



Assessment Submission Form

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Assessment Title	Programming for Analytics - Individual assignment
Module Code	MIS 41110
Module Title	Programming for Analytics
Module Co-ordinator	Prof. Darren Redmond
Tutor (if applicable)	
Date Submitted	06/12/20
Date Received	
Grade/Mark	

A SIGNED COPY OF THIS FORM MUST ACCOMPANY ALL SUBMISSIONS FOR ASSESSMENT. STUDENTS SHOULD KEEP A COPY OF ALL WORK SUBMITTED.

Procedures for Submission and Late Submission

Ensure that you have checked the School's procedures for the submission of assessments.

Note: There are penalties for the late submission of assessments. For further information please see the University's *Policy on Late Submission of Coursework*, (<http://www.ucd.ie/registrar/>)

Plagiarism: the unacknowledged inclusion of another person's writings or ideas or works, in any formally presented work (including essays, examinations, projects, laboratory reports or presentations). The penalties associated with plagiarism designed to impose sanctions that reflect the seriousness of University's commitment to academic integrity. Ensure that you have read the University's *Briefing for Students on Academic Integrity and Plagiarism* and the UCD *Plagiarism Statement, Plagiarism Policy and Procedures*, (<http://www.ucd.ie/registrar/>)

❖ Step 0

Download the ‘*TickerSymbol.xlsx*’ and ‘*dateMap.xlsx*’ files along with the python script “*Stock Prediction Code – UCD20200235.py*” and save it to a directory.

❖ To run the python file

```
Anaconda Prompt (anaconda3)

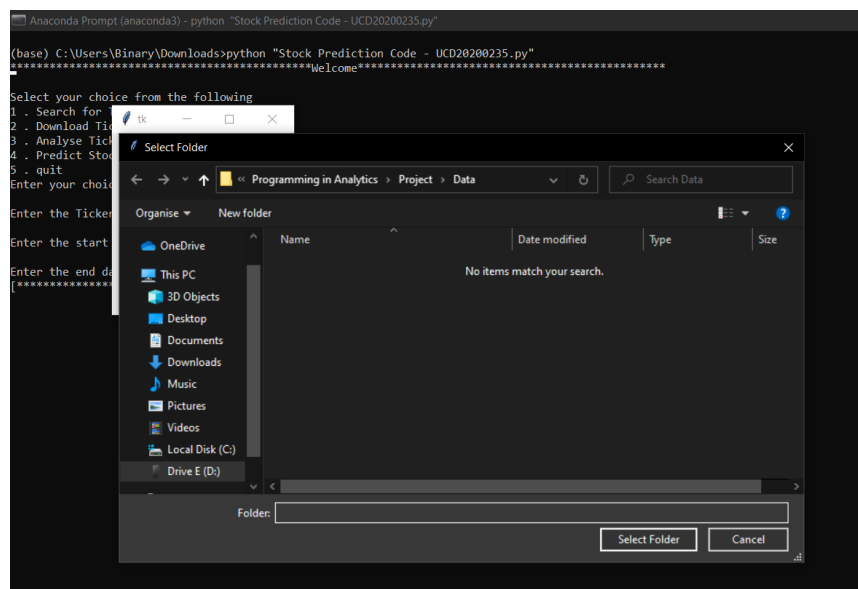
(base) C:\Users\Binary>cd Downloads

(base) C:\Users\Binary\Downloads>python "Stock Prediction Code - UCD20200235.py" _
```

Find where you have saved the python file. Open the Anaconda Prompt and type the directory after “cd” command and press enter. In the next line, type python “*Stock Prediction Code – UCD20200235.py*” and press enter. The python script will be triggered.

❖ To set the working directory

Once the python code is triggered, the user will be greeted with a welcome message and a dialog box will appear prompting the user to select the path. Select the folder in which you have saved ‘*TickerSymbol.xlsx*’ and ‘*dateMap.xlsx*’ files and press ‘Select Folder’



❖ Navigating through the Main Menu

The user will be presented with a list of options and will be prompted to choose one of those options. Enter the number corresponding to the option you prefer. Eg: Entering ‘1’ will enable the user to search for Ticker Symbols

```
(base) C:\Users\Binary\Downloads>python "Stock Prediction Code - UCD20200235.py"
*****welcome*****

Select your choice from the following
1 . Search for Tickers
2 . Download Ticker data
3 . Analyse Ticker
4 . Predict Stock Price
5 . quit
Enter your choice: _
```

❖ To search for Ticker Symbols

1. Press 1 in the Main menu
2. Enter the Keyword
3. Enter the Ticker option from the displayed choices
4. Once the user selects the Ticker of their choice, they will be prompted to confirm their selection. Entering 1 will confirm the selection while 0 will enable the user to select again.

```
Anaconda Prompt (anaconda3) - python "Stock Prediction Code - UCD20200235.py"
Enter your choice: 4
*****Welcome*****

Select your choice from the following
1 . Search for Tickers
2 . Download Ticker data
3 . Analyse Ticker
4 . Predict Stock Price
5 . quit
Enter your choice: 1

Search for ticker symbol using keyword: bng

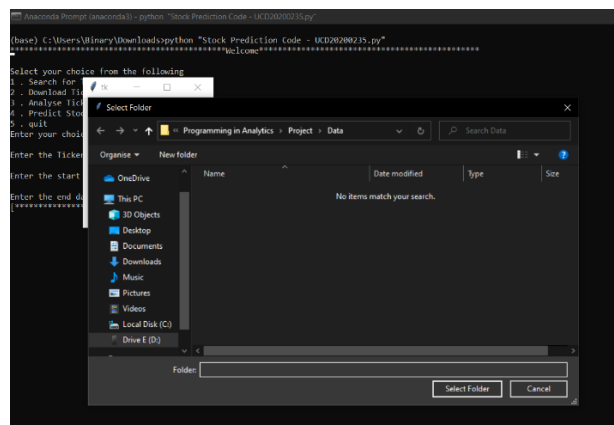
Select your choice from the following
1 . BNGI
2 . BNGYF
3 . BNGO
4 . BNGRF
Enter your choice: 1

You have selected ' BNGI '

Press 1 to confirm. 0 to select again:
```

❖ To Download data

1. Press 2 in main menu
2. Enter the Ticker Symbol
3. Enter the Start and End Date
4. Select the working directory when prompted
5. The data will be exported to the selected directory



```
Anaconda Prompt (anaconda3)

(base) C:\Users\Binary\Downloads>python "Stock Prediction Code - UCD20200235.py"
*****Welcome*****

Select your choice from the following
1 . Search for Tickers
2 . Download Ticker data
3 . Analyse Ticker
4 . Predict Stock Price
5 . quit
Enter your choice: 2

Enter the Ticker symbol: s1vb

Enter the start date in YYYY-MM-DD format 2020-01-01

Enter the end date in YYYY-MM-DD format 2020-05-01
[*****100%*****] 1 of 1 completed
Export Successful

(base) C:\Users\Binary\Downloads>
```

❖ To Analyse the data

1. Press 3 in the main menu
2. Enter the Ticker Symbol
3. Enter the Start and End Date
4. Select the column you wish to analyse. The user will be presented with basic statistics of the column
5. Post that, the user will be prompted to select their choice of further analysis. Selecting the desired option will provide the user with the required chart.
 - Press 1 for Time Series
 - Press 2 for Moving Average
 - Press 3 for Weighted moving average
 - Press 4 for MACD

```

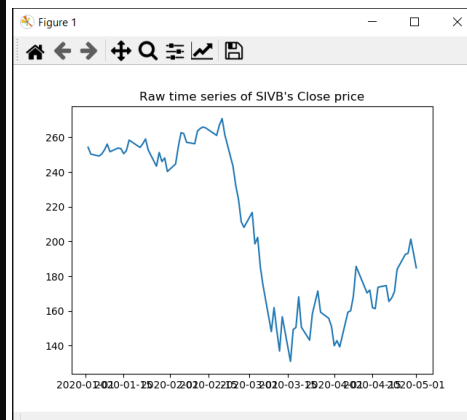
Anaconda Prompt (anaconda3) - python "Stock Prediction Code - UCD20200235.py"
[*****100%*****] 1 of 1 completed

Select your choice from the following
1 . Open
2 . High
3 . Low
4 . Close
5 . Adj Close
6 . Volume
Enter your choice: 4

We have 84 entries

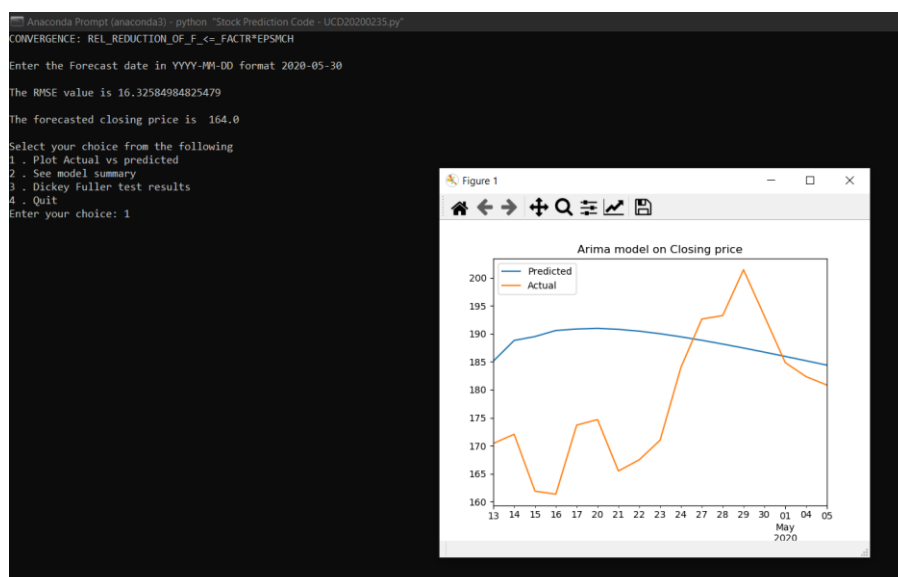
The mean value is 207.25
The median value is 201.9
The Standard deviation is 45.72 and the variance is 2090.4
The range is 139.81
The Q1 is 164.24, Q2 is 201.9, Q3 is 252.96 and the IQR is 88.72
The co-efficient of variation is 0.22
Do you want to perform any further analysis from the following?
Select your choice from the following
1 . Plot Time series
2 . Plot Moving Average
3 . Plot Weighted Moving Average
4 . Plot MACD
Enter your choice: 1

```



❖ To Forecast closing price on a particular date

1. Press 4 in the main menu
2. Enter the Ticker Symbol
3. Enter the Start and End Date
4. Enter the Forecast date.
5. The user will be provided with the forecasted price as well as the RMSE value.
6. Further options to see the model parameters will be displayed.
 - Select 1 to see Actual vs Predicted graph
 - Select 2 to see the model summary
 - Select 3 to run the Dickey fuller test



The UML Diagram

