

In [1]:

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#Title: Python Programming and Data Analytics
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#Bio: dasclab.uonbi.ac.ke/analytics/members/your-account
#Date: 2022-03-24

#QUESTION 2

import os
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
import datetime
os.listdir()

df = pd.read_csv('clean_stock_prices.csv')
df.sort_values("SCOM")
df.sort_values(
    by="SCOM",
    ascending=False,
    kind="mergesort"
)
df['SCOM'].plot()

agric = ['EGAD', 'KUKZ', 'LIMT', 'SASN', 'WTK']

# commercial companies
comm = ['XPRS', 'KQ', 'LKL', 'NBV', 'NMG', 'SMER', 'SCAN', 'SGL', 'TPSE', 'UCHM']

# banking companies
bank = ['ABSA', 'BKG', 'DTK', 'EQTY', 'HFCK', 'IMH', 'KCB', 'NBK', 'NCBA', 'SBIC', 'SCBK', 'COOP']

# construction sector
const = ['ARM', 'BAMB', 'CRWN', 'CABL', 'PORT']

# energy sector
energy = ['KEGN', 'KPLC', 'TOTL', 'UMME']

# insurance sector
insur = ['BRIT', 'CIC', 'JUB', 'KNRE', 'LBTY', 'SLAM']

# investement sector
invest = ['CTUM', 'HAFR', 'KURV', 'OCH', 'TCL', 'NSE']

# manufacturing sector
manu = ['BOC', 'BAT', 'CARB', 'EABL', 'EVRD', 'FTGH', 'ORCH', 'MSC', 'UNGA']

energy_df = df.loc[:, 'KEGN': 'UMME'].copy()
energy_df.head()
energy_cols = energy_df.columns

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

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

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

energy_df.corr(method='pearson')

corr_df = energy_df.corr(method="pearson")

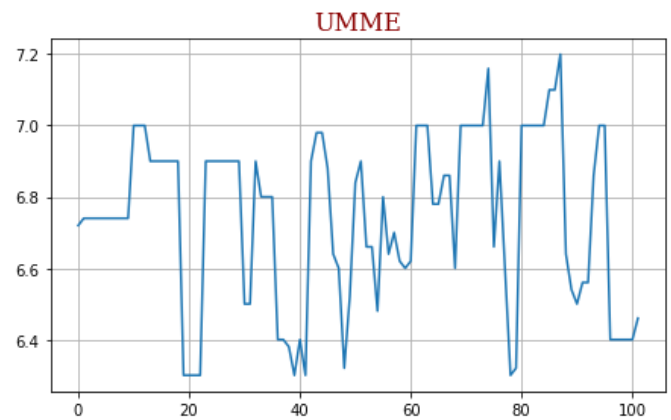
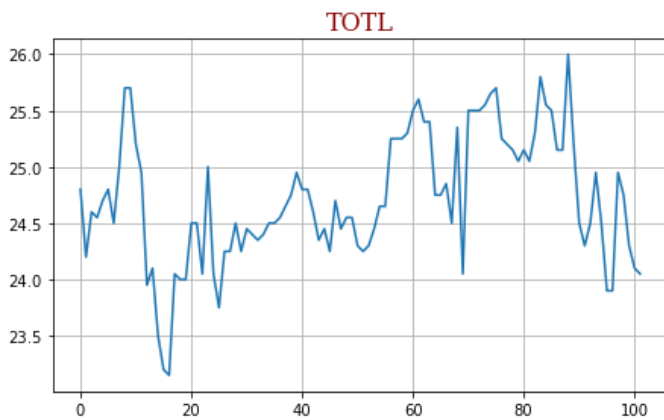
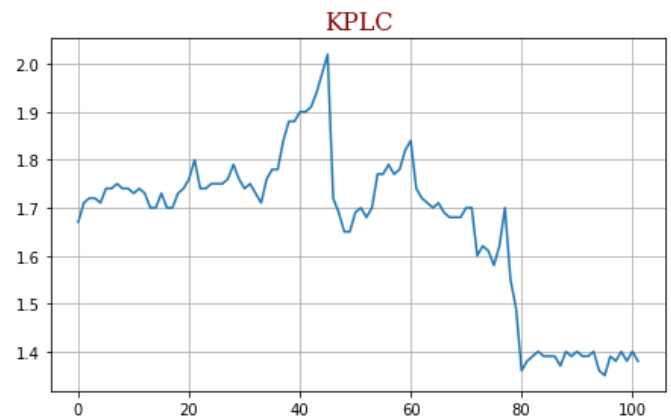
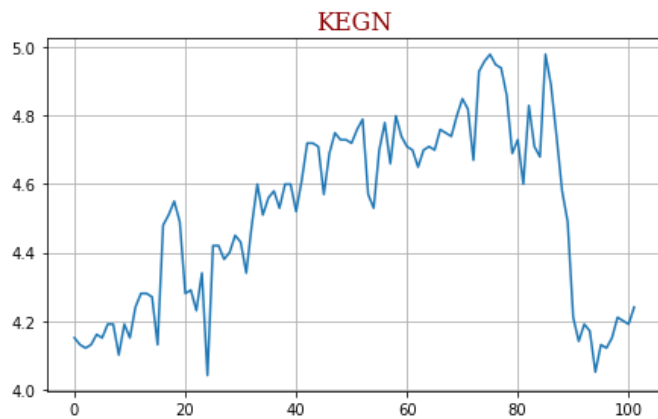
import seaborn as sns

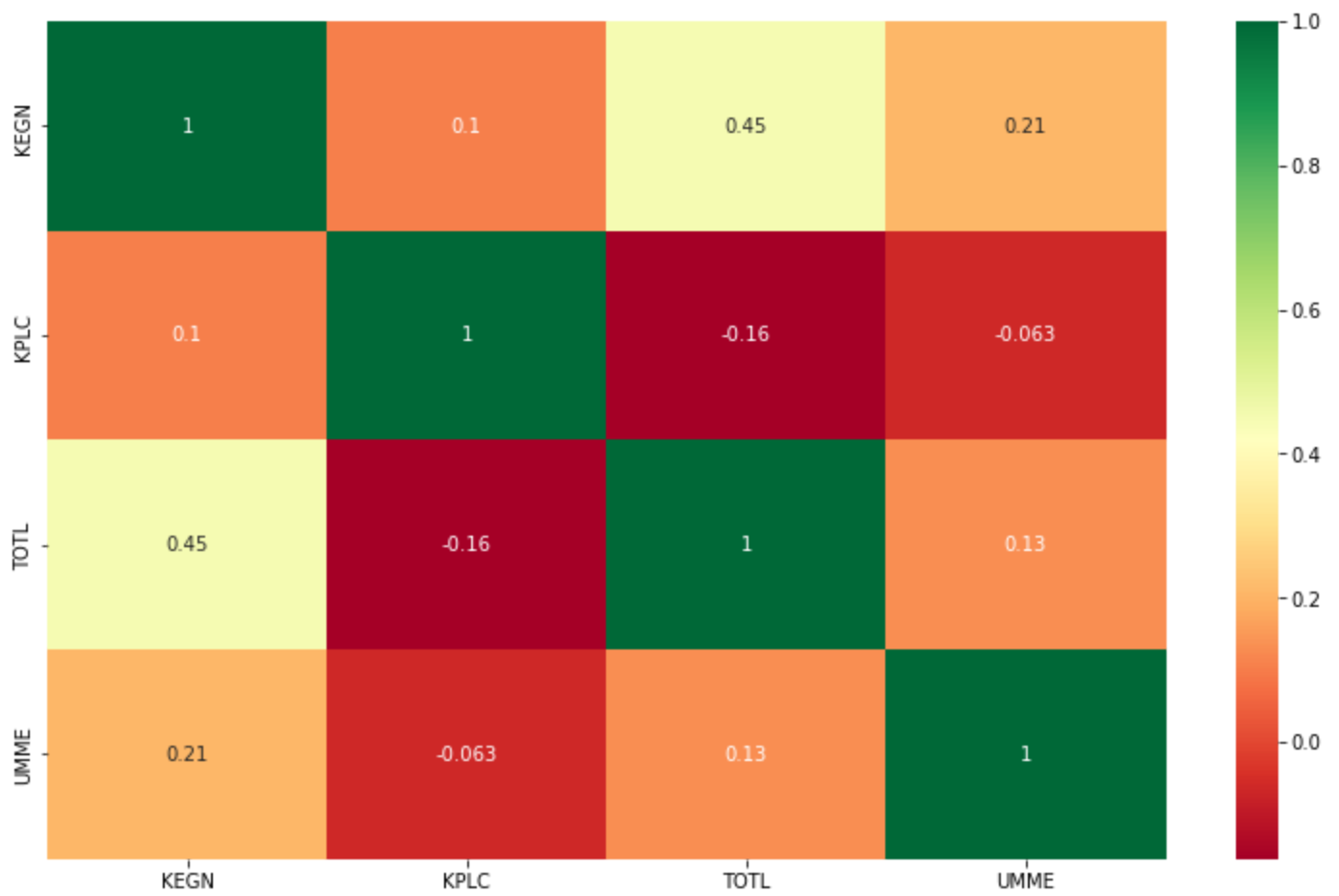
plt.figure(figsize=(13, 8))
sns.heatmap(corr_df, annot=True, cmap='RdYlGn')
plt.figure()

font = {'family': 'serif',
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        'size': 26,
        }

plt.figure(figsize=(16,8))
plt.title("Energy Sector Stock Price Correlation Plot", fontdict=font)
cmap = ["mako", "PiYG", "YlGnBu", "Blues"]
sns.heatmap(corr_df, annot=True, cmap=cmap[np.random.randint(len(cmap))])
plt.figure()
plt.show()

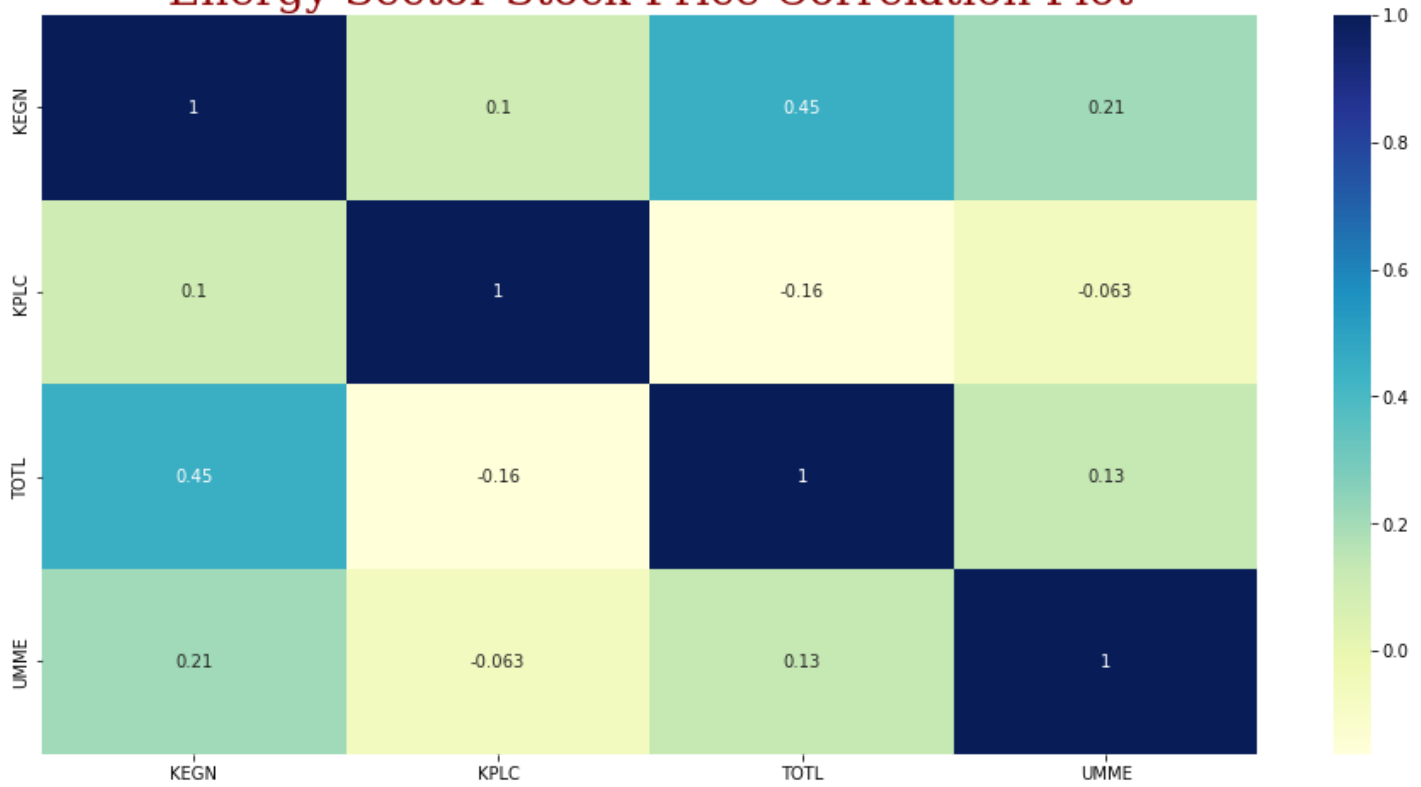
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Energy Sector Stock Price Correlation Plot



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