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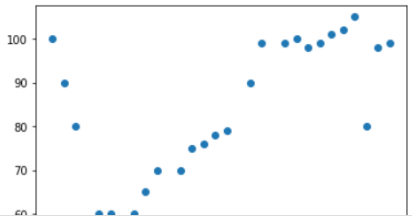
```
[ ] import matplotlib.pyplot as plt

    x = [1,2,3,5,6,7,8,9,10,12,13,14,15,16,18,19,21,22,23,24,25,26,27,28,29,30]
    y = [100,90,80,60,60,55,60,65,70,70,75,76,78,79,90,99,99,100,98,99,101,102,105,80,98,99]


    plt.scatter(x, y)
    plt.show()
```



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```
[ ] import numpy
    import matplotlib.pyplot as plt

    x = [1,2,3,5,6,7,8,9,10,12,13,14,15,16,18,19,21,22,23,24,25,26,27,28,29,30]
    y = [100,90,80,60,60,55,60,65,70,70,75,76,78,79,90,99,99,100,98,99,101,102,105,80,98,99]

    mymodel = numpy.poly1d(numpy.polyfit(x, y, 3))

    myline = numpy.linspace(1, 21)

    plt.scatter(x, y)
    plt.plot(myline, mymodel(myline))
    plt.show()

    speed = mymodel(2)
    print(speed)
```

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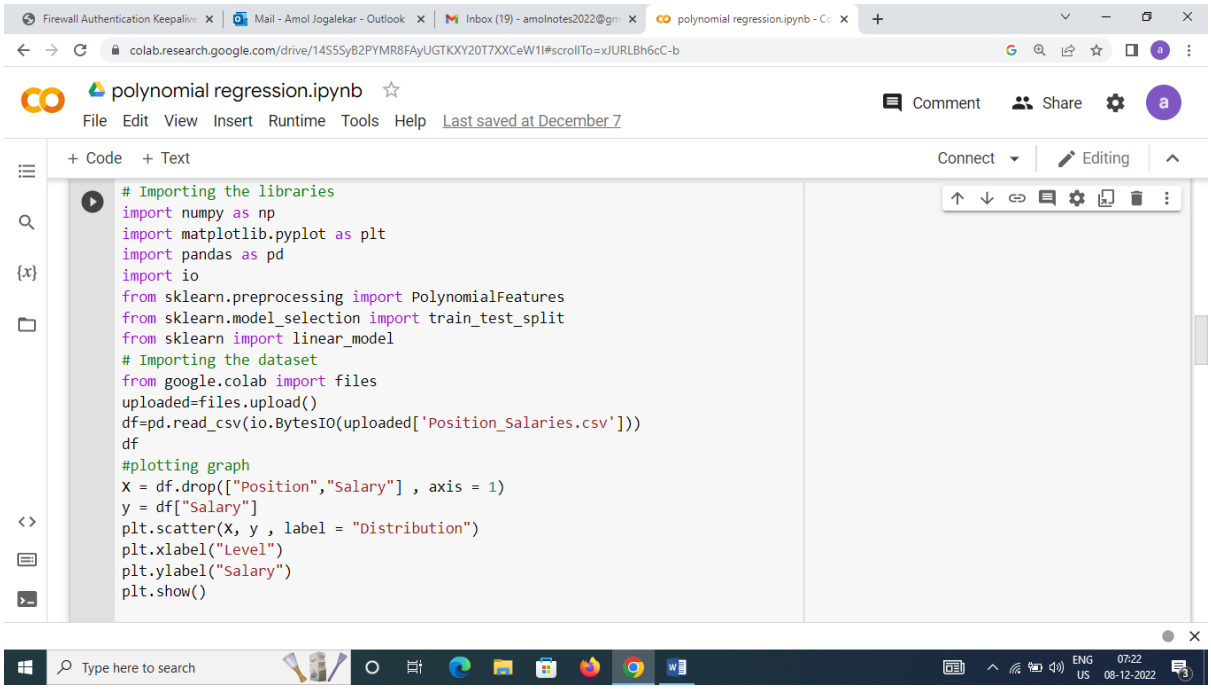
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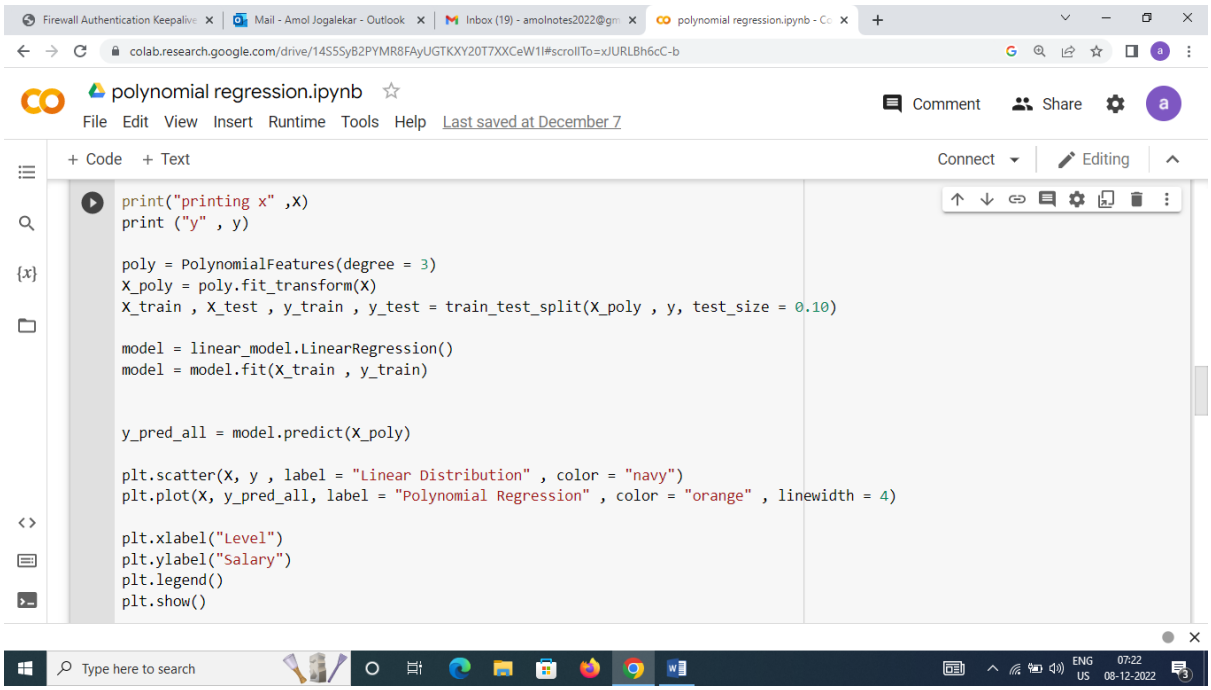
# Importing the libraries
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import io
from sklearn.preprocessing import PolynomialFeatures
from sklearn.model_selection import train_test_split
from sklearn import linear_model
# Importing the dataset
from google.colab import files
uploaded=files.upload()
df=pd.read_csv(io.BytesIO(uploaded['Position_Salaries.csv']))
df
#plotting graph
X = df.drop(["Position","Salary"] , axis = 1)
y = df["Salary"]
plt.scatter(X, y , label = "Distribution")
plt.xlabel("Level")
plt.ylabel("Salary")
plt.show()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print("printing x" ,X)
print ("y" , y)
poly = PolynomialFeatures(degree = 3)
X_poly = poly.fit_transform(X)
X_train , X_test , y_train , y_test = train_test_split(X_poly , y, test_size = 0.10)
model = linear_model.LinearRegression()
model = model.fit(X_train , y_train)
y_pred_all = model.predict(X_poly)
plt.scatter(X, y , label = "Linear Distribution" , color = "navy")
plt.plot(X, y_pred_all, label = "Polynomial Regression" , color = "orange" , linewidth = 4)
plt.xlabel("Level")
plt.ylabel("Salary")
plt.legend()
plt.show()

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```
# to predict
test = 2
pred2array = np.array([[test]])
print("predicting the given data")
model.predict(poly.fit_transform(pred2array))
```

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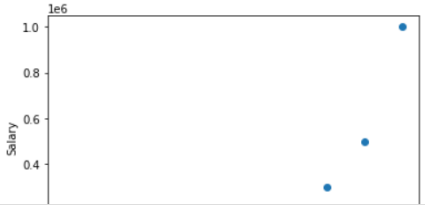
```
Saving Position_Salaries.csv to Position_Salaries (2).csv
```



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