

Program 7 : Write a program to demonstrate Linear Regression

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In [1]: import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression

# Generate some random data
np.random.seed(0)
X = 2 * np.random.rand(100, 1)
y = 3 * X + np.random.randn(100, 1)

# Instantiate and fit the linear regression model
model = LinearRegression()
model.fit(X, y)

# Make predictions
X_new = np.array([[0], [2]])
y_pred = model.predict(X_new)

# Plot the data and the linear regression line
plt.scatter(X, y)
plt.plot(X_new, y_pred, color='red')
plt.xlabel('X')
plt.ylabel('y')
plt.title('Linear Regression')
plt.show()
```

