

importing libraries

In [1]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

dataset importing

In [2]:

```
df=pd.read_csv('Combined_Cycle_Power_Plant.csv')
```

In [56]:

```
X=df.iloc[:, :-1].values
```

In [25]:

```
Y=df.iloc[:, -1].values
```

Splitting the dataset into the Training & Test set

In [26]:

```
from sklearn.model_selection import train_test_split
```

In [41]:

```
x_train,x_test,y_train,y_test=train_test_split(X,Y,test_size=0.2,random_state=0)
```

Multiple Linear Regression model Training on the Training set

In [42]:

```
from sklearn.linear_model import LinearRegression
```

In [43]:

```
lr=LinearRegression()  
lr.fit(x_train,y_train)
```

Out[43]:

LinearRegression()

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.

On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

Test set results Predictions

In [44]:

```
y_pred=lr.predict(x_test)
```

In [45]:

```
np.set_printoptions(precision=2)
```

In [67]:

```
np.concatenate((y_pred.reshape(len(y_pred),1), y_test.reshape(len(y_test),1)),1)
```

Out[67]:

```
array([[431.43, 431.23],  
       [458.56, 460.01],  
       [462.75, 461.14],  
       ...,  
       [469.52, 473.26],  
       [442.42, 438.  ],  
       [461.88, 463.28]])
```

Test set result

In [68]:

```
from sklearn.metrics import r2_score,mean_absolute_error as mae,mean_squared_error as mse
```

In [48]:

```
r2_score(y_pred,y_test)
```

Out[48]:

```
0.9277905636321646
```

In [70]:

```
mae(y_pred,y_test)
```

Out[70]:

3.5665646552038255

In [72]:

```
np.sqrt(mse(y_pred,y_test))
```

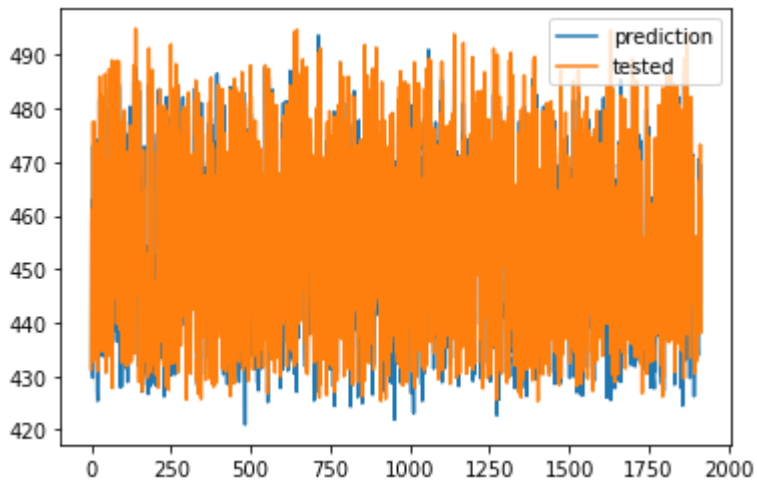
Out[72]:

4.44226285844249

Visualization

In [61]:

```
plt.plot(y_pred)
plt.plot(y_test)
plt.legend(['prediction','tested'])
plt.show()
```



In []:

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