import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

from sklearn.linear\_model import LinearRegression

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

data = {

'Hours': [1, 2, 3, 4.5, 5, 6.5, 7, 8.5, 9, 10],

'Scores': [20, 25, 35, 50, 52, 60, 62, 75, 85, 95]

}

df = pd.DataFrame(data)

X = df[['Hours']]

y = df['Scores']

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=0)

model = LinearRegression()

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

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

results = pd.DataFrame({'Actual': y\_test, 'Predicted': y\_pred})

print(results)

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

plt.plot(X, model.predict(X), color='red', label='Regression Line')

plt.title('Hours vs Score')

plt.xlabel('Hours Studied')

plt.ylabel('Score')

plt.legend()

plt.grid(True)

plt.show()