

QUESTION 2 (Time Series)

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#Import the necessary libraries

import os
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
import seaborn as sns
import datetime

#Check for your working directory
os.listdir()

# read in the necessary file ('clean_stock_prices.csv')
df = pd.read_csv('cleaned_stock.csv',index_col=0)
df.head()

Question1
a) #Lowest price for Safaricom
df = pd.read_csv('cleaned_stock.csv')
min1 = df['SCOM'].min()
min1

Question2
a) # highest price for Safaricom
df = pd.read_csv('cleaned_stock.csv')
max1 = df['SCOM'].max()
max1

Question3
#Plot SCOM
plt.title('Safaricom Shares')

# set the xlabel

plt.xlabel("Date")

# set the ylabel

plt.ylabel("Stock Price")

plt.plot('SCOM',data=df, color="brown")
plt.show()

Question 4
# agricultural companies
agric = ['EGAD', 'KUKZ', 'LIMT', 'SASN', 'WTK']

a) #Creating Subsets containing all data
agric_df = df.loc[:, 'EGAD': 'WTK'].copy()
agric_df.head()
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b) #Using Matplotlib to creat subplots

bank_cols = agric_df.columns

font = {'family': 'serif',
        'color': 'darkred',
        'weight': 'normal',
        'size': 16,
        }

for idx,bank in enumerate(bank_cols,start=1):
    plt.subplot(6,2,idx)
    plt.title(bank,fontdict=font)
    plt.grid()
    plt.plot(bank,data=df)

fig = plt.gcf()
fig.set_size_inches(16,30)
plt.show()

c) #Correlation for Agric
corr_df = agric_df.corr(method="pearson")

d) #Using Seaborn
plt.figure(figsize=(13, 8))
sns.heatmap(corr_df, annot=True, cmap='RdYlGn')
plt.figure()
```