import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

from sklearn.model\_selection import train\_test\_split

from sklearn.linear\_model import LinearRegression

from sklearn.metrics import mean\_squared\_error, mean\_absolute\_error, r2\_score

df= pd.read\_csv('/content/linear.csv')

X = df[['X']].values

y = df[['y']].values

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

model = LinearRegression()

model.fit(X\_train, y\_train)

y\_pred = model.predict(X\_test)

mse = mean\_squared\_error(y\_test, y\_pred)

mae = mean\_absolute\_error(y\_test, y\_pred)

r2 = r2\_score(y\_test, y\_pred)

print("Mean Squared Error (MSE):", mse)

print("Mean Absolute Error (MAE):", mae)

print("R-squared (R²):", r2)

plt.scatter(X\_test, y\_test, color='blue', label='Actual')

plt.plot(X\_test, y\_pred, color='yellow', linewidth=2, label='Predicted')

plt.xlabel('X')

plt.ylabel('y')

plt.title('Simple Linear Regression')

plt.legend()

plt.show()