

```
import pandas as pd
```

```
from google.colab import files
uploaded = files.upload()
```

Choose Files dataset.csv

- **dataset.csv**(text/csv) - 112 bytes, last modified: 3/24/2023 - 100% done
Saving dataset.csv to dataset.csv

```
dataset = pd.read_csv('dataset.csv')
```

```
print(dataset.shape)
print(dataset.head(5))
```

```
(10, 2)
  Level  Salary
0      1   45000
1      2   50000
2      3   60000
3      4   80000
4      5  110000
```

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

```
array([[ 1],
       [ 2],
       [ 3],
       [ 4],
       [ 5],
       [ 6],
       [ 7],
       [ 8],
       [ 9],
       [10]])
```

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

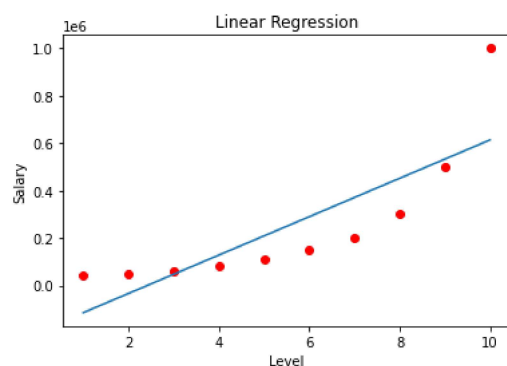
```
array([ 45000,  50000,  60000,  80000, 110000, 150000, 200000,
        300000, 500000, 1000000])
```

```
from sklearn.linear_model import LinearRegression
modelLR = LinearRegression()
modelLR.fit(X,Y)
```

LinearRegression

LinearRegression()

```
import matplotlib.pyplot as plt
plt.scatter(X,Y, color="red")
plt.plot(X, modelLR.predict(X))
plt.title("Linear Regression")
plt.xlabel("Level")
plt.ylabel("Salary")
plt.show()
```

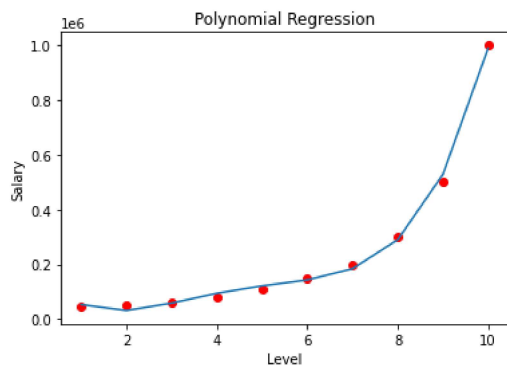


```
from sklearn.preprocessing import PolynomialFeatures
modelPR = PolynomialFeatures(degree = 4)
xPoly = modelPR.fit_transform(X)
```

```
modelPLR = LinearRegression()
modelPLR.fit(xPoly,Y)
```

▼ LinearRegression
LinearRegression()

```
plt.scatter(X,Y, color="red")
plt.plot(X, modelPLR.predict(modelPR.fit_transform(X)))
plt.title("Polynomial Regression")
plt.xlabel("Level")
plt.ylabel("Salary")
plt.show()
```



▼ Prediction through Polynomial Regression

```
x=4
salaryPred = modelPLR.predict(modelPR.fit_transform([[x]]))
print('Salary of a person with Level {0} is {1}'.format(x,salaryPred))
```

Salary of a person with Level 4 is [94632.86713282]

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