—————-Import Important libraries—————-
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from statsmodels.tsa.seasonal import seasonal_decompose
from statsmodels.tsa.holtwinters import SimpleExpSmoothing,Holt,ExponentialSmoothing
import statsmodels.graphics.tsaplots as tsa
```

—-------Read dataset—----------------------
```python
xls = pd.ExcelFile('Downloads/CocaCola_Sales_Rawdata.xlsx')
data = pd.read_excel(xls)
data
```

|	Quarter	Sales
0	Q1_86	1734.827000
1	Q2_86	2244.960999
2	Q3_86	2533.804993
3	Q4_86	2154.962997
4	Q1_87	1547.818996
5	Q2_87	2104.411995
6	Q3_87	2014.362999
7	Q4_87	1991.746998
8	Q1_88	1869.049999
9	Q2_88	2313.631996
10	Q3_88	2128.320000
11	Q4_88	2026.828999
12	Q1_89	1910.603996
13	Q2_89	2331.164993
14	Q3_89	2206.549995

—-------plot1—------------------
```python
plt.plot(data['Sales'])
plt.title('Sales')
```
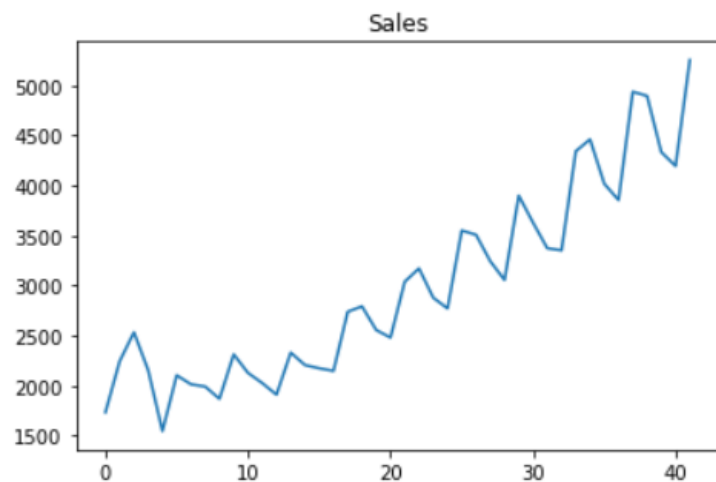
———-------plot2——-------------
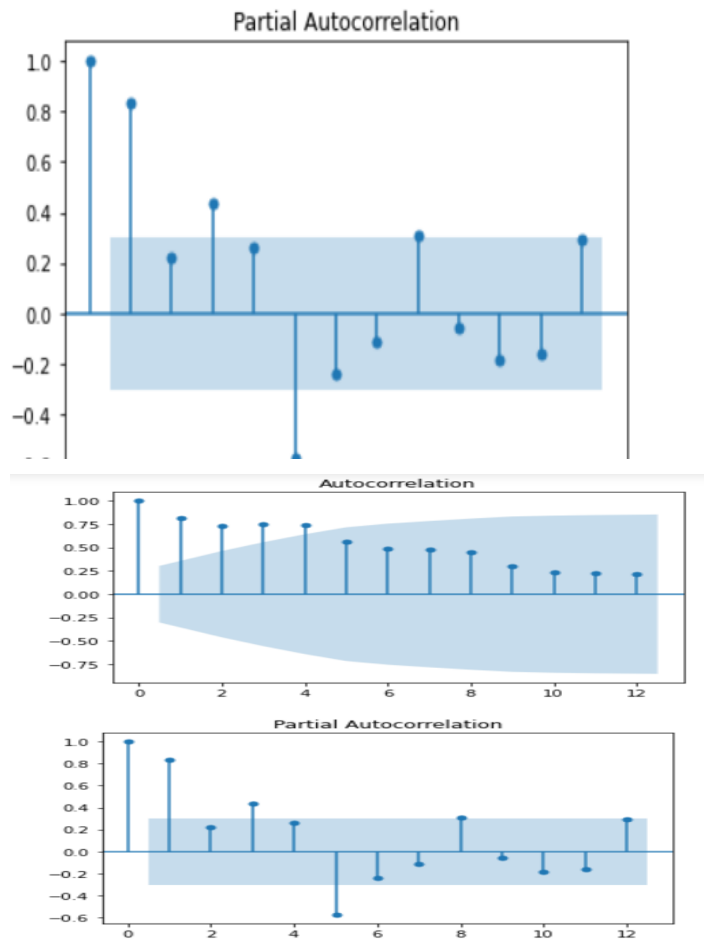
```
decompose = seasonal_decompose(data['Sales'],period=12)
decompose.plot()
plt.title('Decomposition plot')
```
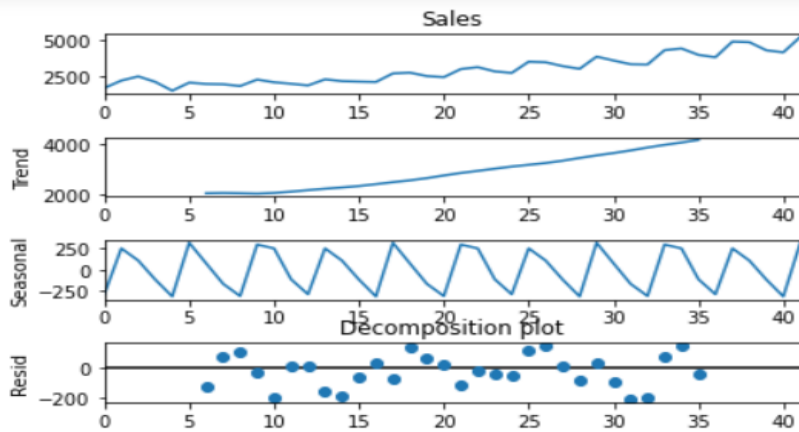

———----------plot3——------------------------

```
tsa.plot_acf(data['Sales'],lags=12)
tsa.plot_pacf(data['Sales'],lags=12)
```

```
—————-define function—————----
def MAPE(pred,org):
    temp=np.abs((pred-org)/org)*100
    return np.mean(temp)


—---—-Simpleexpsmoothing—-----------
model = SimpleExpSmoothing(data['Sales']).fit(smoothing_level=0.3)
predict = model.predict(start=data.index[0],end=data.index[-1])
MAPE(predict,data['Sales'])
```

9.783967571218337

```
—--------Holt—-------------------
model = Holt(data['Sales']).fit(smoothing_level=0.3,smoothing_slope=0.8)
predict = model.predict(start=data.index[0],end=data.index[-1])
MAPE(predict,data['Sales'])
```

11.443804653074462

```
—--------Exponentialsmoothing—-----------------
model =
ExponentialSmoothing(data['Sales'],seasonal='add',trend='add',seasonal_periods=12).fit()
predict = model.predict(start=data.index[0],end=data.index[-1])
MAPE(predict,data['Sales'])
```

5.40708386086667735

```
—-----Forecasting—-----------------
model.forecast(10)
    42      4952.179130
    43      4770.339808
    44      4799.559682
    45      5674.370110
    46      5710.387064
    47      5287.030513
    48      5162.798355
    49      6119.518265
    50      6004.894163
    51      5538.624650
```