# Install required libraries

!pip install scikit-learn matplotlib

# Import necessary libraries

import numpy as np

import matplotlib.pyplot as plt

from sklearn.linear\_model import LinearRegression

# Sample dataset: number of rooms (X) and corresponding house prices (y)

# X = number of rooms, y = house price in thousands of dollars

X = np.array([1, 2, 3, 4, 5]).reshape(-1, 1) # Number of rooms

y = np.array([100, 150, 200, 250, 300]) # House prices in thousands

# Initialize and train the linear regression model

model = LinearRegression()

model.fit(X, y)

# Predict house prices for the given number of rooms

predicted\_prices = model.predict(X)

# Visualize the data and the regression line

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

plt.plot(X, predicted\_prices, color='red', label='Regression line')

plt.xlabel('Number of Rooms')

plt.ylabel('House Price (in thousands)')

plt.title('House Price Prediction')

plt.legend()

plt.show()

# Print the model's coefficients and intercept

print(f'Coefficient: {model.coef\_}')

print(f'Intercept: {model.intercept\_}')

# Predict the price for a house with 6 rooms

predicted\_price\_for\_6\_rooms = model.predict([[6]])

print(f'Predicted price for a house with 6 rooms: ${predicted\_price\_for\_6\_rooms[0]:.2f} thousand')

output:

