Assignment One

Question one: (50 marks)

By using the package yfinance, develop a function which calculates the top 5 of the stock names with the highest return.

Input parameter of the function: 1) start date of the return calculation 2) list of stock codes

Return=100*(close price of the last trading date-close price of the start date)/ date-close price of the start date

Define the function which perform the following tasks:

-Import excel worksheet which contains the list of stock codes (the excel sheet will be provided as attachment)

-Download the stock data for each of the stock code

-Calculate the return of the stocks

-Determine the top 5 of the stock code and return it as a list

Question two: (50 marks)

With yfinance fetch the daily stock data for HSI index (^HSI) from 2018-01-01 to 2020-12-14

Perform the following tasks:

-Add one column “Volatility” which measures the difference of the high value and the low value of the close price of each day (10 marks)

-Add one column “GAP” which measures the difference of the open value and the close value of previous trading day (Hint: use shift() method) (10 marks)

-By using the method rolling() calculate the simple moving average SMA 50 indicators and assign it to one additional columns SMA50 (15 marks)

-Determine the difference of the max close price to the min close price per year per month (15 marks)