# Continuous Assessment 3

cm17521

1) (5 points) Plot the predicted and true stock price on a test set and describe your observations from this plot with moving average (MA).

Requirements:

1. You need to list key steps and their results (e.g., ACF plot) to predict the stock price. You will lose marks if you only show the final plot about prediction;
2. You need to split this dataset into a train (70%) set and a test (30%) set. Use the train set to train the moving average (MA) model and make a prediction on the test set.

2) (5 points) Summaries of the process of augmented dickey-fuller test. Use this theory to test and analyze the stationarity of this dataset.

3) (10 points) Summaries of the research idea development from AR to MA and from MA to ARIMA. Based on your summary, please recognize the weakness of the ARIMA model and give indications to overcome such weaknesses. Requirements: You need to use theoretical math equations and literature to support your arguments.

4) (10 points) Plot the predicted volatility based on the estimated GRACH model from 01/Dec/2021 to 30/Dec/2021 and show estimation steps, observations and analysis.