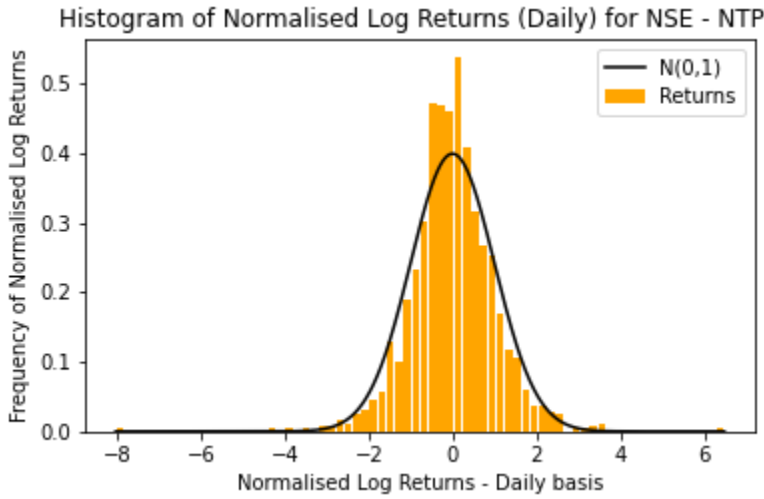

Histogram of Normalised Log Returns (Weekly) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

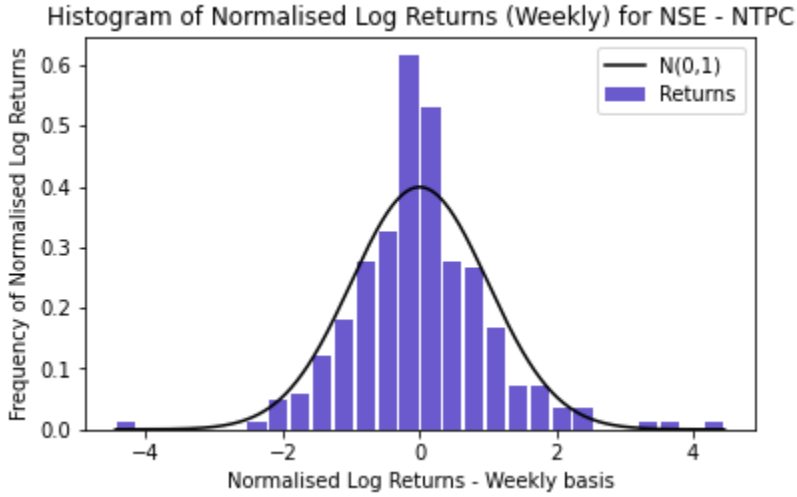

Histogram of Normalised Log Returns (Monthly) for NSE - BPCL
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

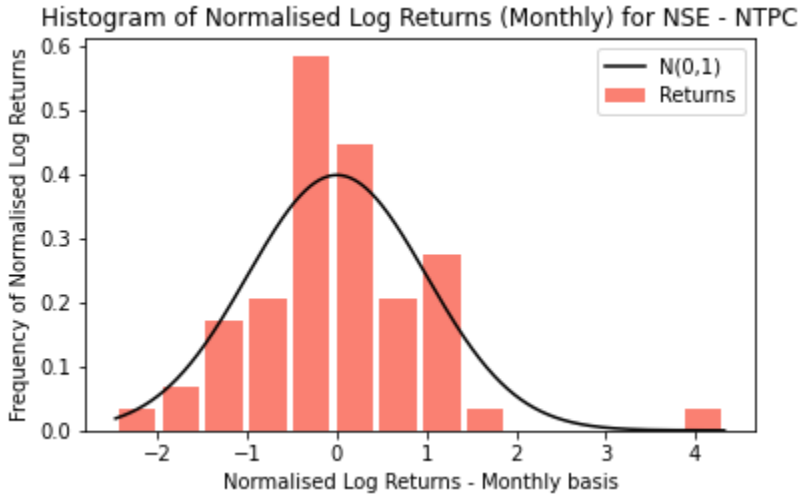

Histogram of Normalised Log Returns (Daily) for NSE - IOC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

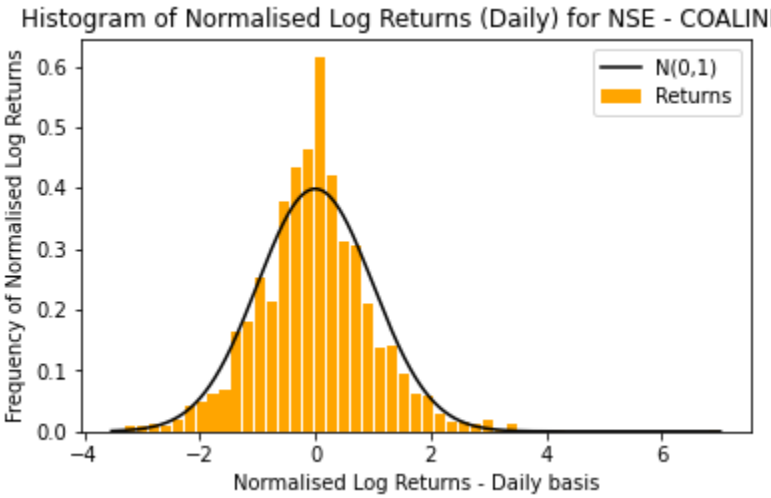

Histogram of Normalised Log Returns (Weekly) for NSE - IOC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

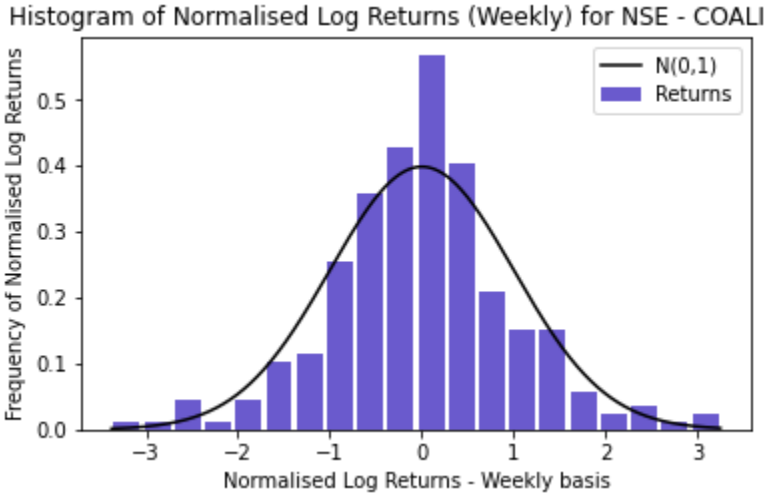

Histogram of Normalised Log Returns (Monthly) for NSE - IOC
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

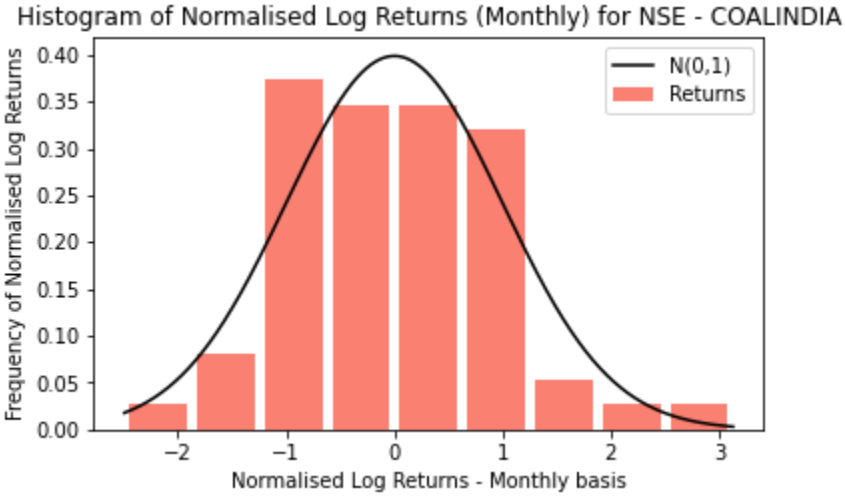

Histogram of Normalised Log Returns (Daily) for NSE - NTPC
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis
N(0,1)
Returns

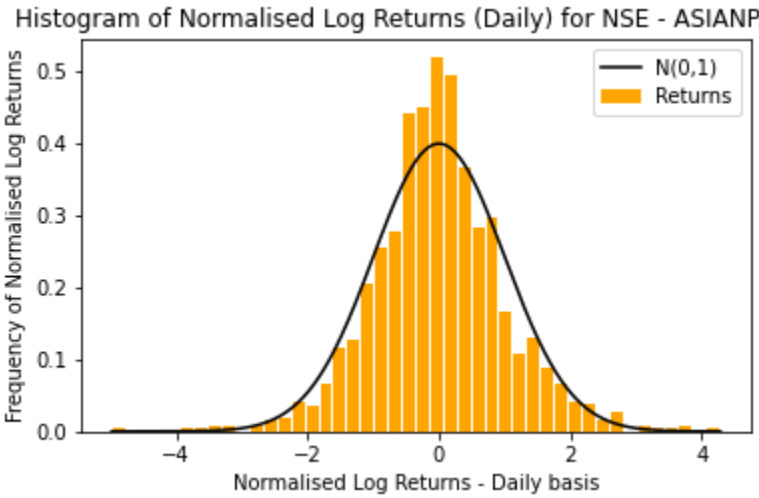

Histogram of Normalised Log Returns (Weekly) for NSE - NTPC
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis
N(0,1)
Returns

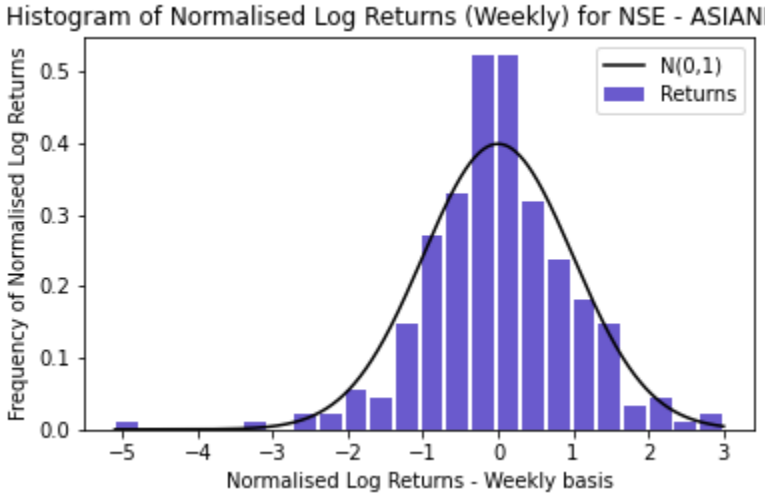

Histogram of Normalised Log Returns (Monthly) for NSE - NTPC
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis
N(0,1)
Returns

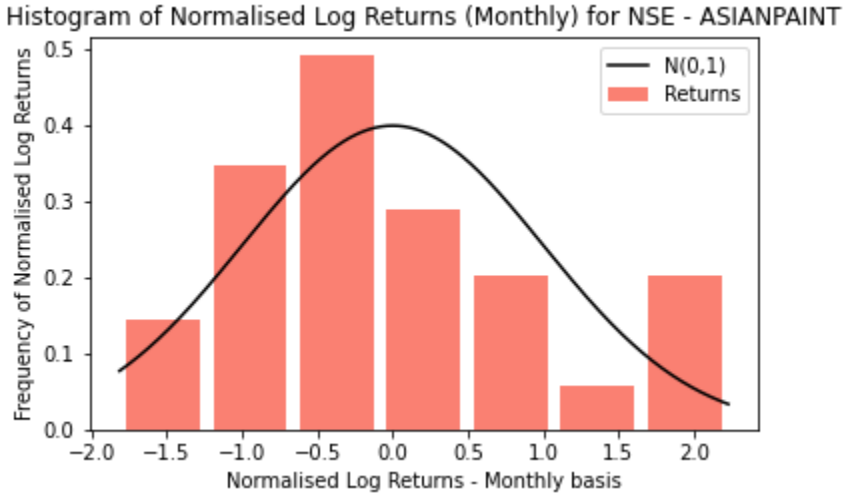

Histogram of Normalised Log Returns (Daily) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

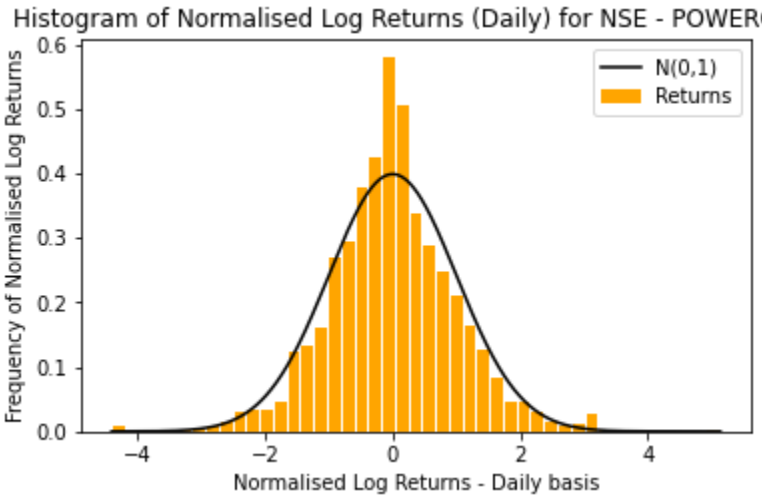

Histogram of Normalised Log Returns (Weekly) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

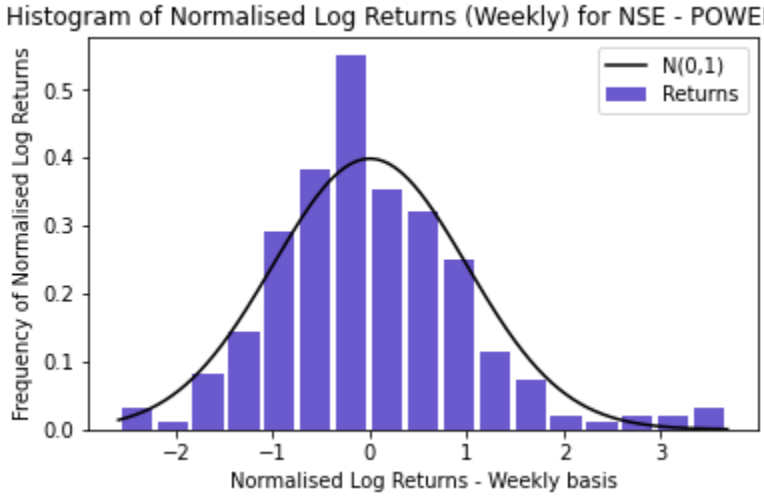

Histogram of Normalised Log Returns (Monthly) for NSE - COALINDIA
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

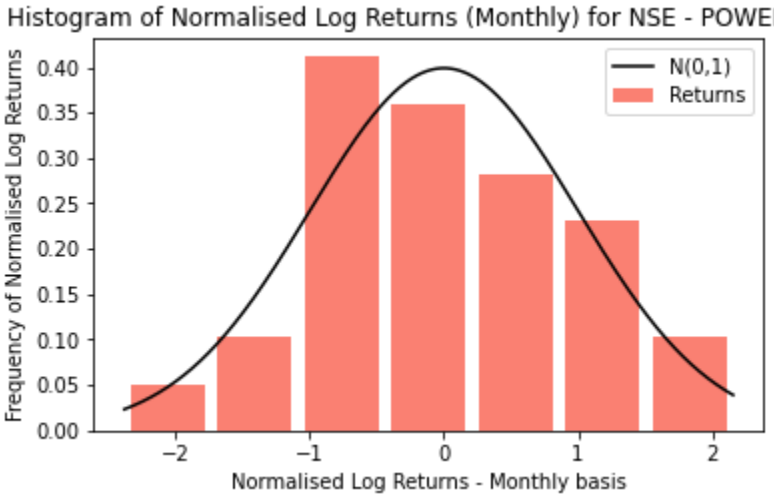

Histogram of Normalised Log Returns (Daily) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

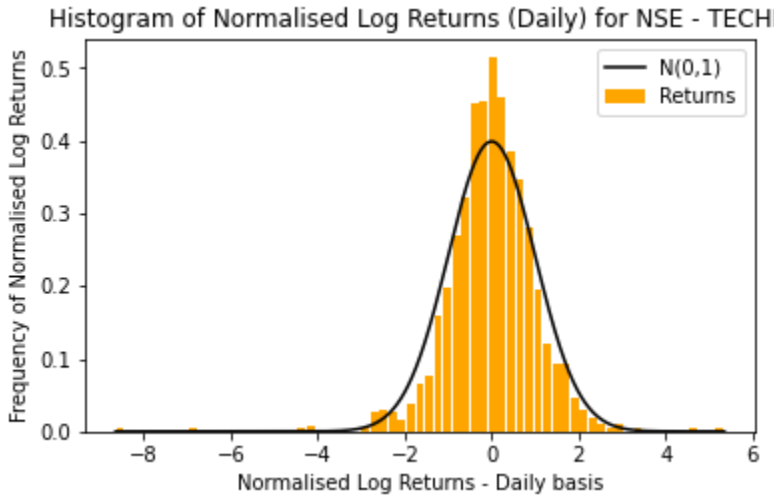

Histogram of Normalised Log Returns (Weekly) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

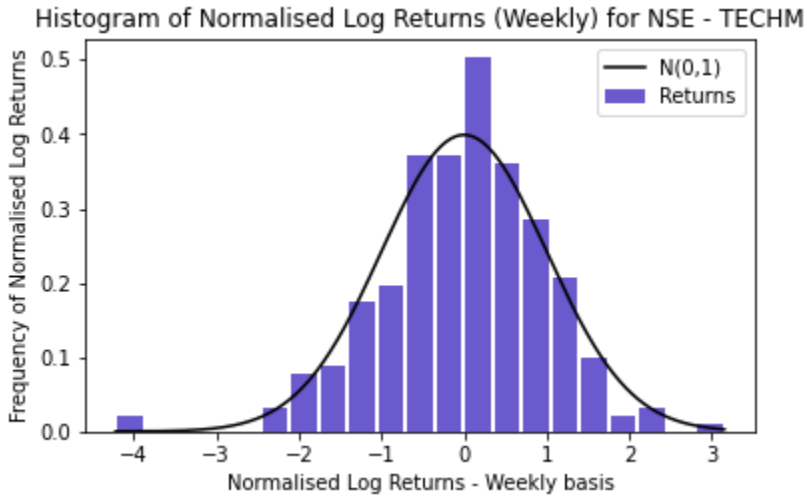

Histogram of Normalised Log Returns (Monthly) for NSE - ASIANPAINT
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

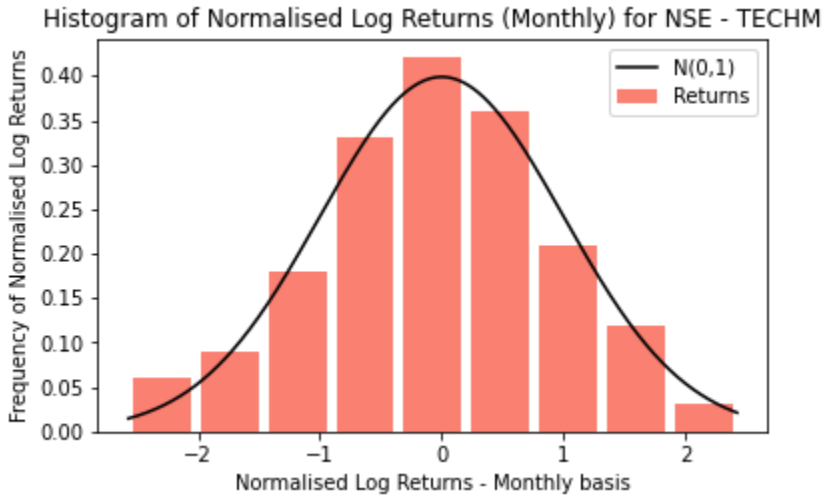

Histogram of Normalised Log Returns (Daily) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis

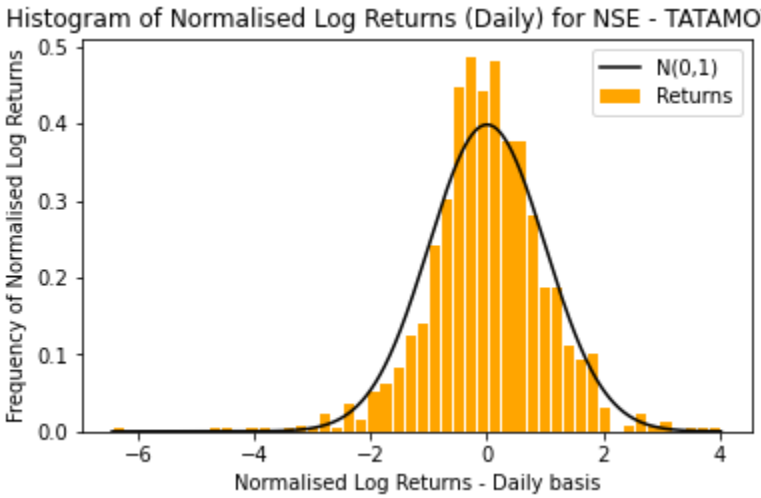

Histogram of Normalised Log Returns (Weekly) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis

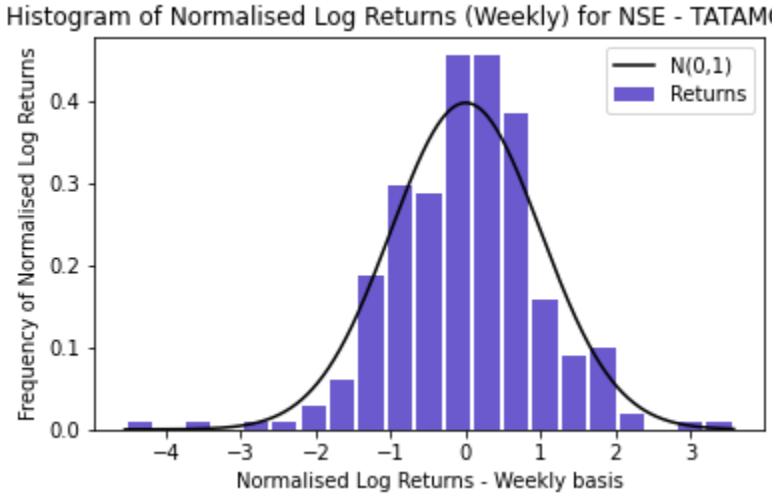

Histogram of Normalised Log Returns (Monthly) for NSE - POWERGRID
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

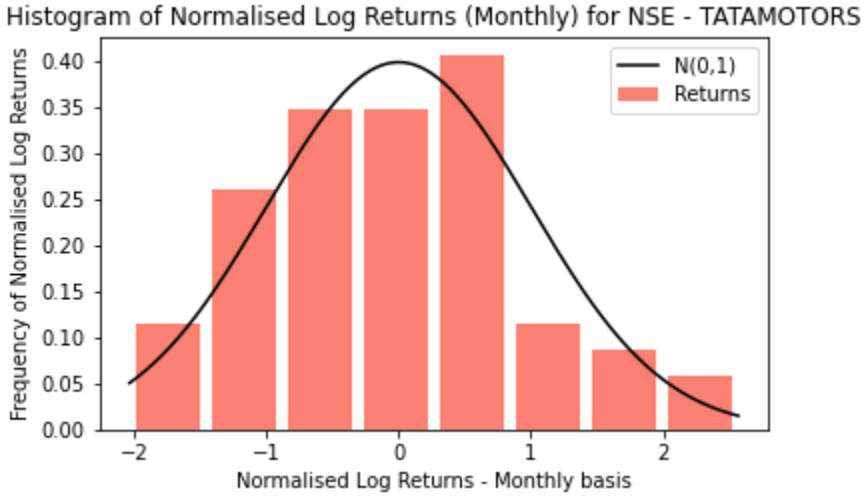

Histogram of Normalised Log Returns (Daily) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis


Histogram of Normalised Log Returns (Weekly) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis


Histogram of Normalised Log Returns (Monthly) for NSE - TECHM
N(0,1)
Returns
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis

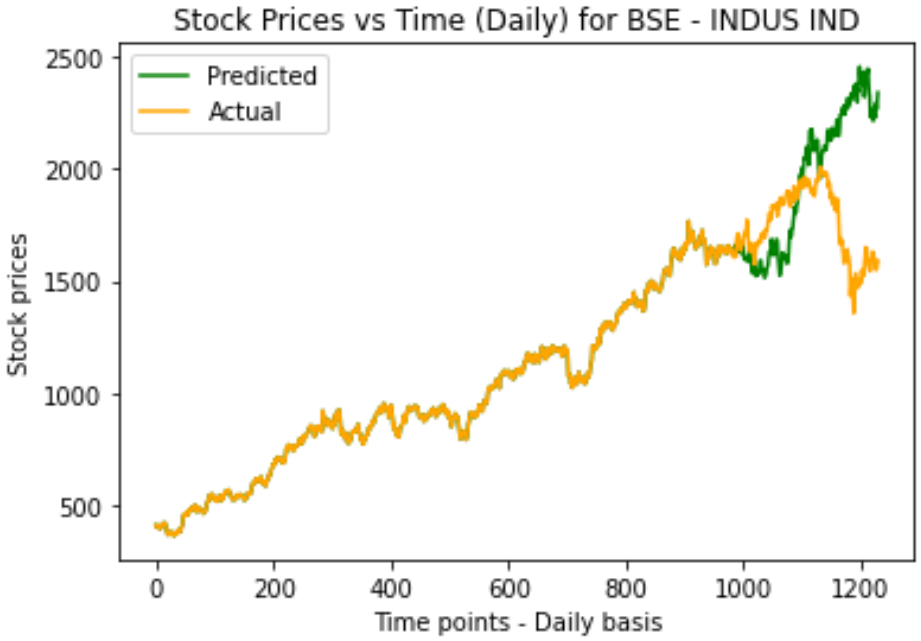

Histogram of Normalised Log Returns (Daily) for NSE - TATAMOTORS
Frequency of Normalised Log Returns
Normalised Log Returns - Daily basis
N(0,1)
Returns

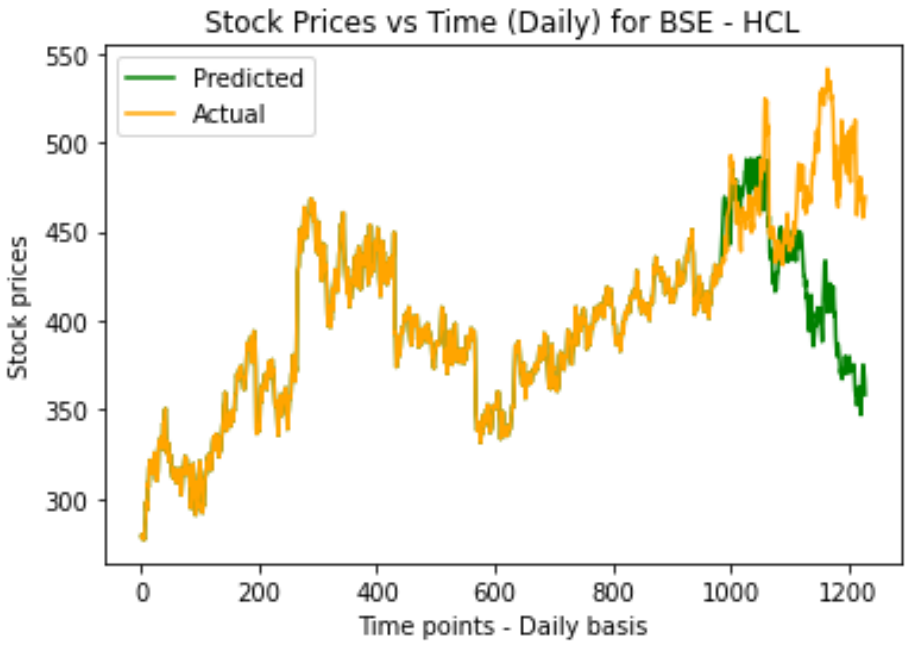

Histogram of Normalised Log Returns (Weekly) for NSE - TATAMOTORS
Frequency of Normalised Log Returns
Normalised Log Returns - Weekly basis
N(0,1)
Returns


Histogram of Normalised Log Returns (Monthly) for NSE - TATAMOTORS
Frequency of Normalised Log Returns
Normalised Log Returns - Monthly basis
N(0,1)
Returns

Question 4.

BSE:


Stock Prices vs Time (Daily) for BSE - INDUS IND
Predicted
Actual
Stock prices
2500
2000
1500
1000
500
0
200
400
600
800
1000
1200
Time points - Daily basis


Stock Prices vs Time (Daily) for BSE - HCL
Predicted
Actual
Stock prices
550
500
450
400
350
300
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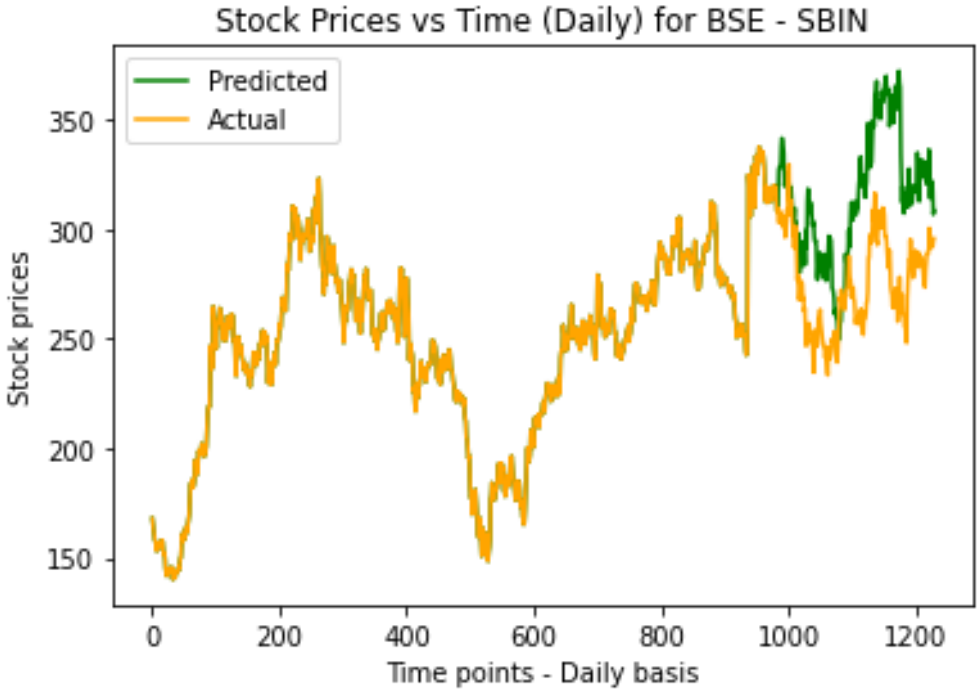
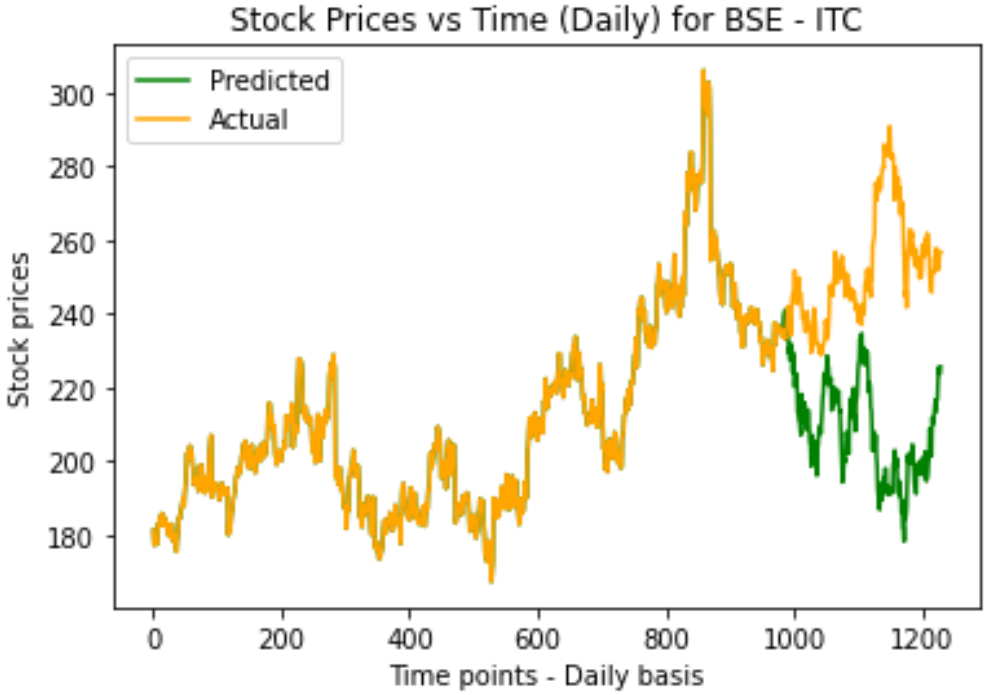
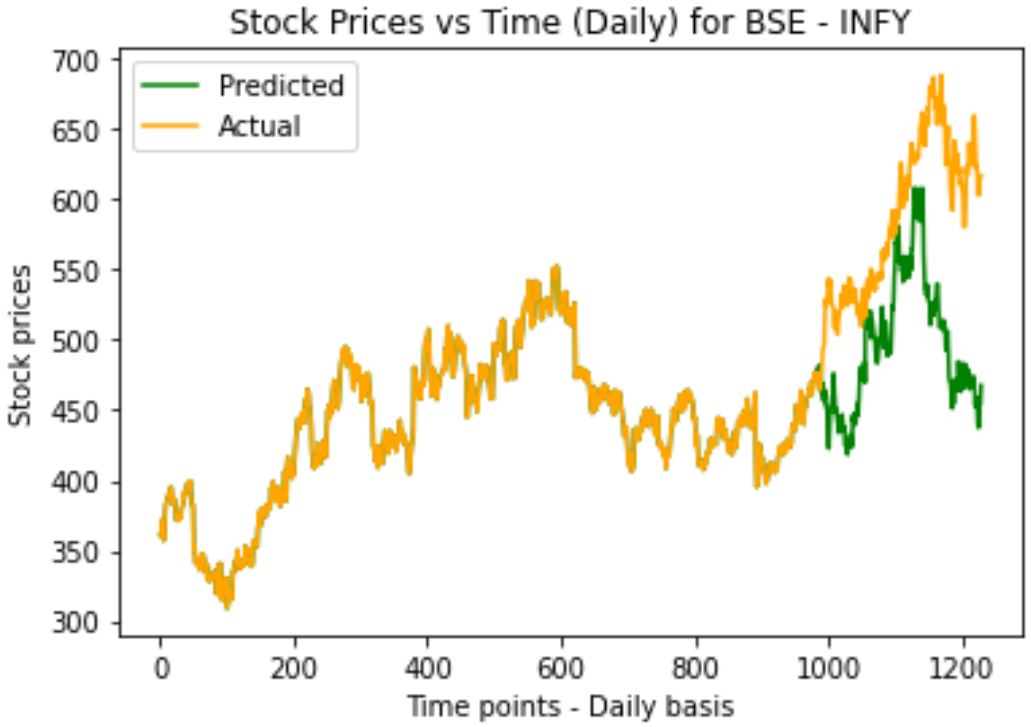
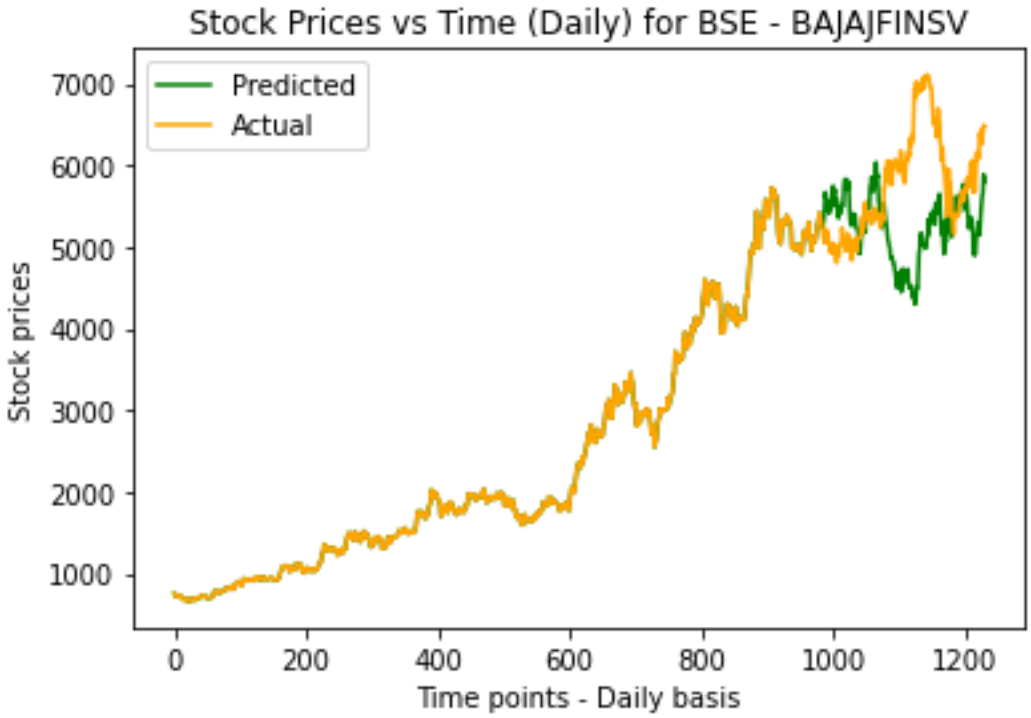
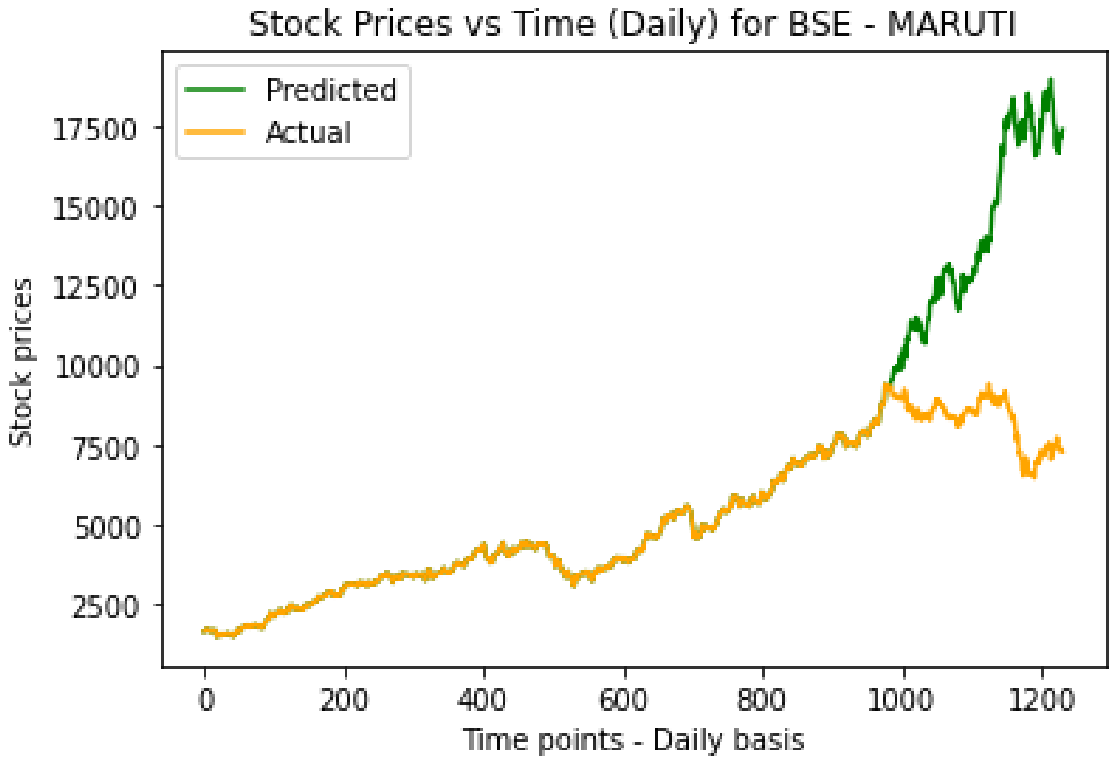
200
400
600
800
1000
1200
Time points - Daily basis

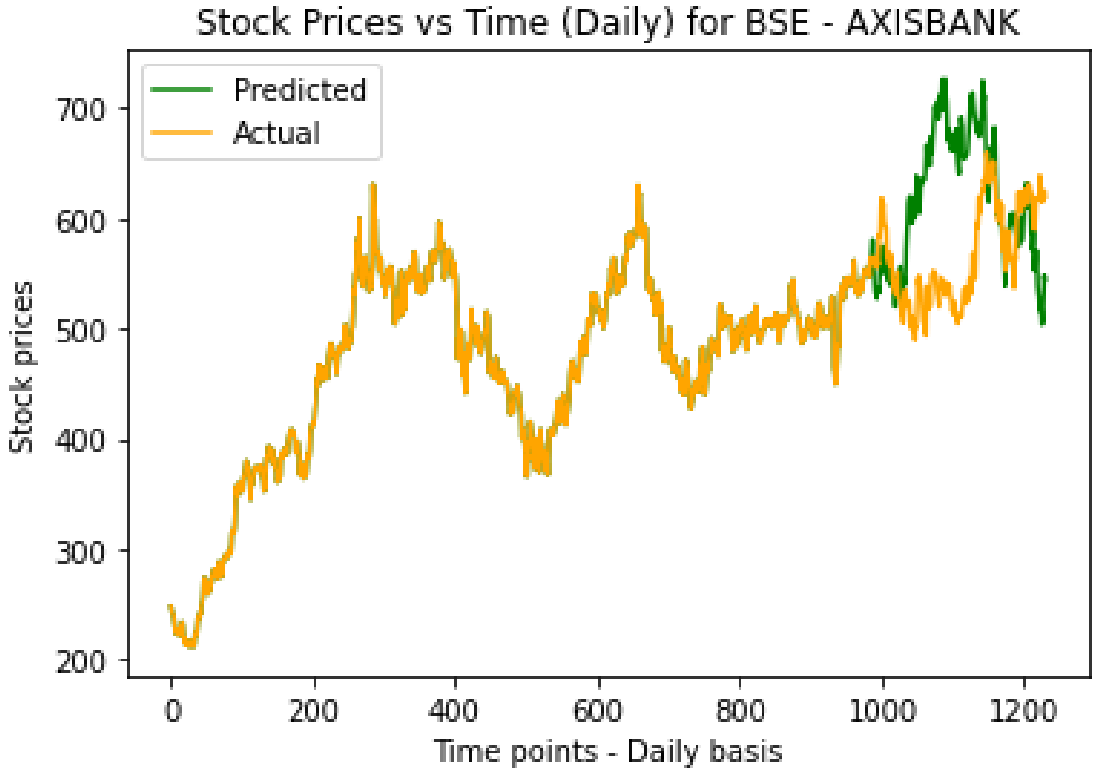

Stock Prices vs Time (Daily) for BSE - SBIN
Predicted
Actual
Stock prices
350
300
250
200
150
0
200
400
600
800
1000
1200
Time points - Daily basis

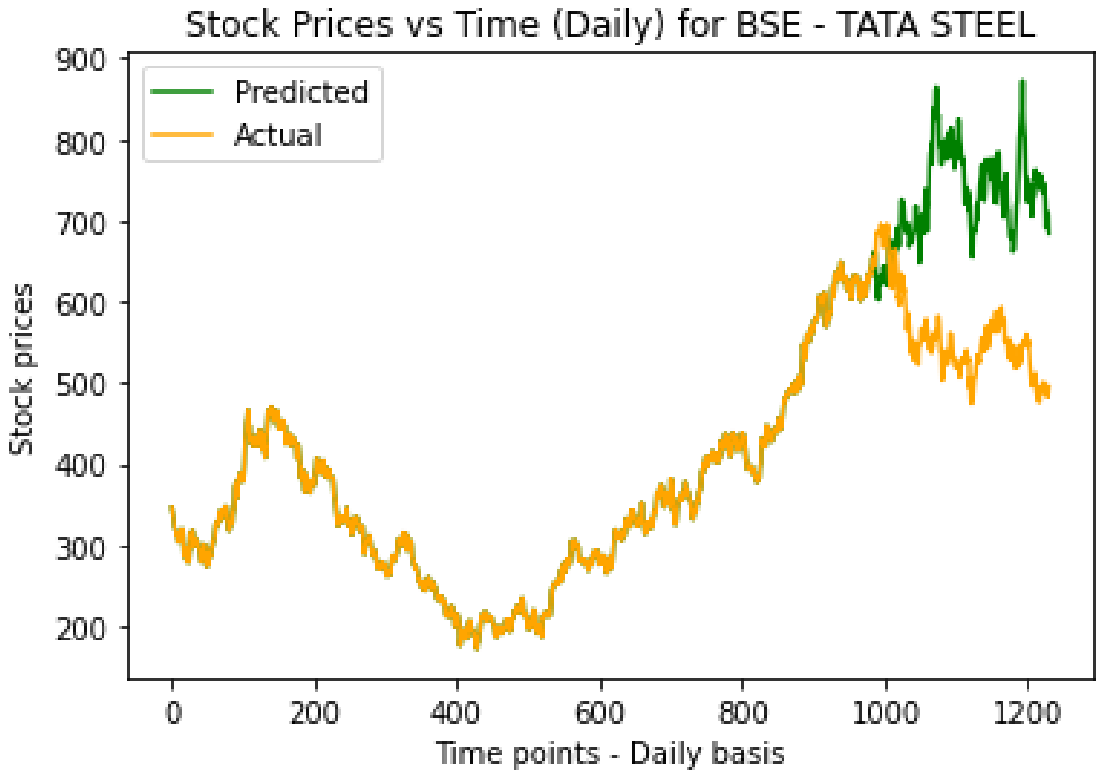

Stock Prices vs Time (Daily) for BSE - ITC
Predicted
Actual
Stock prices
300
280
260
240
220
200
180
0
200
400
600
800
1000
1200
Time points - Daily basis

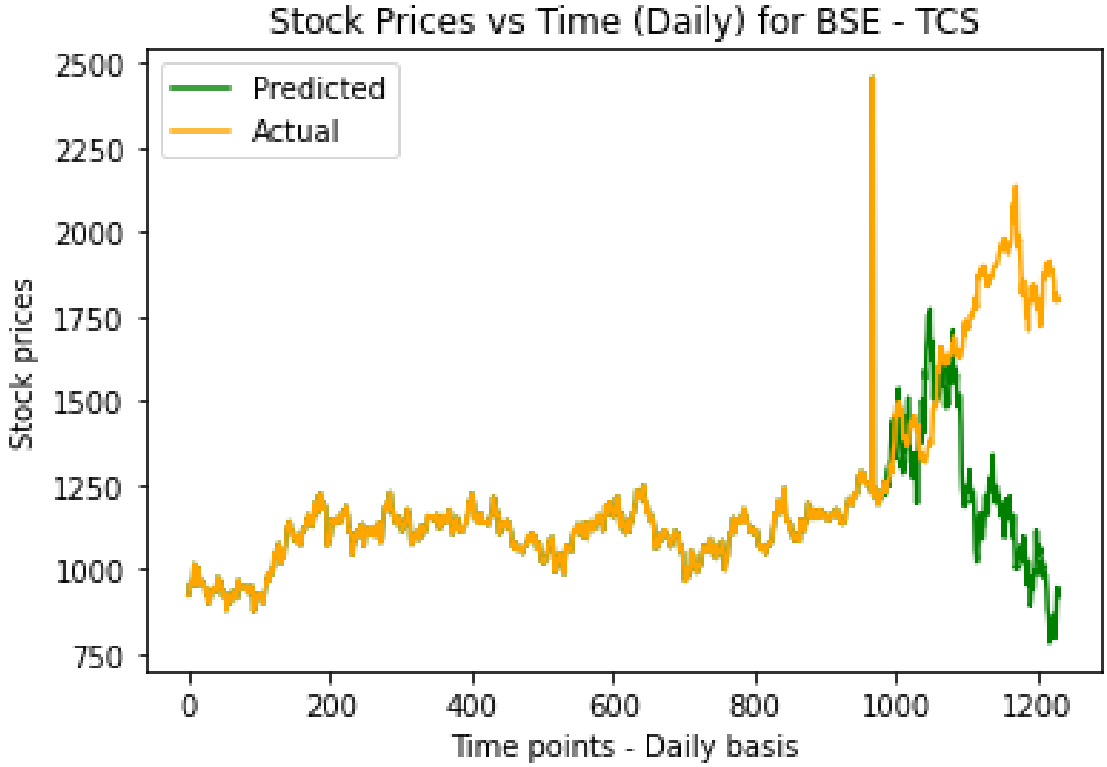

Stock Prices vs Time (Daily) for BSE - INFY
Predicted
Actual
Stock prices
Time points - Daily basis
700
650
600
550
500
450
400
350
300
0
200
400
600
800
1000
1200


Stock Prices vs Time (Daily) for BSE - BAJAJFINSV
Predicted
Actual
Stock prices
Time points - Daily basis
7000
6000
5000
4000
3000
2000
1000
0
200
400
600
800
1000
1200

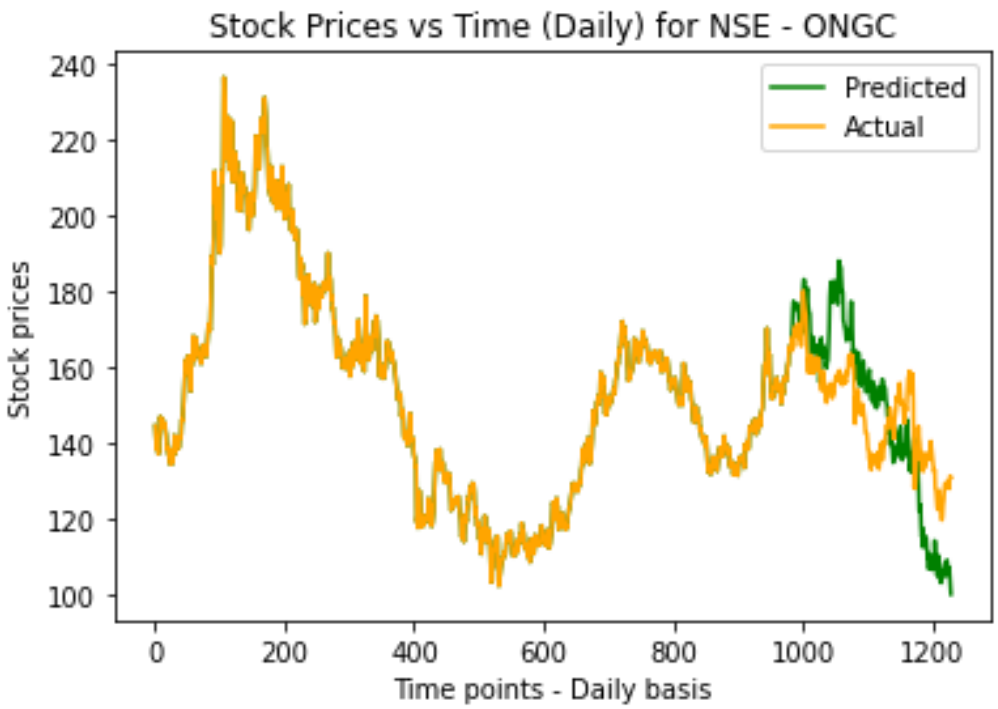

Stock Prices vs Time (Daily) for BSE - MARUTI
Predicted
Actual
17500
15000
12500
10000
7500
5000
2500
Stock prices
0
200
400
600
800
1000
1200
Time points - Daily basis

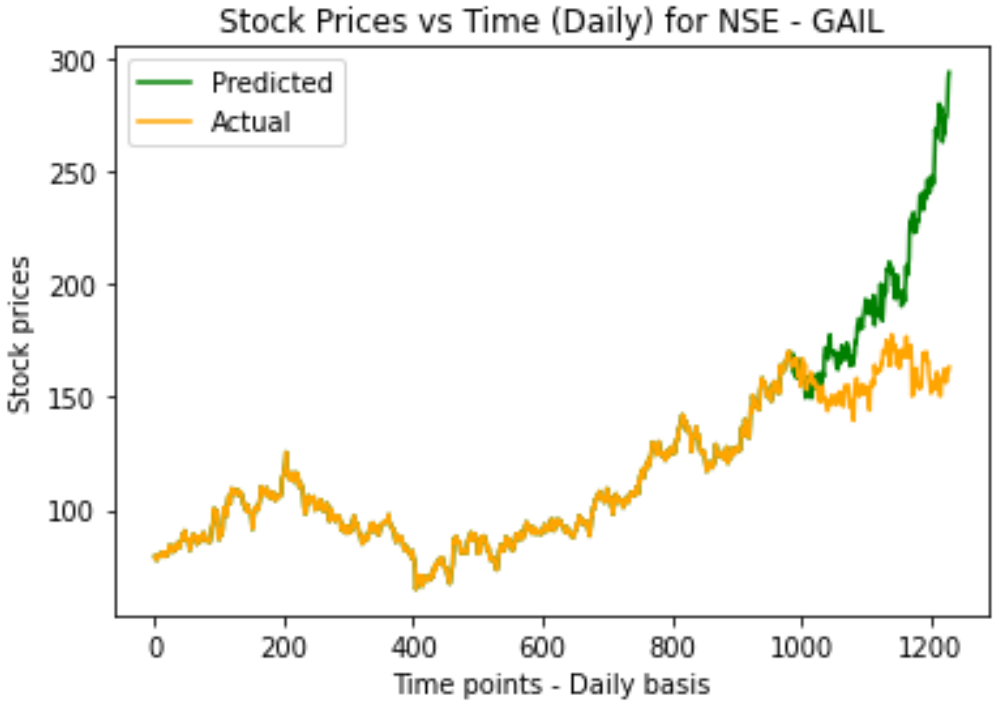

Stock Prices vs Time (Daily) for BSE - AXISBANK
Predicted
Actual
700
600
500
400
300
200
Stock prices
0
200
400
600
800
1000
1200
Time points - Daily basis

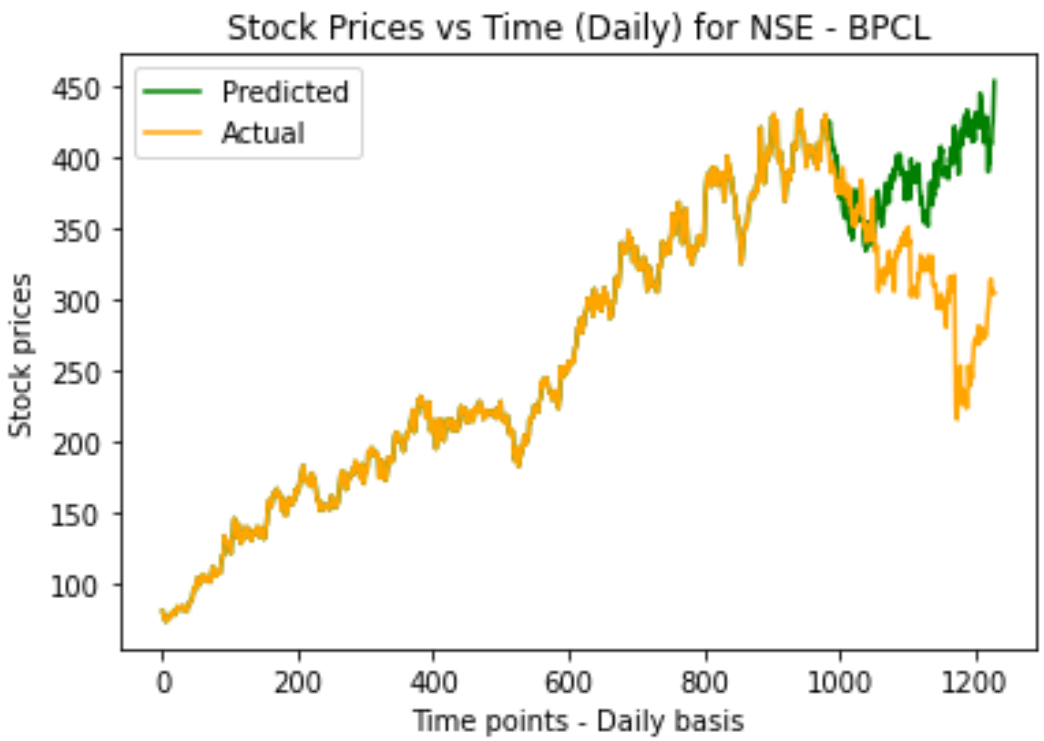

Stock Prices vs Time (Daily) for BSE - TATA STEEL
Predicted
Actual
Stock prices
Time points - Daily basis
900
800
700
600
500
400
300
200
0
200
400
600
800
1000
1200

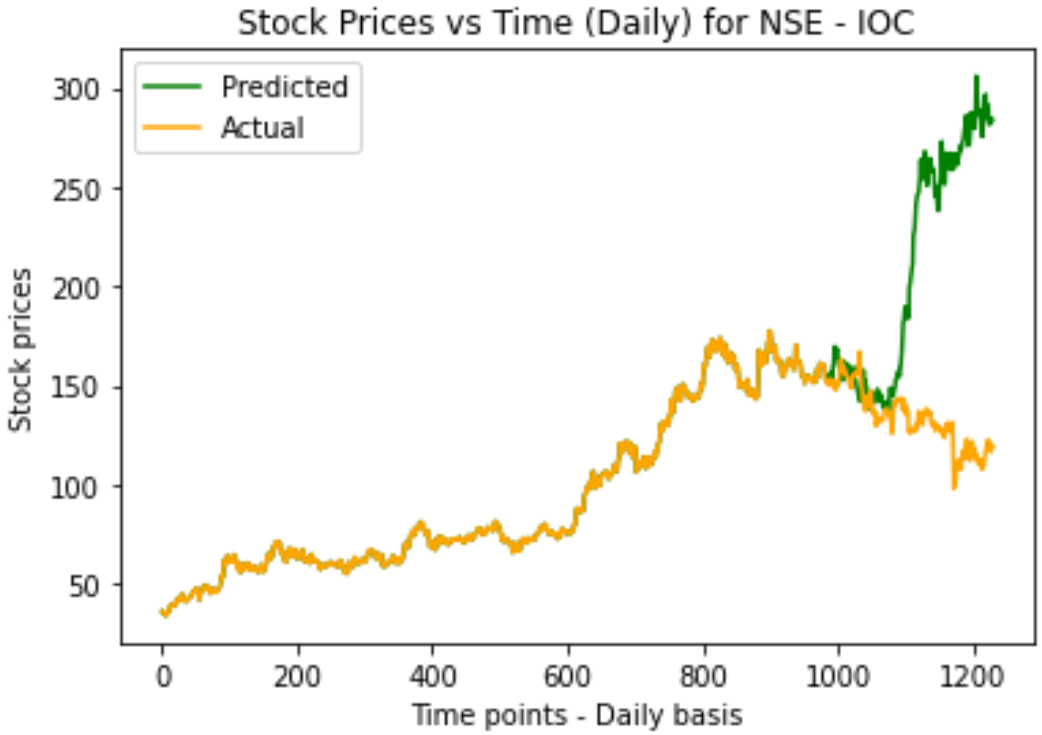

Stock Prices vs Time (Daily) for BSE - TCS
Predicted
Actual
Stock prices
Time points - Daily basis
2500
2250
2000
1750
1500
1250
1000
750
0
200
400
600
800
1000
1200

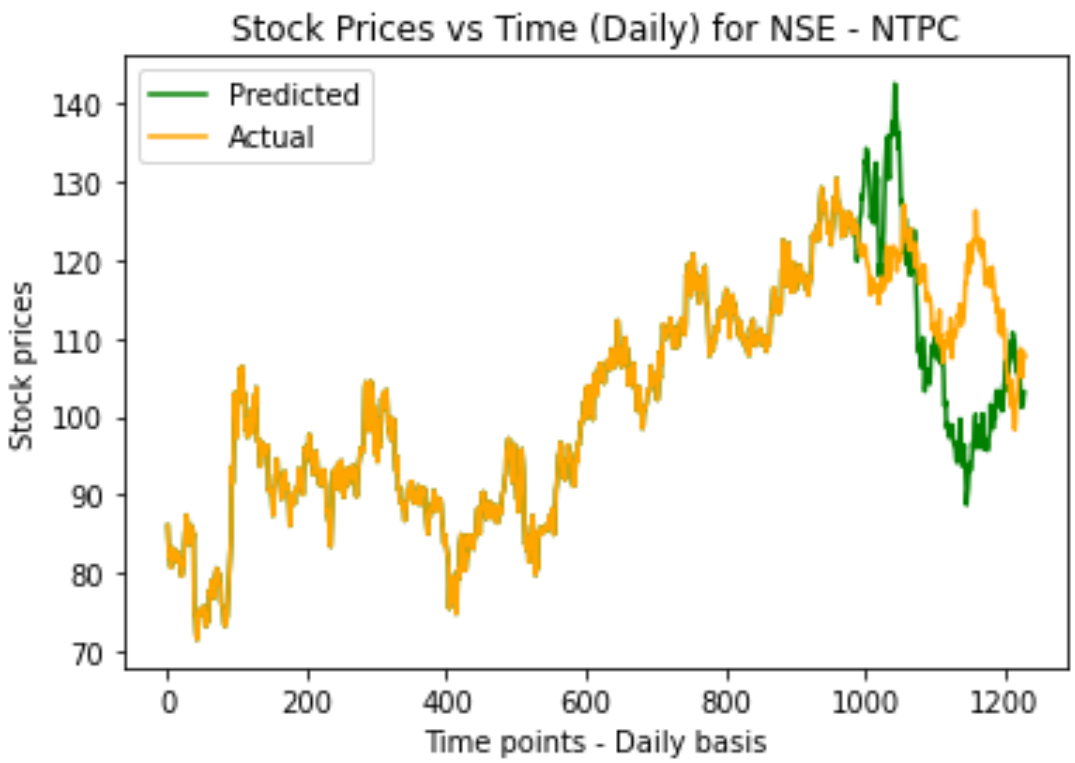
NSE:


Stock Prices vs Time (Daily) for NSE - ONGC
Predicted
Actual
Stock prices
Time points - Daily basis
240
220
200
180
160
140
120
100
0
200
400
600
800
1000
1200


Stock Prices vs Time (Daily) for NSE - GAIL
Predicted
Actual
Stock prices
Time points - Daily basis
300
250
200
150
100
0
200
400
600
800
1000
1200


Stock Prices vs Time (Daily) for NSE - BPCL
Predicted
Actual
Stock prices
Time points - Daily basis
450
400
350
300
250
200
150
100
0
200
400
600
800
1000
1200


Stock Prices vs Time (Daily) for NSE - IOC
Predicted
Actual
Stock prices
Time points - Daily basis
300
250
200
150
100
50
0
200
400
600
800
1000
1200


Stock Prices vs Time (Daily) for NSE - NTPC
Predicted
Actual
Stock prices
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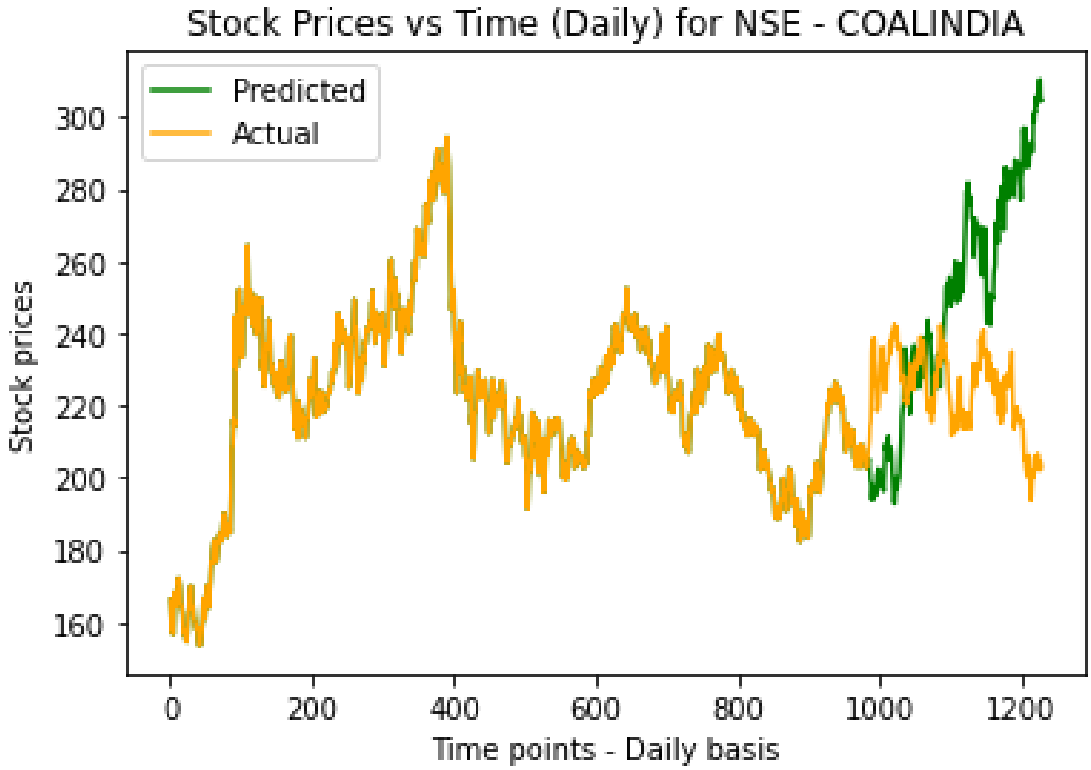
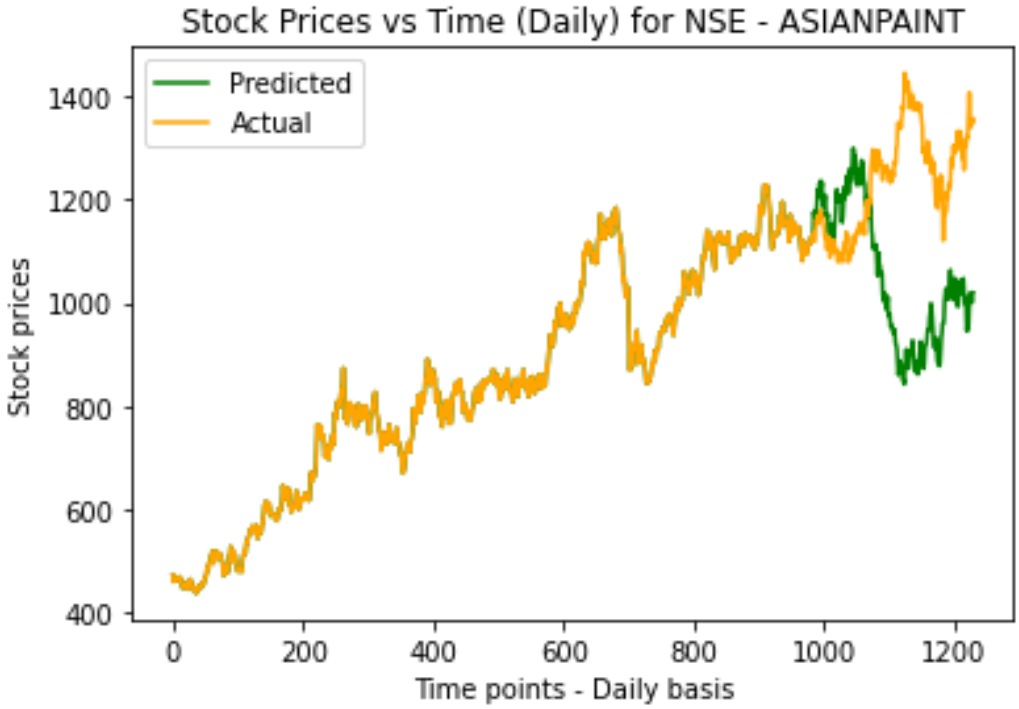
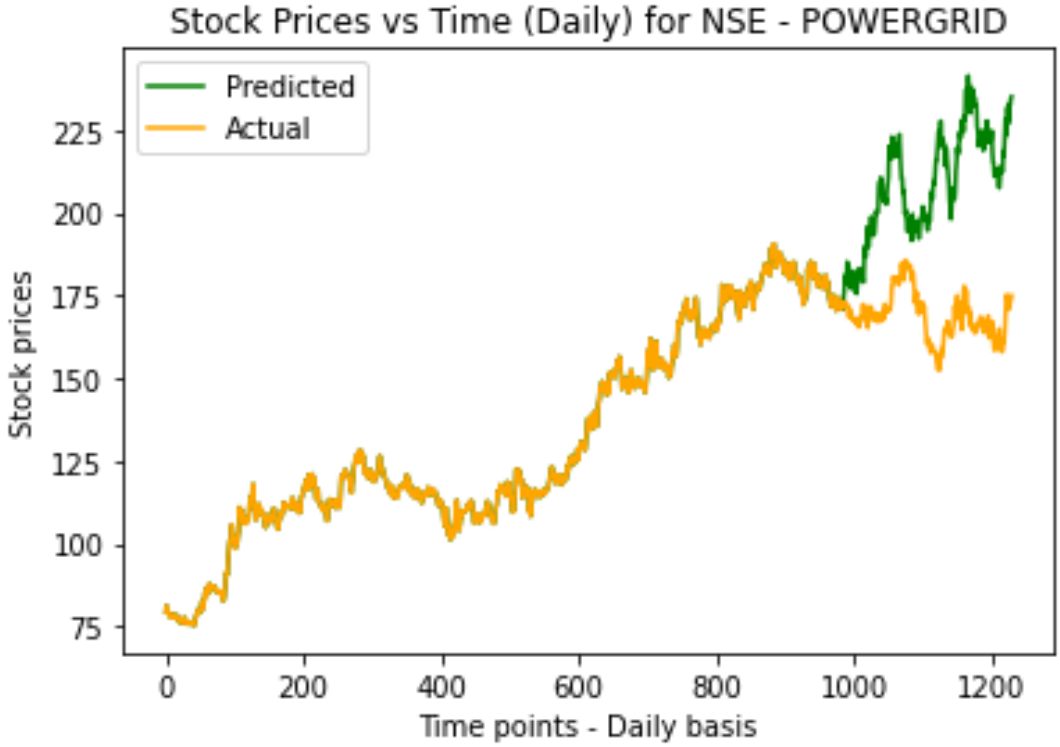
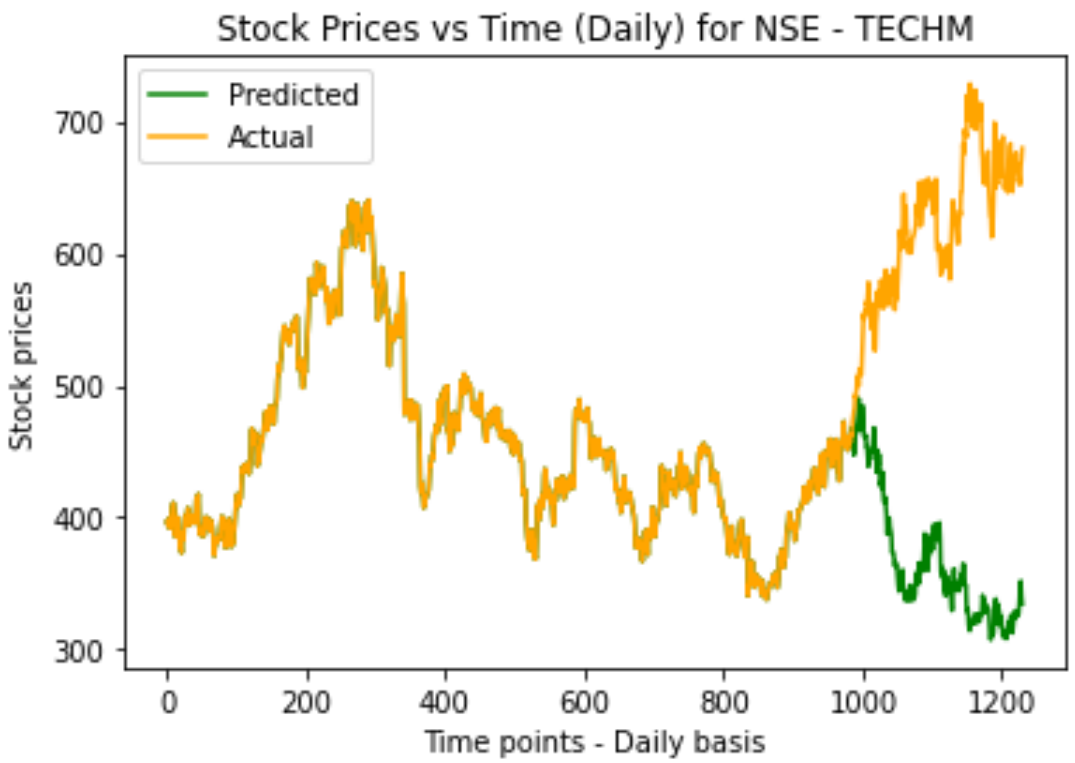
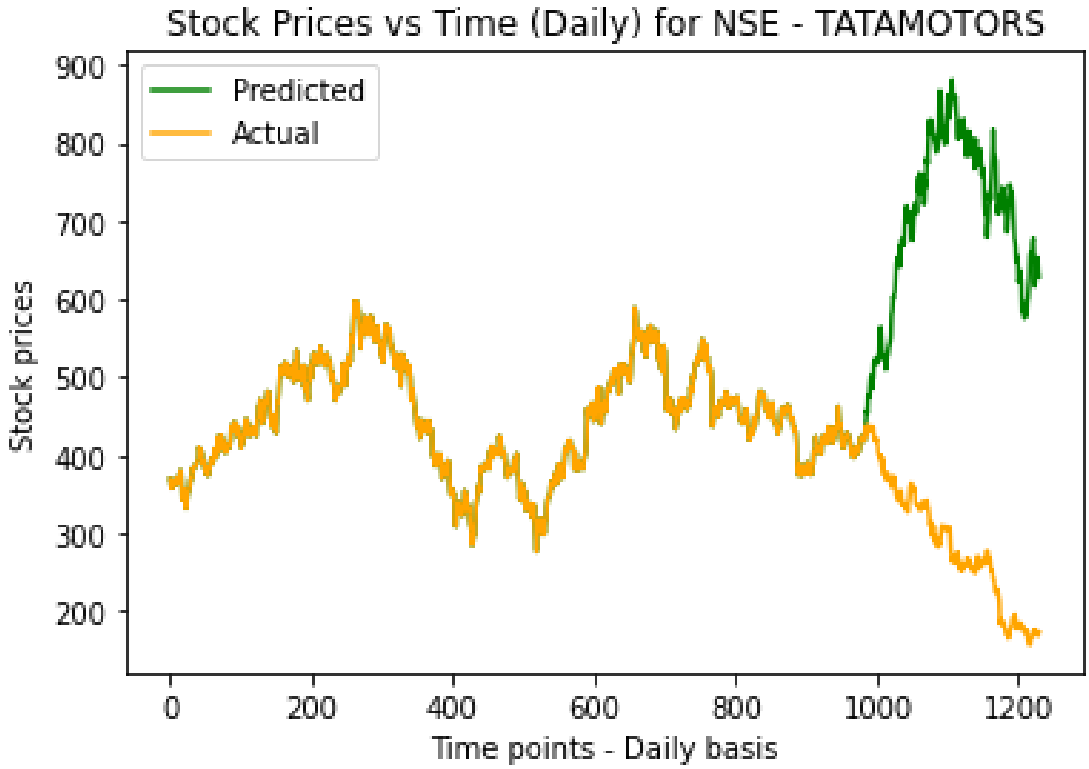
130
120
110
100
90
80
70
0
200
400
600
800
1000
1200
Time points - Daily basis


Stock Prices vs Time (Daily) for NSE - COALINDIA
Predicted
Actual
Stock prices
300
280
260
240
220
200
180
160
0
200
400
600
800
1000
1200
Time points - Daily basis


Stock Prices vs Time (Daily) for NSE - ASIANPAINT
Predicted
Actual
Stock prices
1400
1200
1000
800
600
400
0
200
400
600
800
1000
1200
Time points - Daily basis

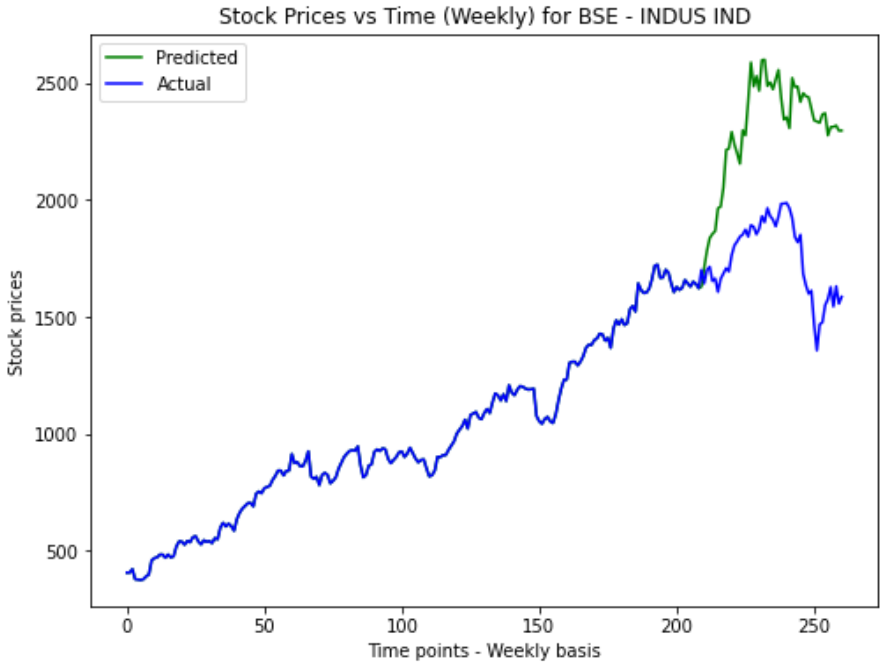

Stock Prices vs Time (Daily) for NSE - POWERGRID
Predicted
Actual
Stock prices
225
200
175
150
125
100
75
0
200
400
600
800
1000
1200
Time points - Daily basis

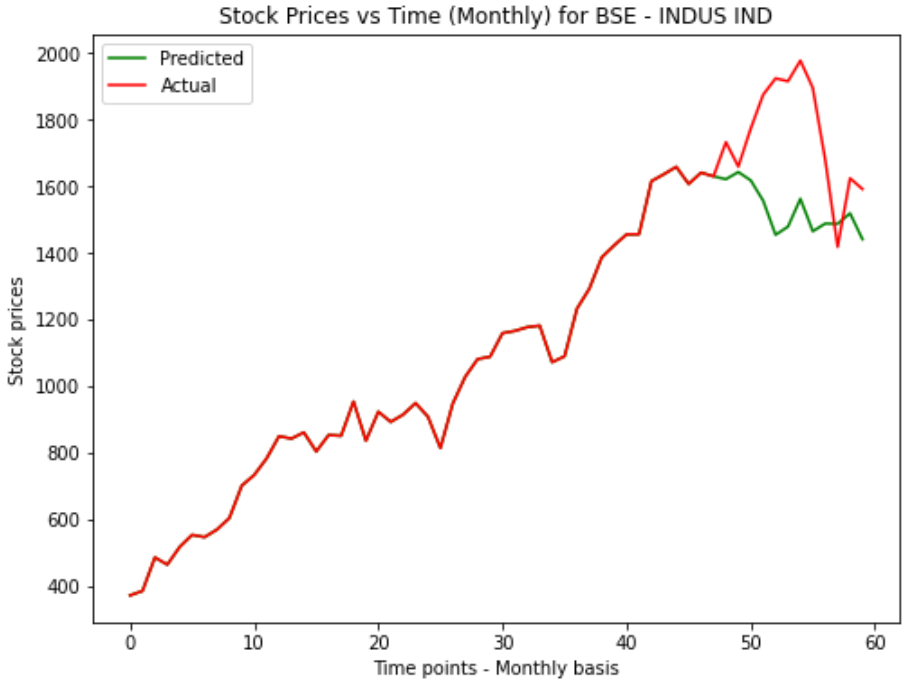

Stock Prices vs Time (Daily) for NSE - TECHM
Predicted
Actual
Stock prices
700
600
500
400
300
0
200
400
600
800
1000
1200
Time points - Daily basis

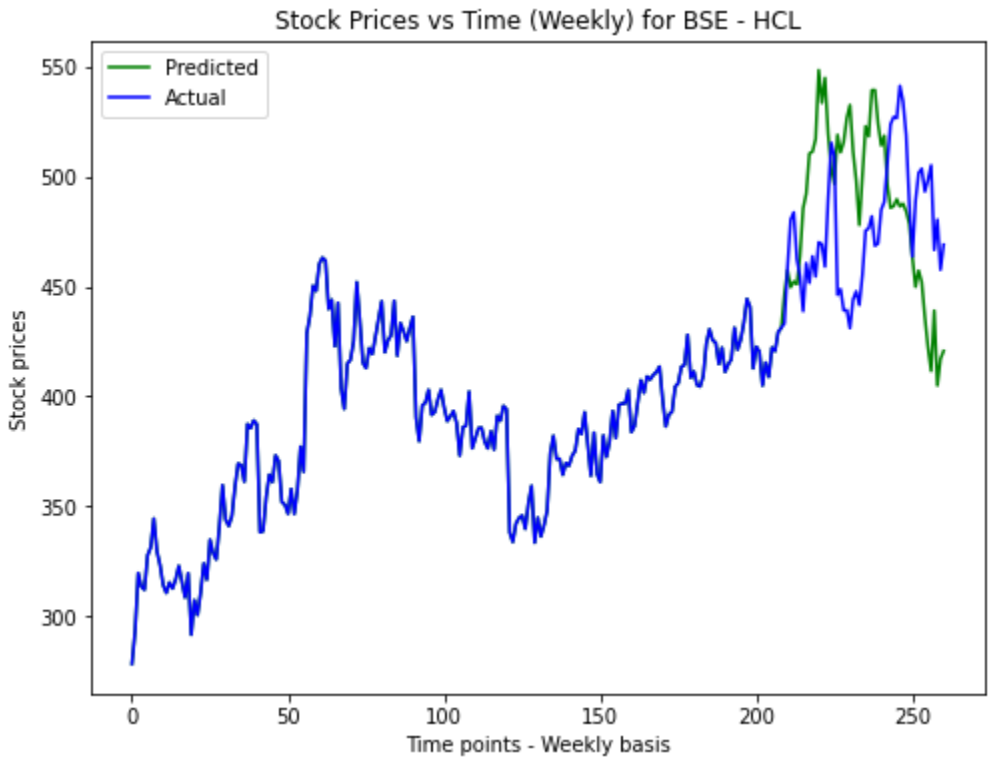

Stock Prices vs Time (Daily) for NSE - TATAMOTORS
Predicted
Actual
Stock prices
900
800
700
600
500
400
300
200
0
200
400
600
800
1000
1200
Time points - Daily basis

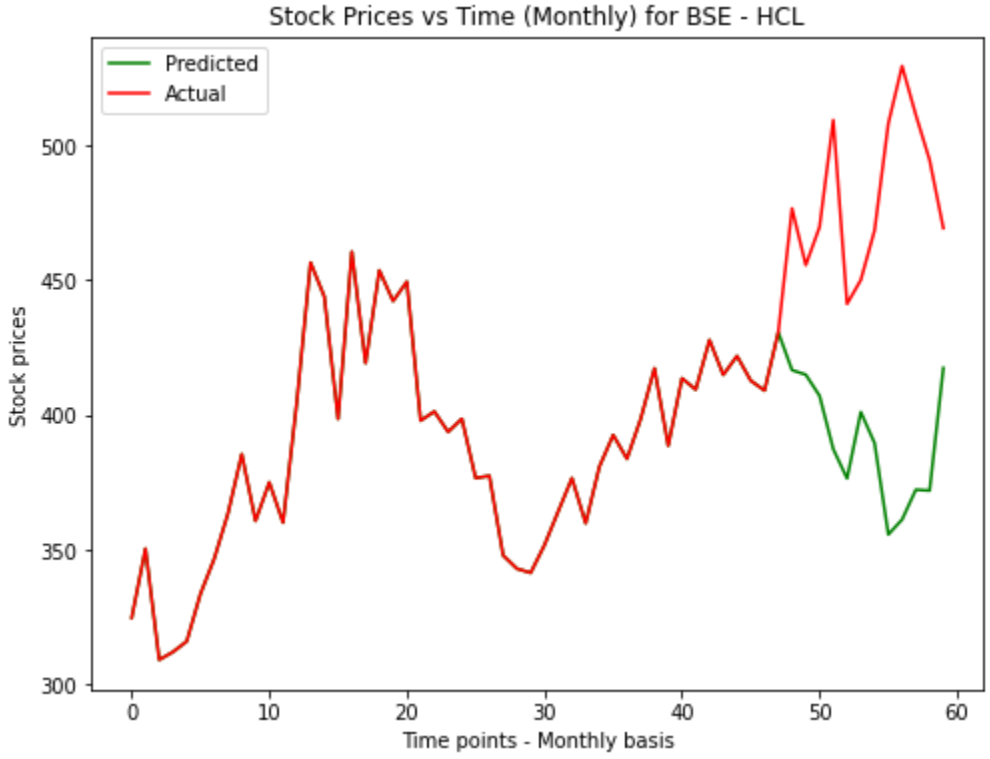
Question 5.

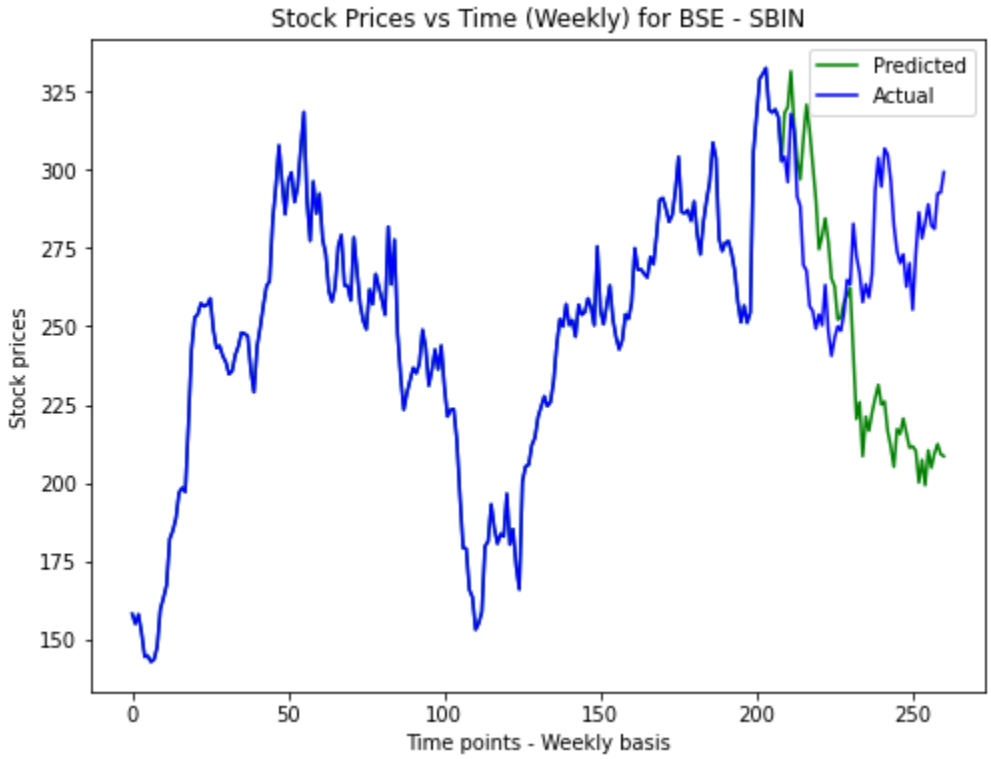
BSE:

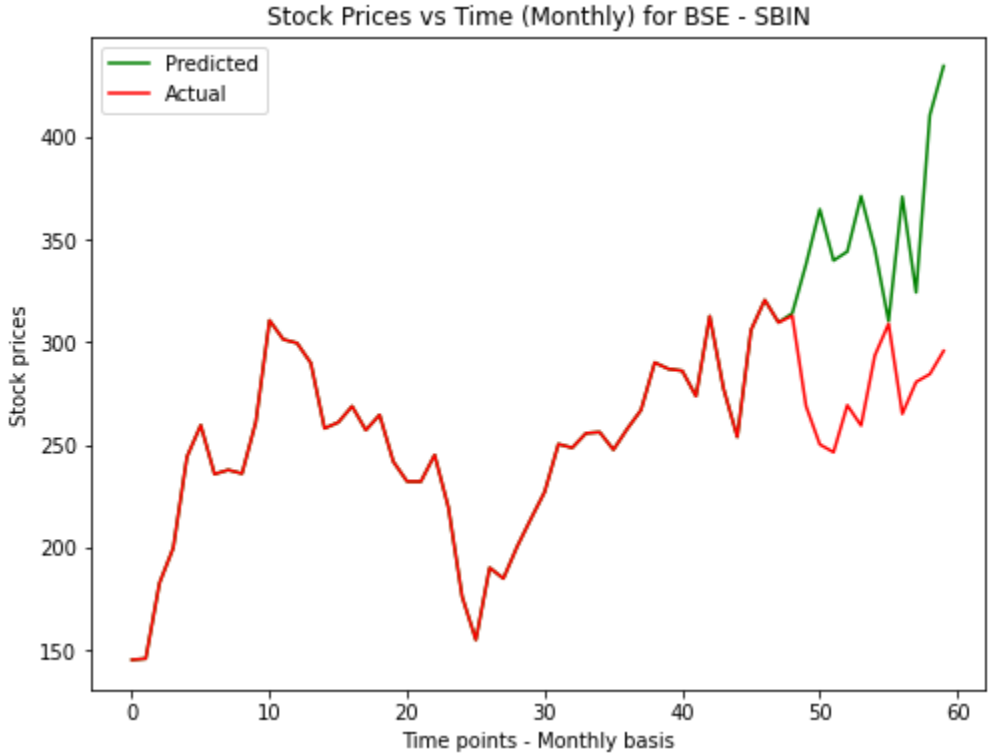

Stock Prices vs Time (Weekly) for BSE - INDUS IND
Predicted
Actual
Stock prices
Time points - Weekly basis
2500
2000
1500
1000
500
0
50
100
150
200
250

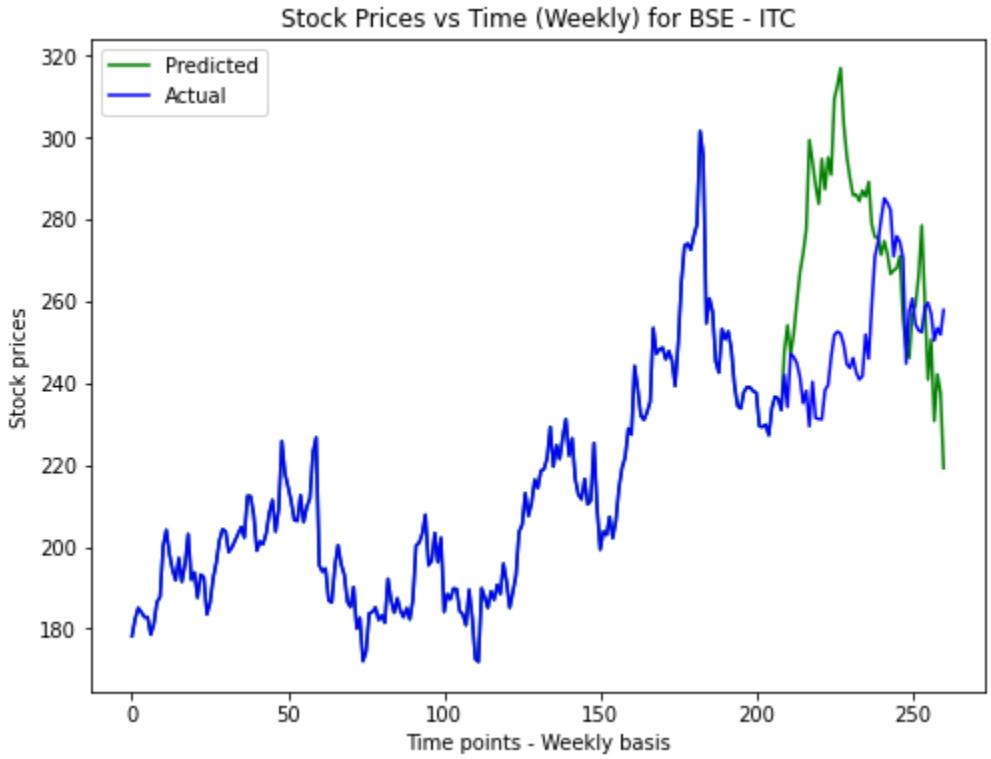

Stock Prices vs Time (Monthly) for BSE - INDUS IND
Predicted
Actual
Stock prices
Time points - Monthly basis
2000
1800
1600
1400
1200
1000
800
600
400
0
10
20
30
40
50
60

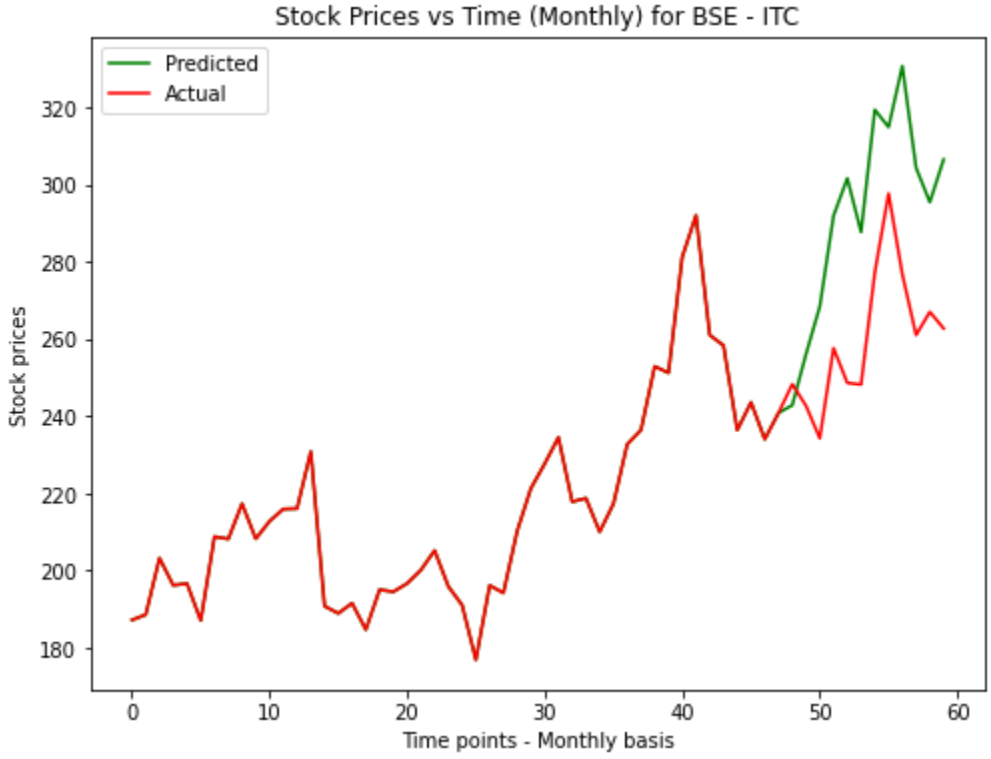

Stock Prices vs Time (Weekly) for BSE - HCL
Predicted
Actual
Stock prices
Time points - Weekly basis
550
500
450
400
350
300
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for BSE - HCL
Predicted
Actual
Stock prices
Time points - Monthly basis
500
450
400
350
300
0
10
20
30
40
50
60


Stock Prices vs Time (Weekly) for BSE - SBIN
Predicted
Actual
Stock prices
Time points - Weekly basis
325
300
275
250
225
200
175
150
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for BSE - SBIN
Predicted
Actual
Stock prices
Time points - Monthly basis
400
350
300
250
200
150
0
10
20
30
40
50
60


Stock Prices vs Time (Weekly) for BSE - ITC
Predicted
Actual
Stock prices
Time points - Weekly basis
320
300
280
260
240
220
200
180
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for BSE - ITC
Predicted
Actual
Stock prices
Time points - Monthly basis
320
300
280
260
240
220
200
180
0
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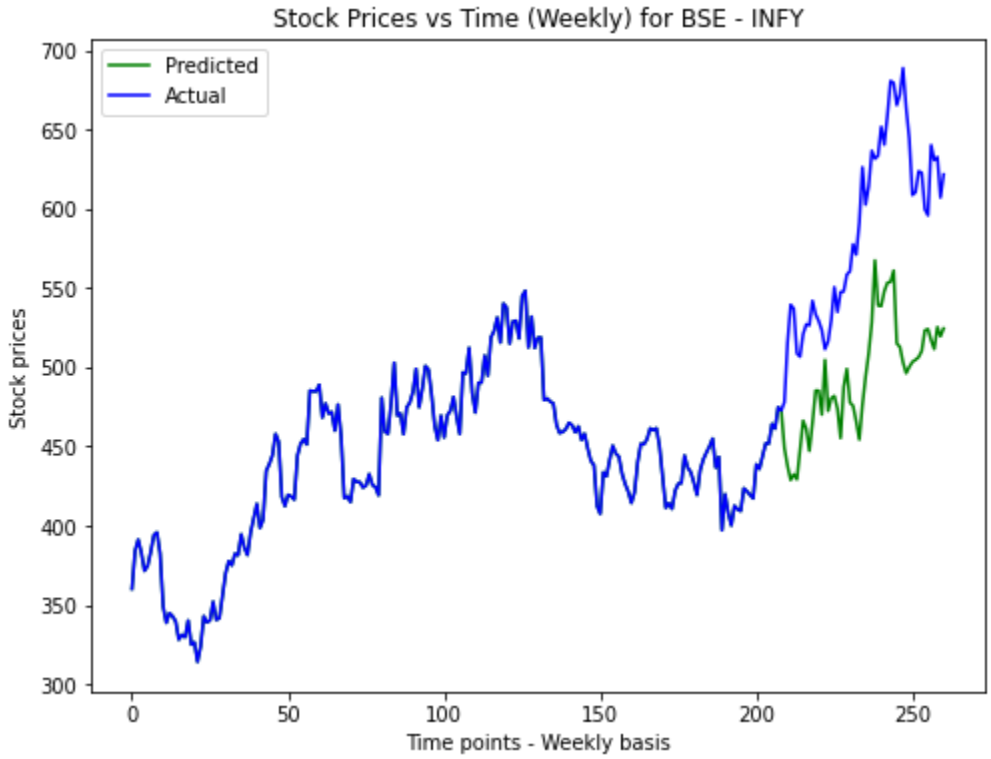
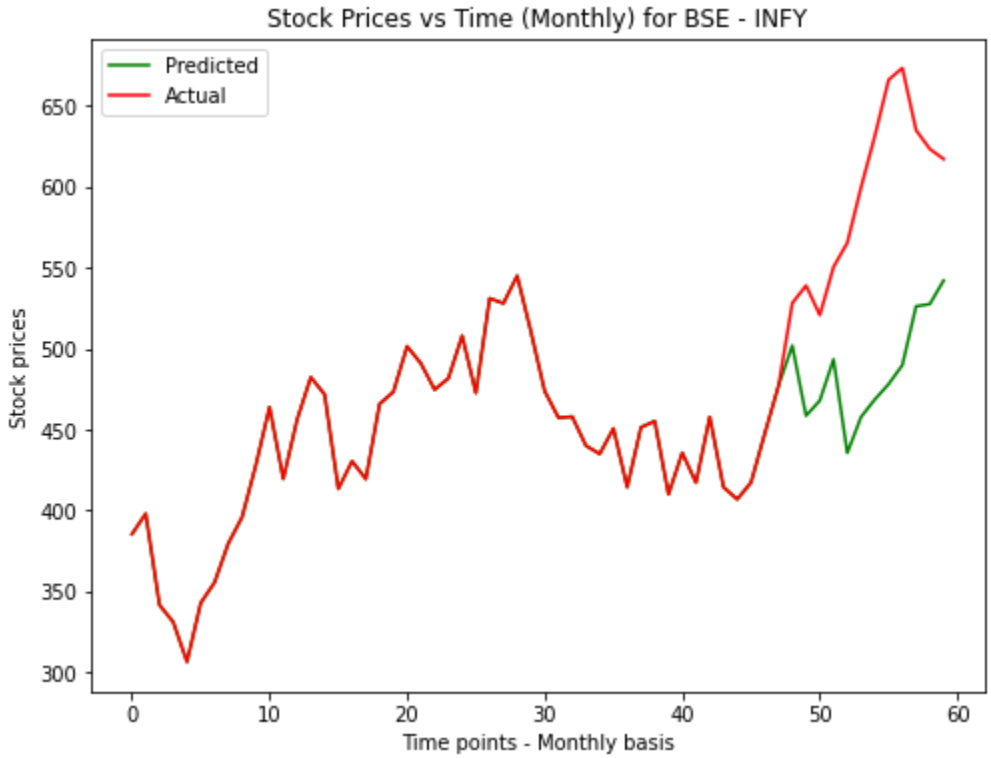
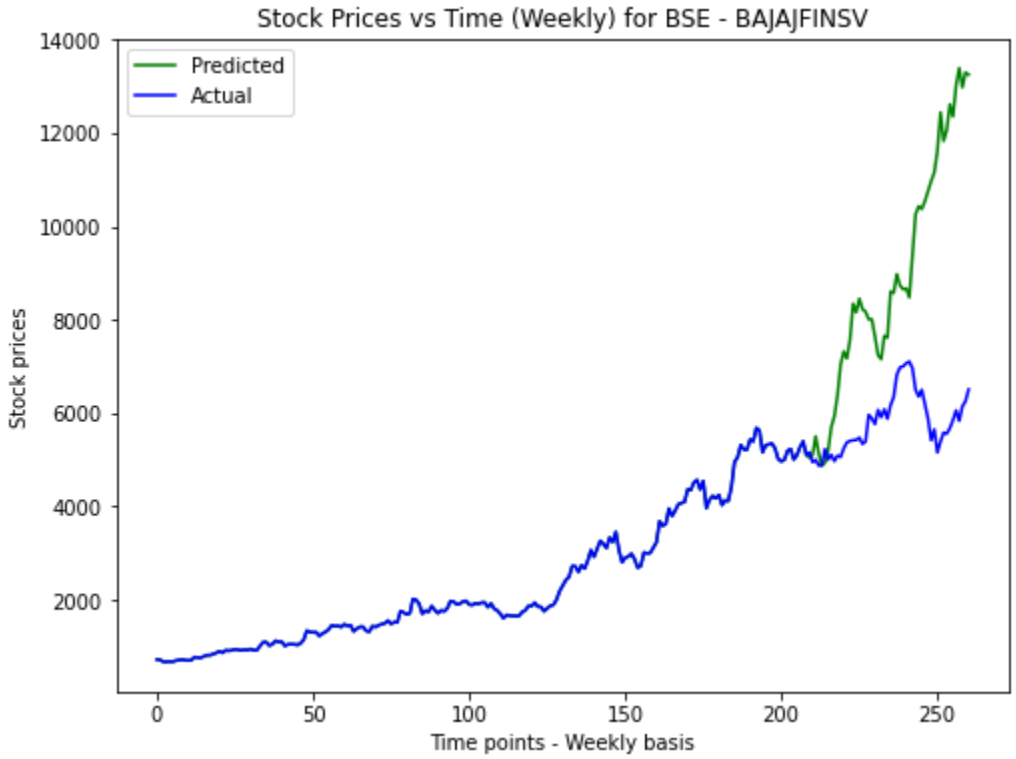
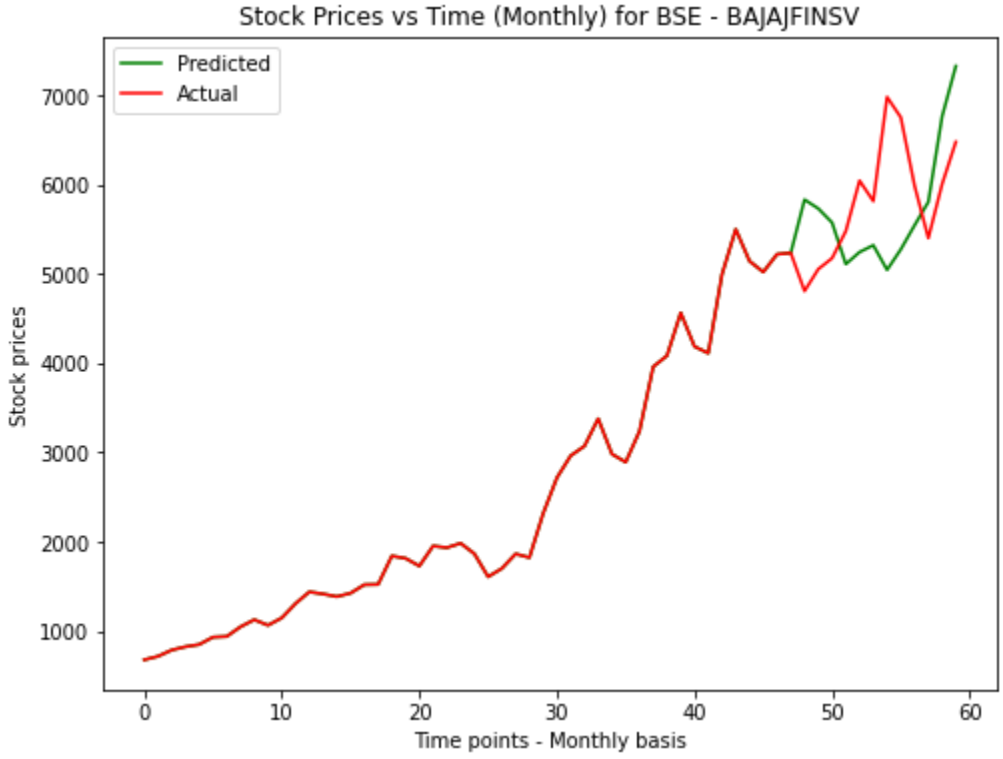
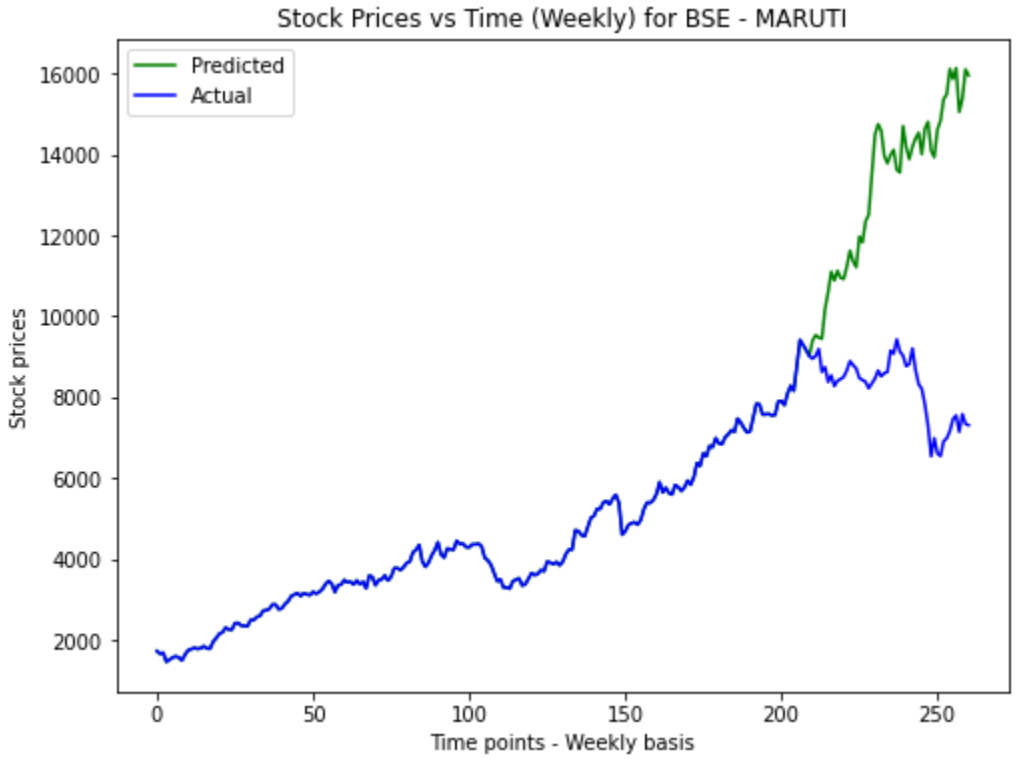
20
30
40
50
60

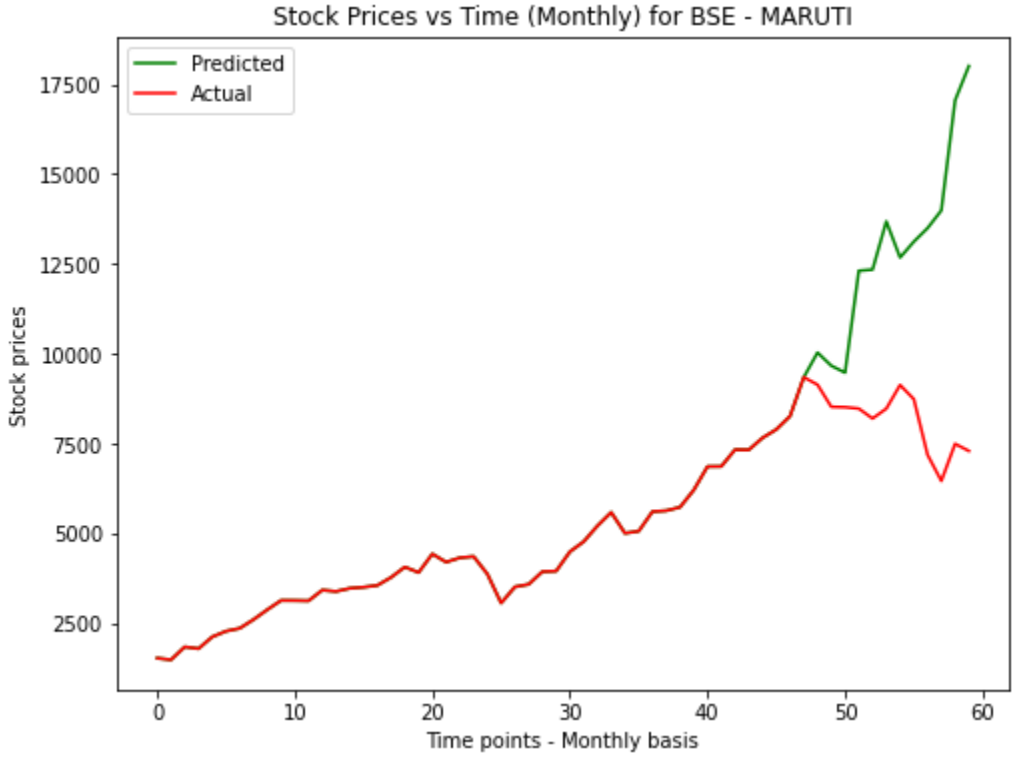

Stock Prices vs Time (Weekly) for BSE - INFY
Predicted
Actual
Stock prices
Time points - Weekly basis
700
650
600
550
500
450
400
350
300
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for BSE - INFY
Predicted
Actual
Stock prices
Time points - Monthly basis
650
600
550
500
450
400
350
300
0
10
20
30
40
50
60


Stock Prices vs Time (Weekly) for BSE - BAJAJFINSV
Predicted
Actual
Stock prices
Time points - Weekly basis
14000
12000
10000
8000
6000
4000
2000
0
50
100
150
200
250

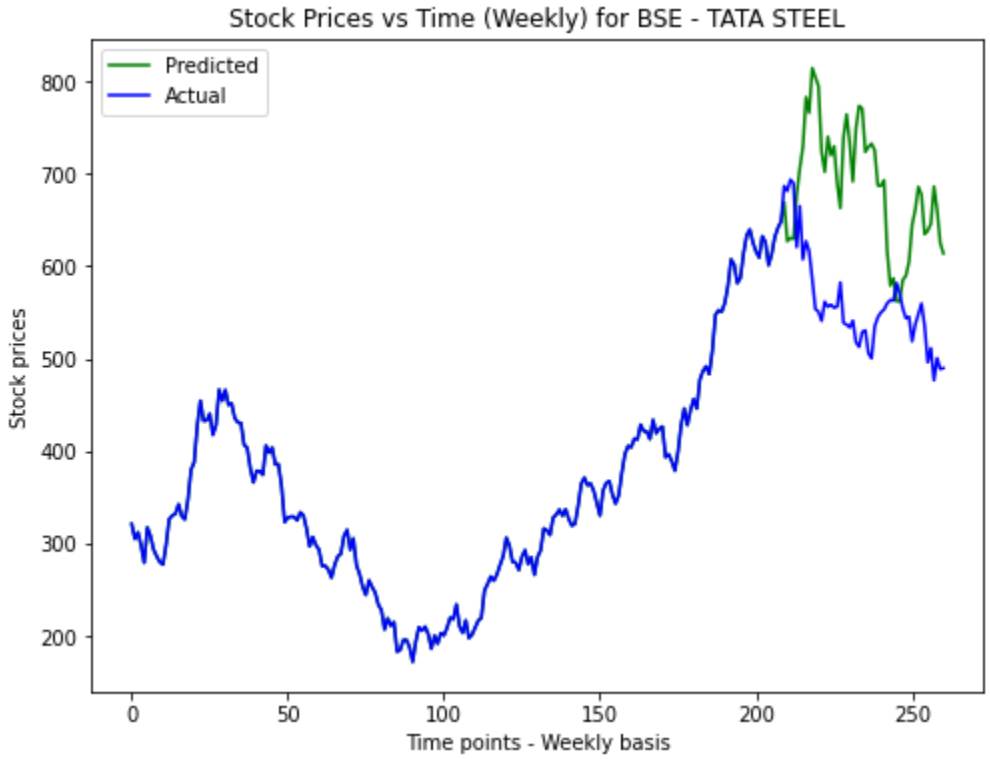

Stock Prices vs Time (Monthly) for BSE - BAJAJFINSV
Predicted
Actual
Stock prices
Time points - Monthly basis
7000
6000
5000
4000
3000
2000
1000
0
10
20
30
40
50
60

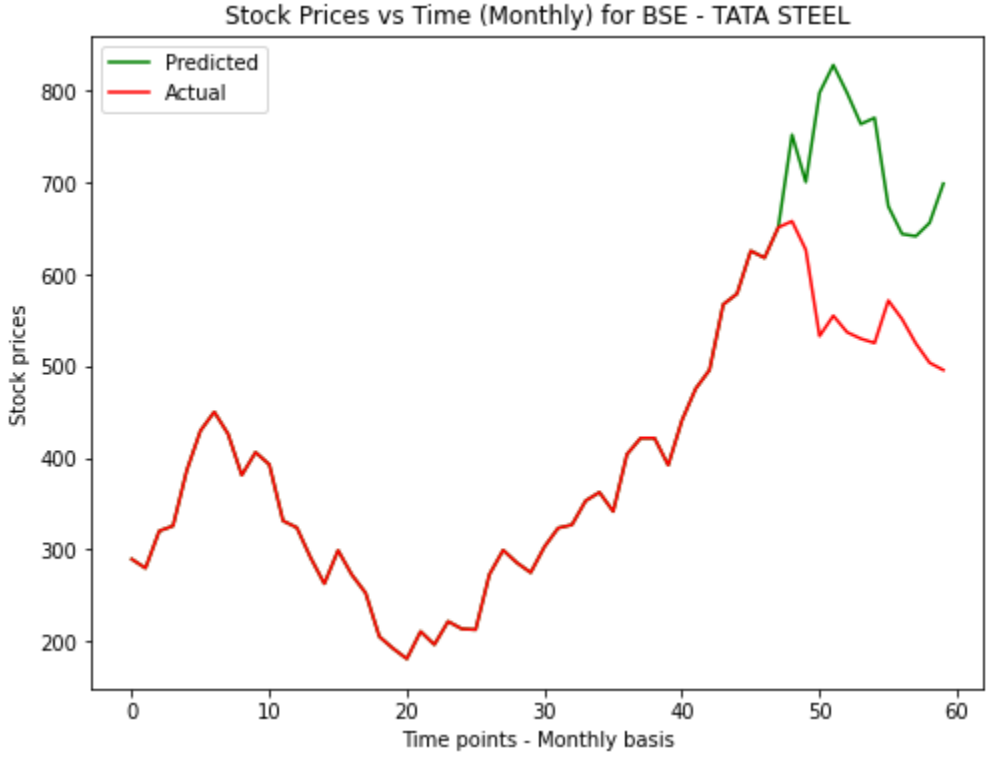

Stock Prices vs Time (Weekly) for BSE - MARUTI
Predicted
Actual
16000
14000
12000
10000
8000
6000
4000
2000
Stock prices
0
50
100
150
200
250
Time points - Weekly basis

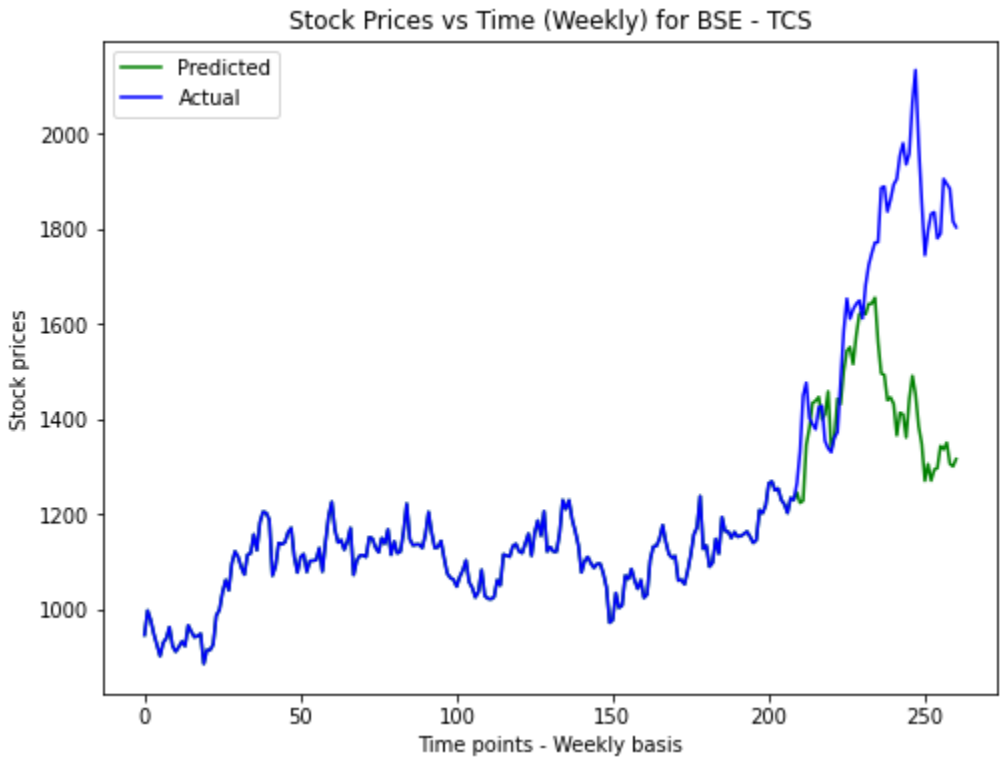

Stock Prices vs Time (Monthly) for BSE - MARUTI
Predicted
Actual
17500
15000
12500
10000
7500
5000
2500
Stock prices
0
10
20
30
40
50
60
Time points - Monthly basis

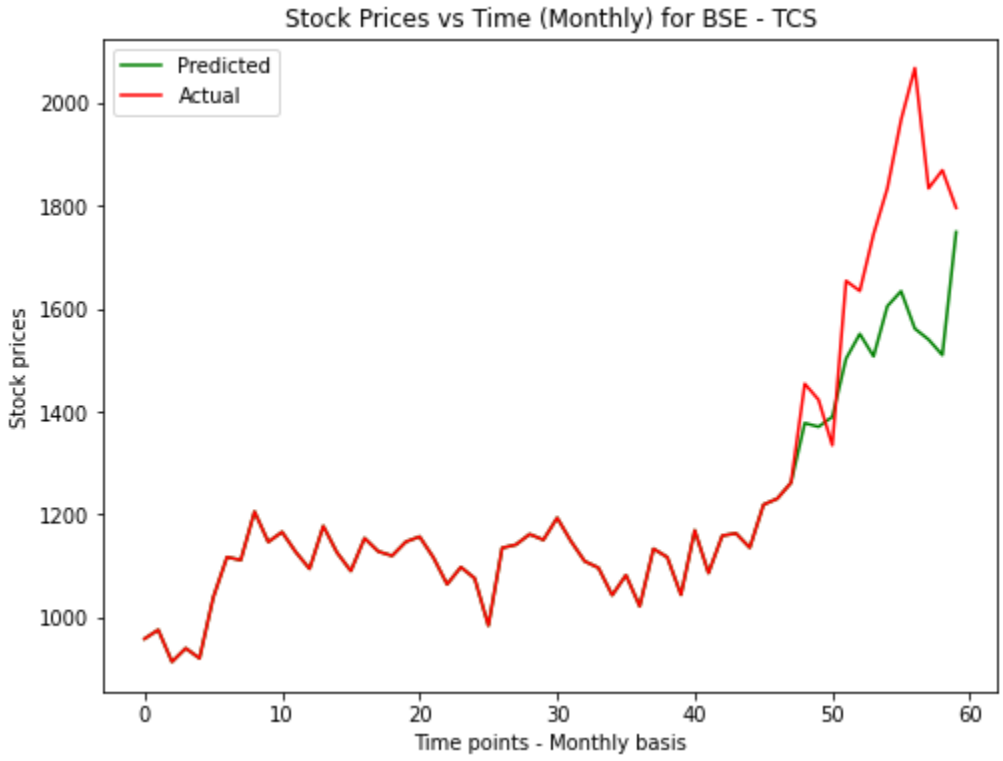

Stock Prices vs Time (Weekly) for BSE - AXISBANK
Predicted
Actual
Stock prices
Time points - Weekly basis
200
300
400
500
600
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for BSE - AXISBANK
Predicted
Actual
Stock prices
Time points - Monthly basis
200
300
400
500
600
700
0
10
20
30
40
50
60

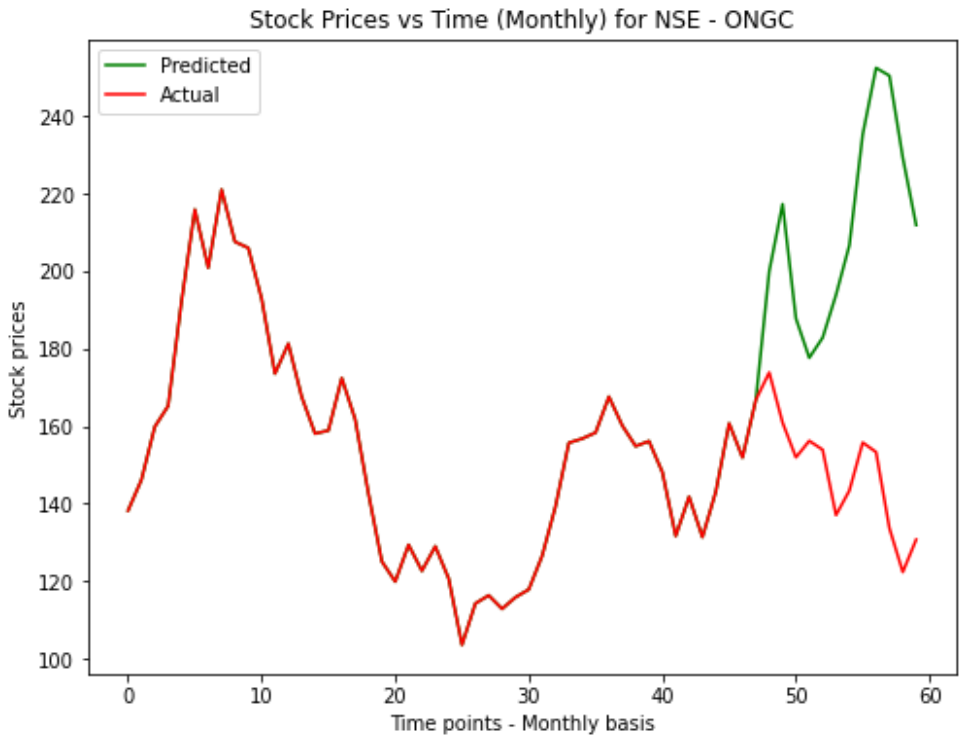

Stock Prices vs Time (Weekly) for BSE - TATA STEEL
Predicted
Actual
Stock prices
Time points - Weekly basis

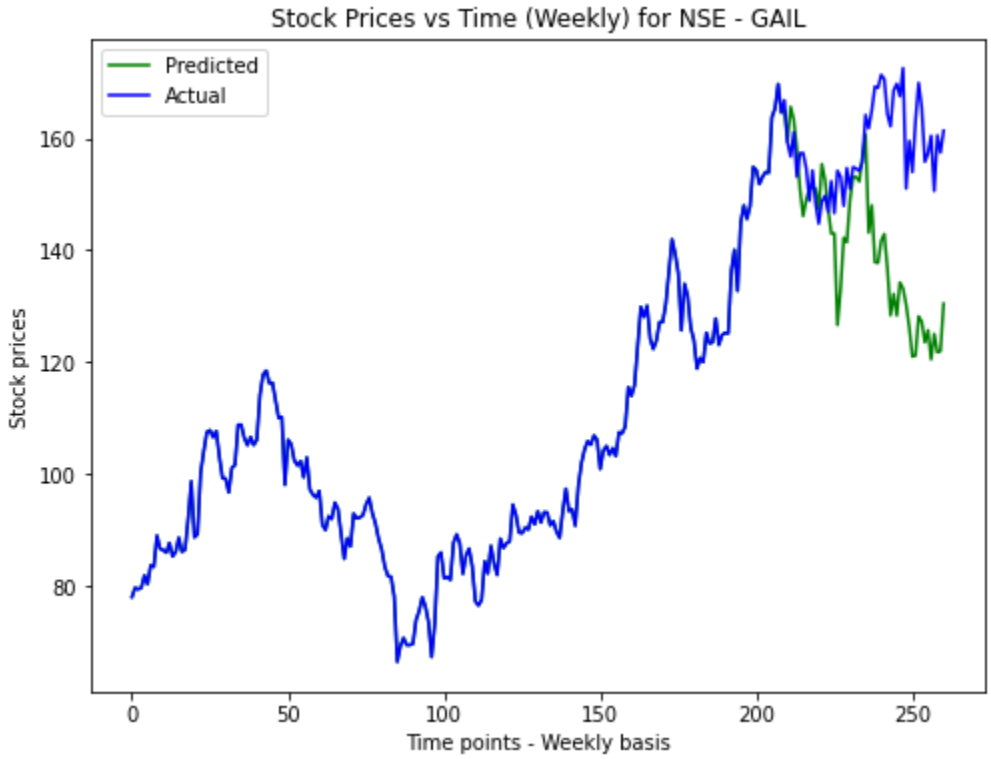

Stock Prices vs Time (Monthly) for BSE - TATA STEEL
Predicted
Actual
Stock prices
Time points - Monthly basis

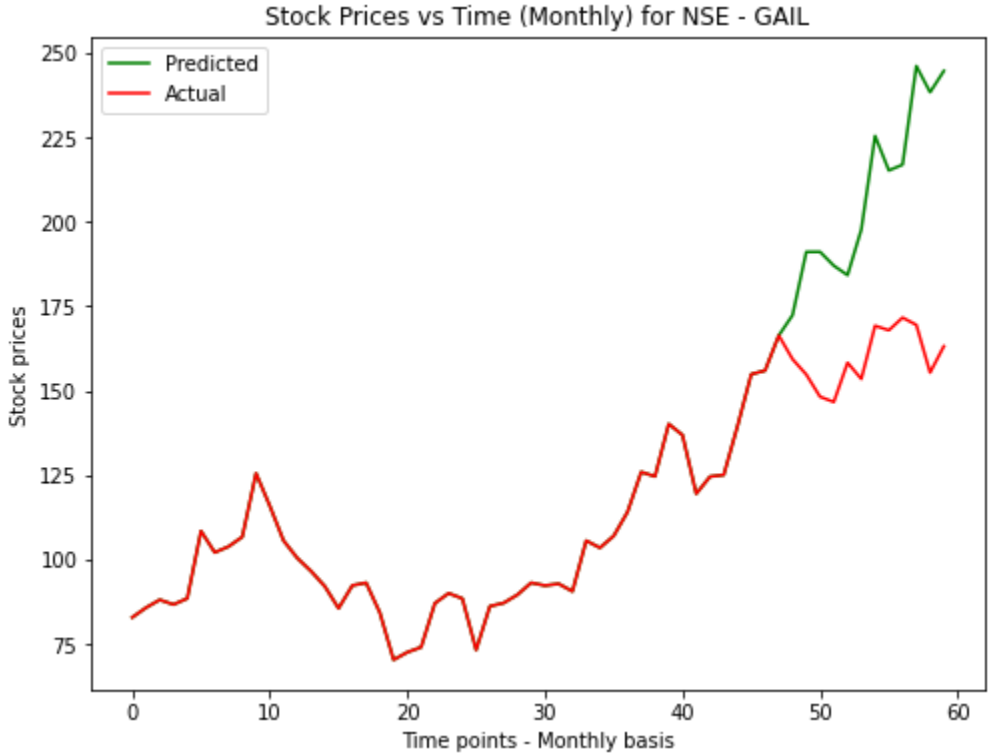

Stock Prices vs Time (Weekly) for BSE - TCS
Predicted
Actual
Stock prices
2000
1800
1600
1400
1200
1000
0
50
100
150
200
250
Time points - Weekly basis

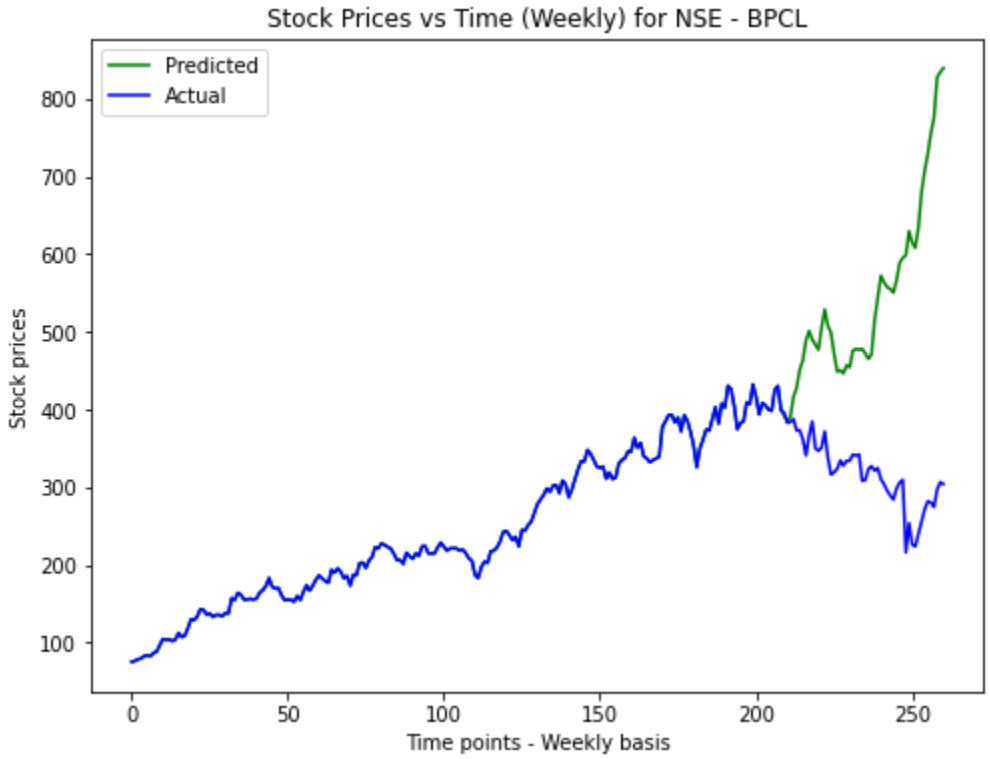

Stock Prices vs Time (Monthly) for BSE - TCS
Predicted
Actual
Stock prices
2000
1800
1600
1400
1200
1000
0
10
20
30
40
50
60
Time points - Monthly basis

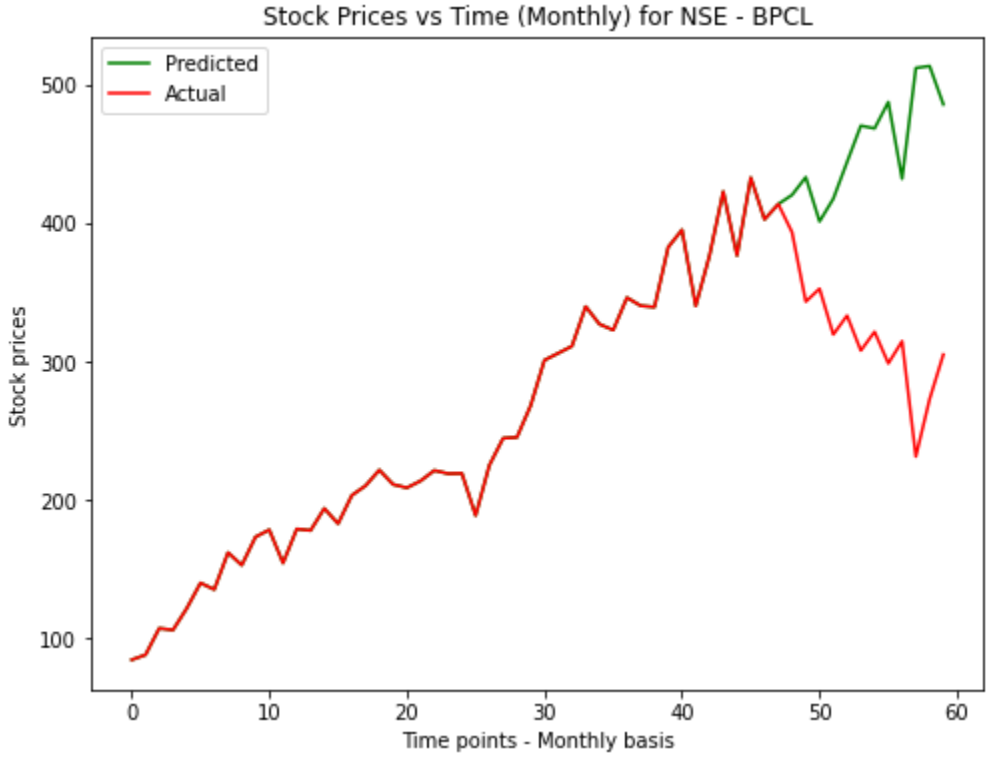
NSE:

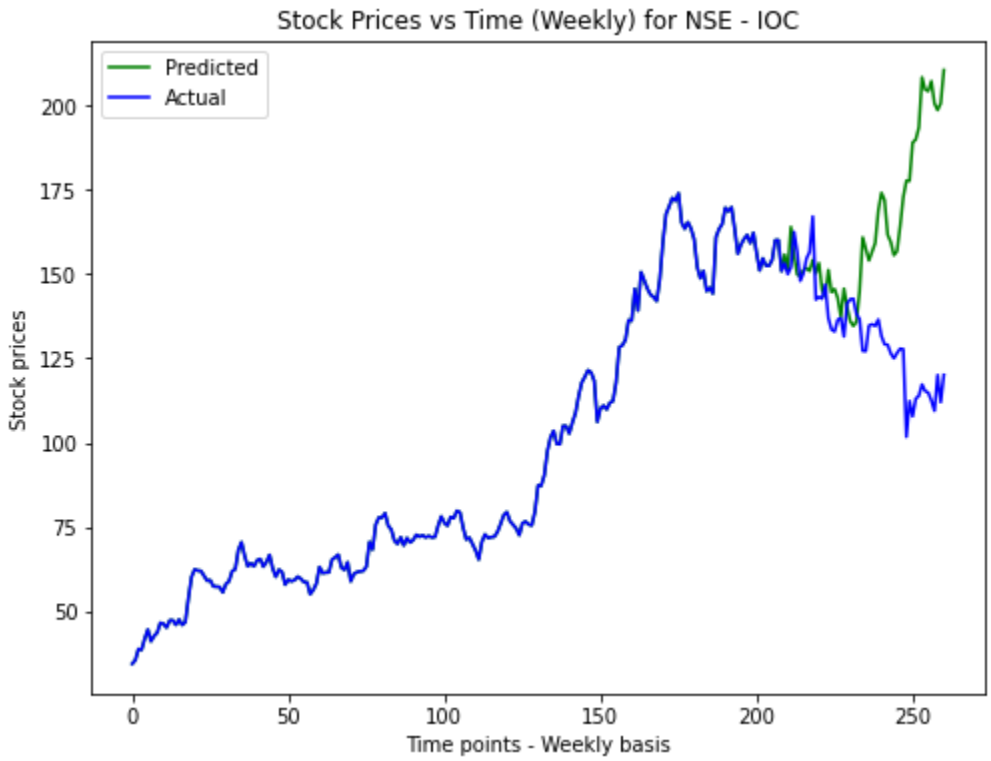

Stock Prices vs Time (Monthly) for NSE - ONGC
Predicted
Actual
Stock prices
Time points - Monthly basis
240
220
200
180
160
140
120
100
0
10
20
30
40
50
60

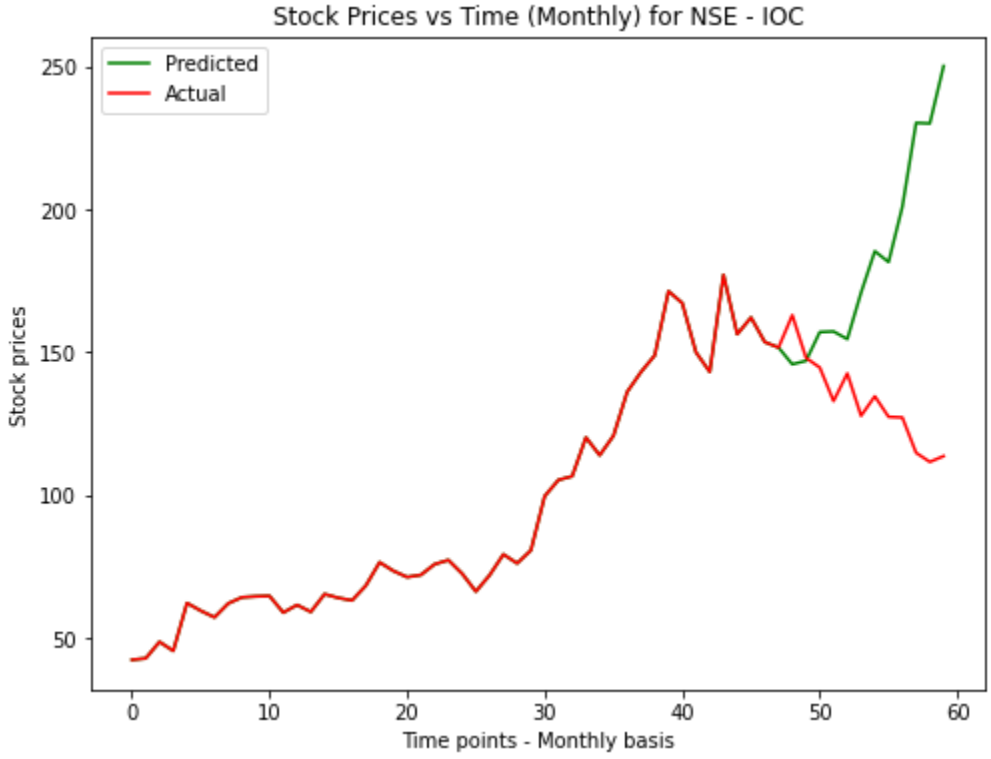

Stock Prices vs Time (Weekly) for NSE - GAIL
Predicted
Actual
160
140
120
100
80
Stock prices
0
50
100
150
200
250
Time points - Weekly basis

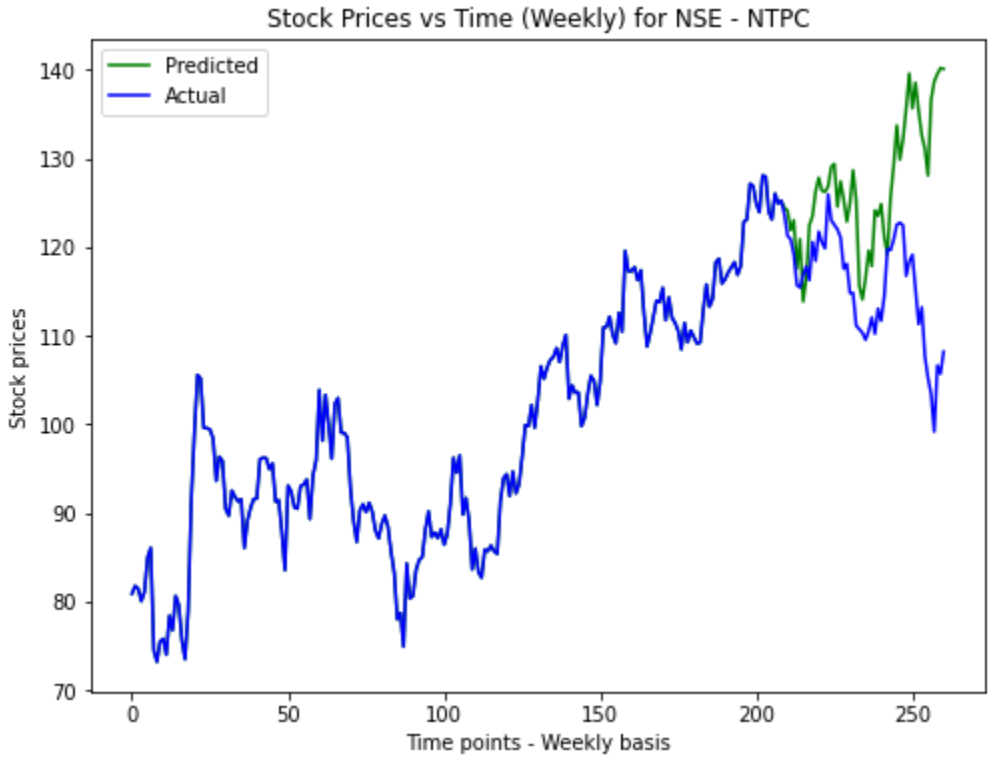

Stock Prices vs Time (Monthly) for NSE - GAIL
Predicted
Actual
250
225
200
175
150
125
100
75
Stock prices
0
10
20
30
40
50
60
Time points - Monthly basis

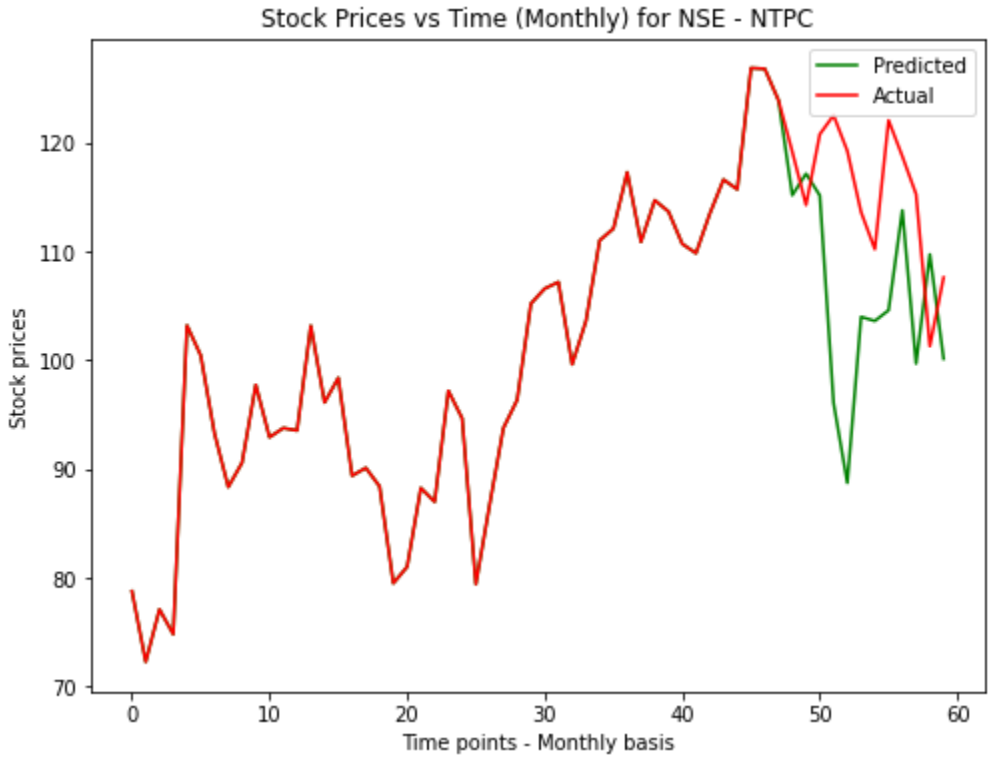

Stock Prices vs Time (Weekly) for NSE - BPCL
Predicted
Actual
Stock prices
Time points - Weekly basis

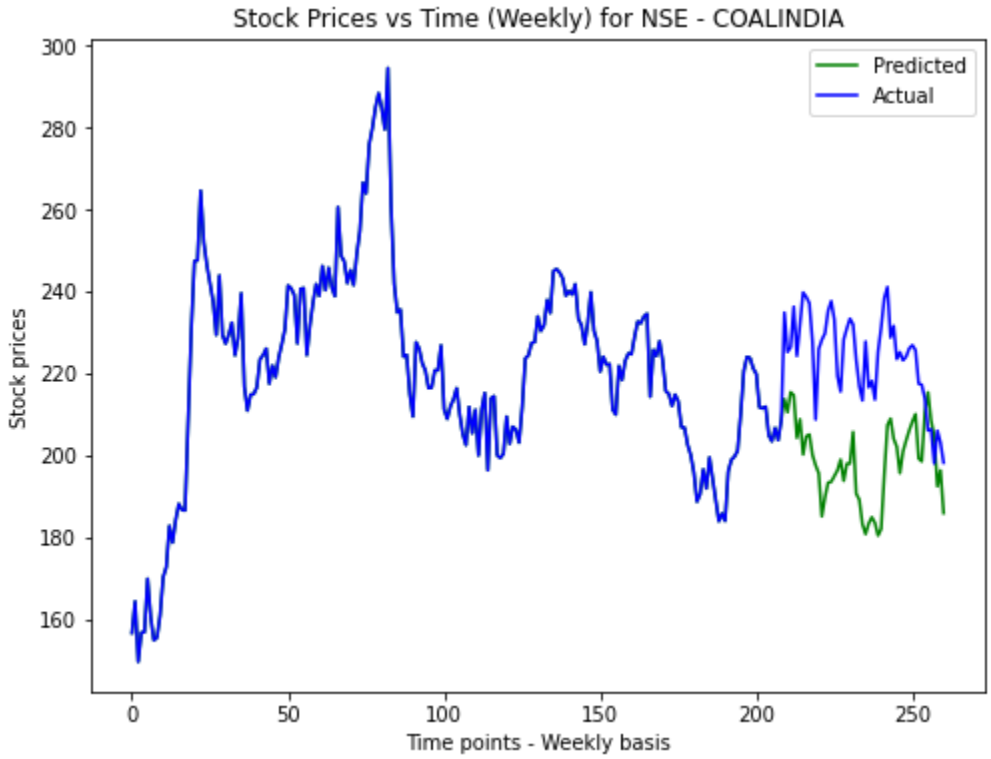

Stock Prices vs Time (Monthly) for NSE - BPCL
Predicted
Actual
Stock prices
Time points - Monthly basis

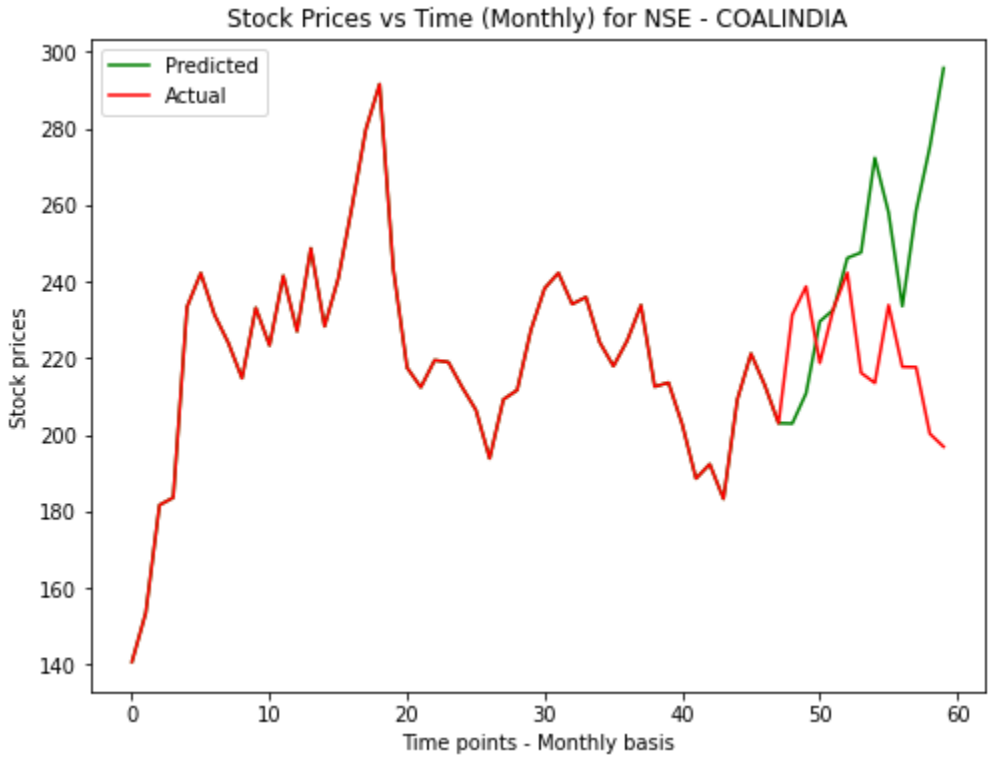

Stock Prices vs Time (Weekly) for NSE - IOC
Predicted
Actual
Stock prices
Time points - Weekly basis

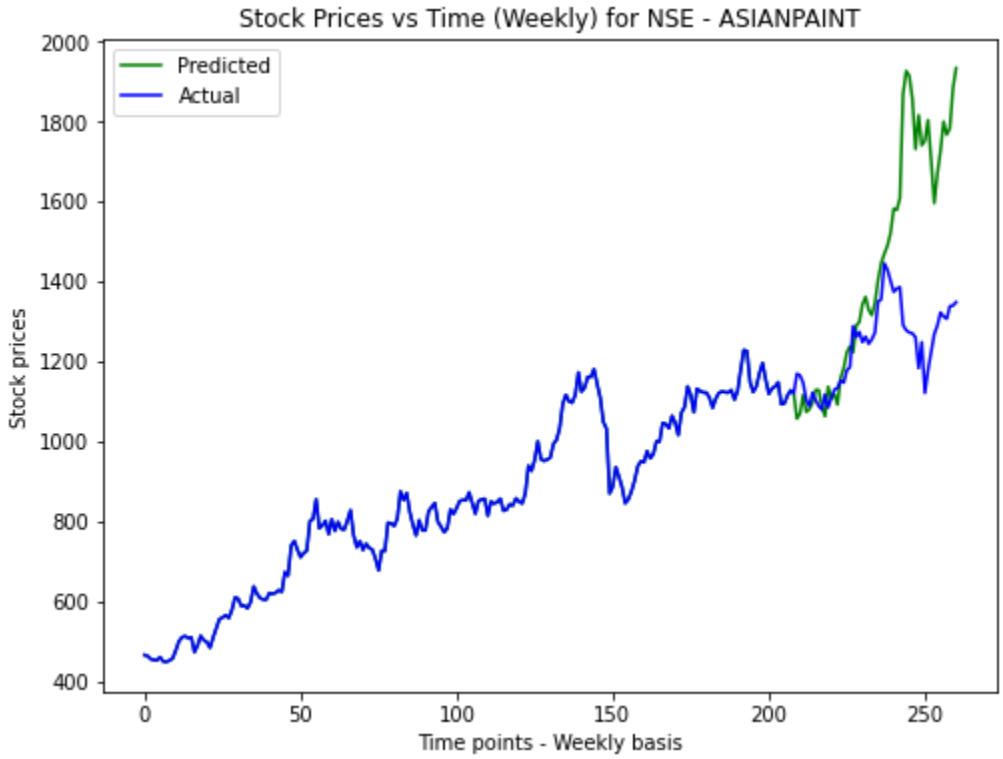

Stock Prices vs Time (Monthly) for NSE - IOC
Predicted
Actual
Stock prices
Time points - Monthly basis


Stock Prices vs Time (Weekly) for NSE - NTPC
Predicted
Actual
Stock prices
Time points - Weekly basis
140
130
120
110
100
90
80
70
0
50
100
150
200
250

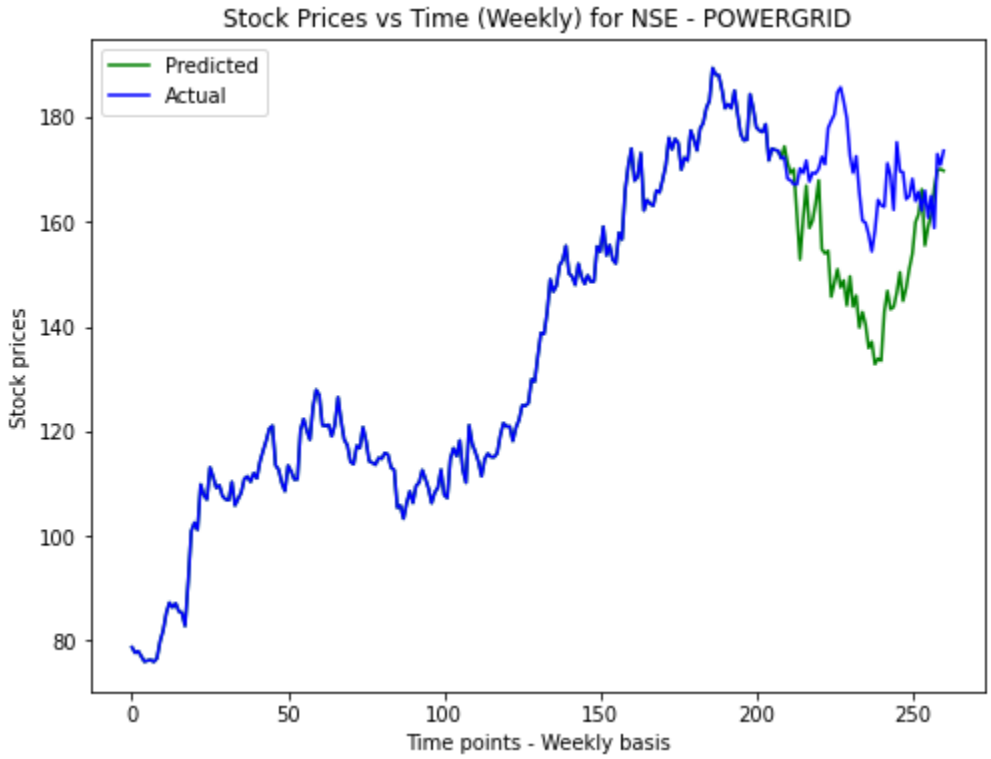

Stock Prices vs Time (Monthly) for NSE - NTPC
Predicted
Actual
Stock prices
Time points - Monthly basis
120
110
100
90
80
70
0
10
20
30
40
50
60

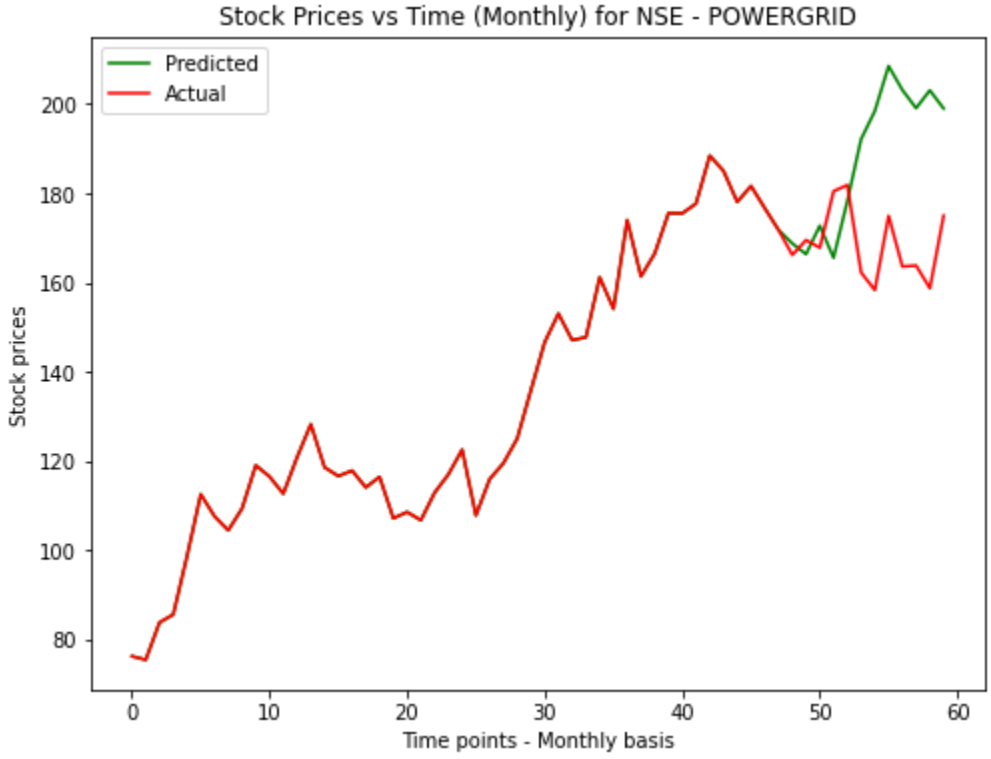

Stock Prices vs Time (Weekly) for NSE - COALINDIA
Predicted
Actual
Stock prices
Time points - Weekly basis
300
280
260
240
220
200
180
160
0
50
100
150
200
250

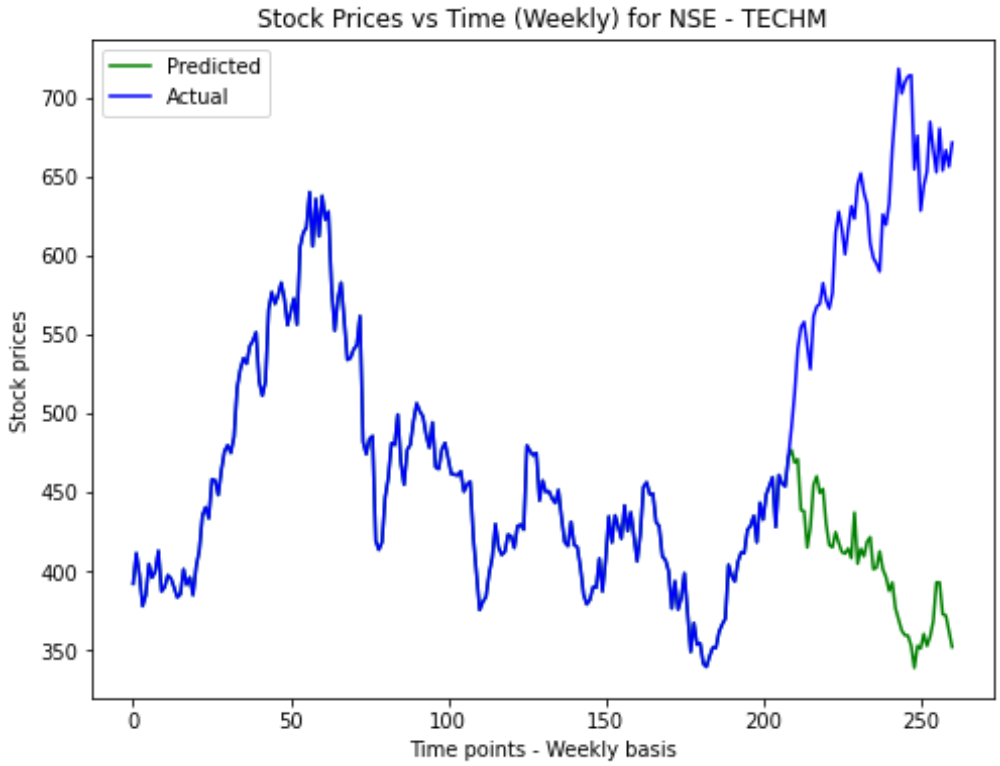

Stock Prices vs Time (Monthly) for NSE - COALINDIA
Predicted
Actual
Stock prices
Time points - Monthly basis
300
280
260
240
220
200
180
160
140
0
10
20
30
40
50
60

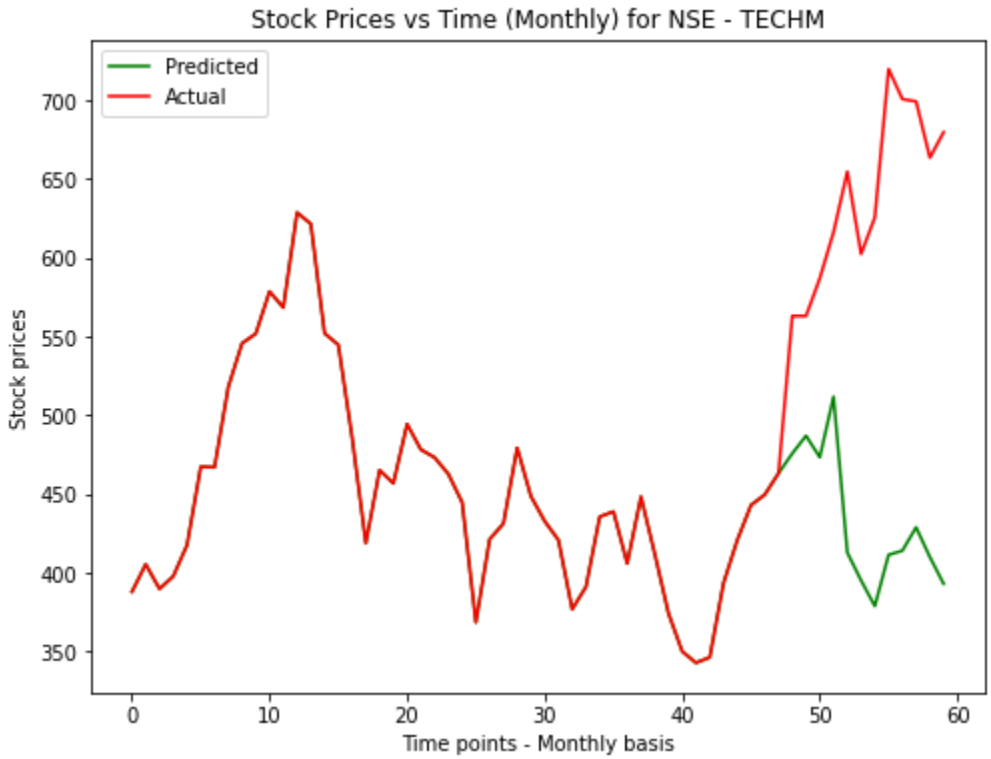

Stock Prices vs Time (Weekly) for NSE - ASIANPAINT
Predicted
Actual
Stock prices
Time points - Weekly basis
2000
1800
1600
1400
1200
1000
800
600
400
0
50
100
150
200
250

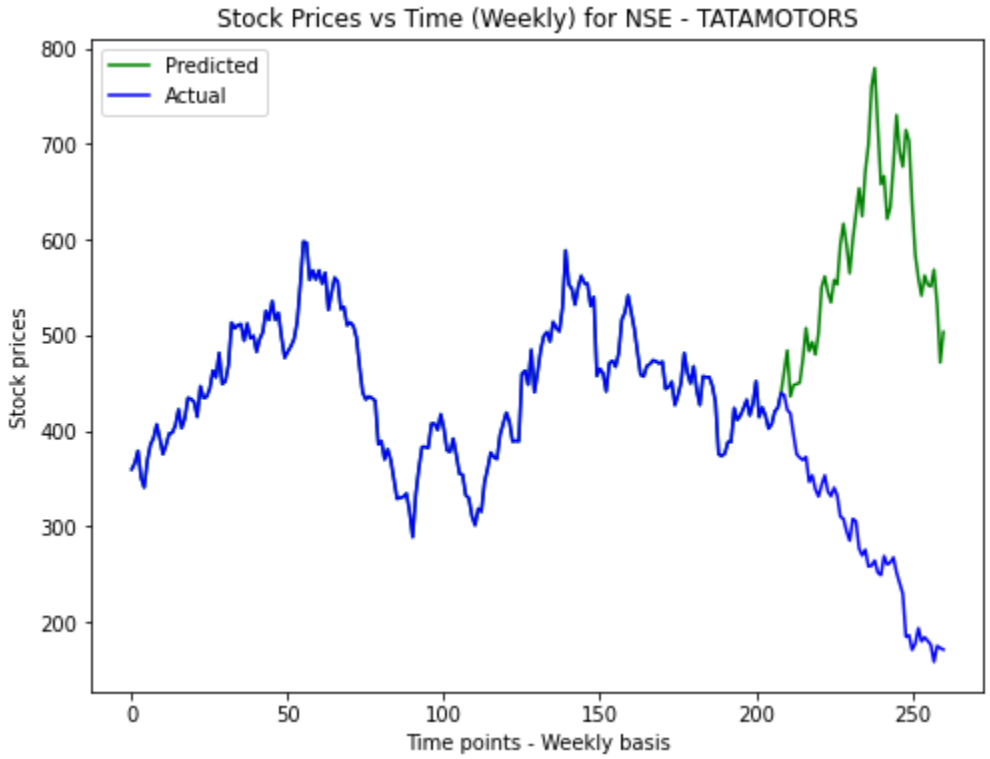

Stock Prices vs Time (Monthly) for NSE - ASIANPAINT
Predicted
Actual
Stock prices
Time points - Monthly basis
1600
1400
1200
1000
800
600
400
0
10
20
30
40
50
60

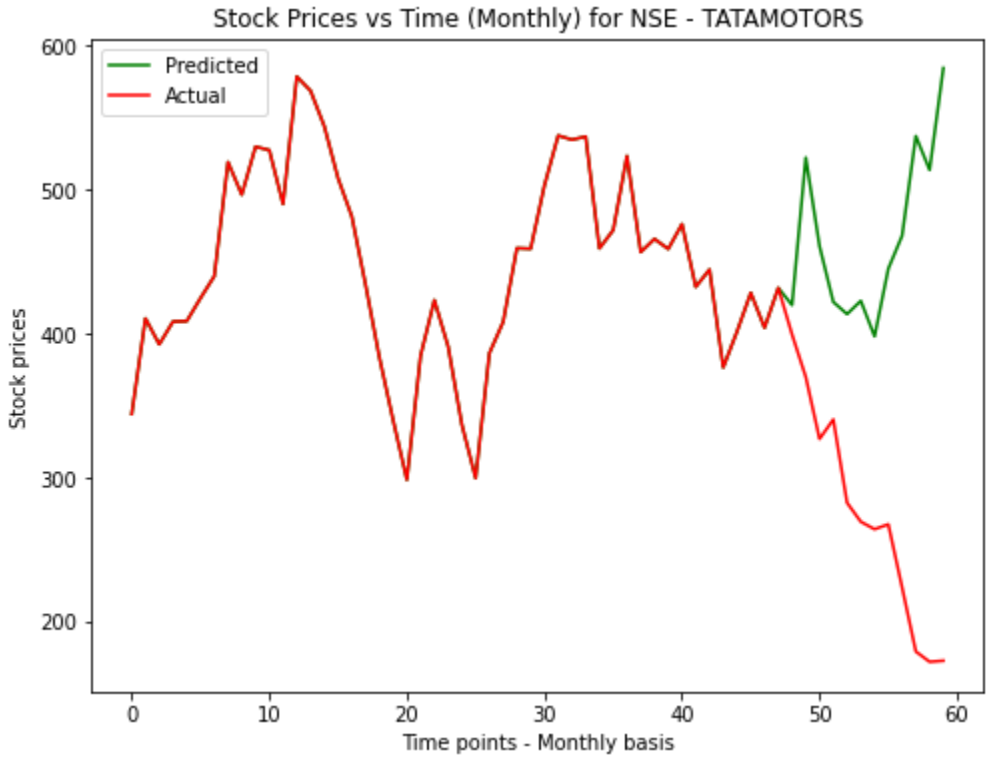

Stock Prices vs Time (Weekly) for NSE - POWERGRID
Predicted
Actual
Stock prices
Time points - Weekly basis


Stock Prices vs Time (Monthly) for NSE - POWERGRID
Predicted
Actual
Stock prices
Time points - Monthly basis


Stock Prices vs Time (Weekly) for NSE - TECHM
Predicted
Actual
Stock prices
Time points - Weekly basis
700
650
600
550
500
450
400
350
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for NSE - TECHM
Predicted
Actual
Stock prices
Time points - Monthly basis
700
650
600
550
500
450
400
350
0
10
20
30
40
50
60


Stock Prices vs Time (Weekly) for NSE - TATAMOTORS
Predicted
Actual
Stock prices
Time points - Weekly basis
800
700
600
500
400
300
200
0
50
100
150
200
250


Stock Prices vs Time (Monthly) for NSE - TATAMOTORS
Predicted
Actual
Stock prices
Time points - Monthly basis
600
500
400
300
200
0
10
20
30
40
50
60