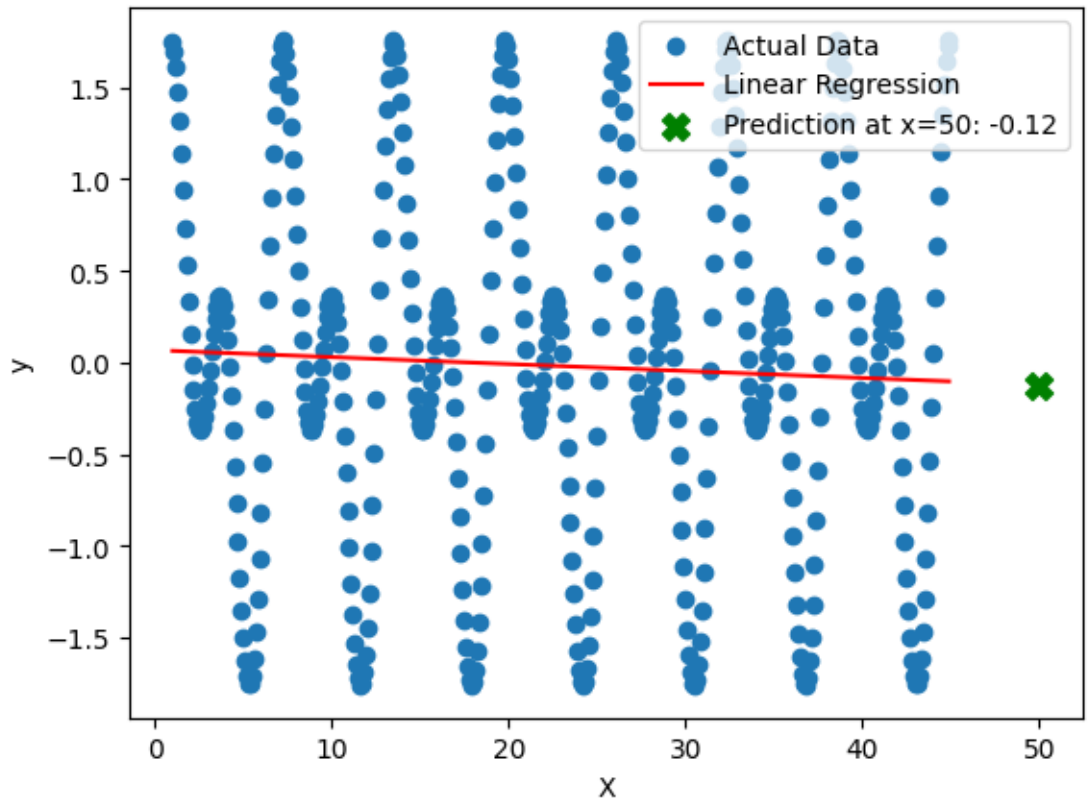
Prediction for y at x=50: -0.12



CODE :

```
import numpy as np
import pandas as pd
from sklearn.linear_model import LinearRegression
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
# Read the data from the CSV file
data = pd.read_csv('scr-dataset.csv')
# Assuming the CSV file has columns 'X' and 'y', adjust these names if needed
X = data[['x']]
y = data['y']
# Split the data into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
# Fit a linear regression model
model = LinearRegression()
model.fit(X_train, y_train)
```

Predict the value of y at x = 50

x_to_predict = np.array([[50]])

y_pred = model.predict(x_to_predict)

Plot the data and the regression line

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

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

plt.scatter(x_to_predict, y_pred, color='green', marker='X', s=100, label=f'Prediction at x=50: {y_pred[0]:.2f}')

plt.xlabel('X')

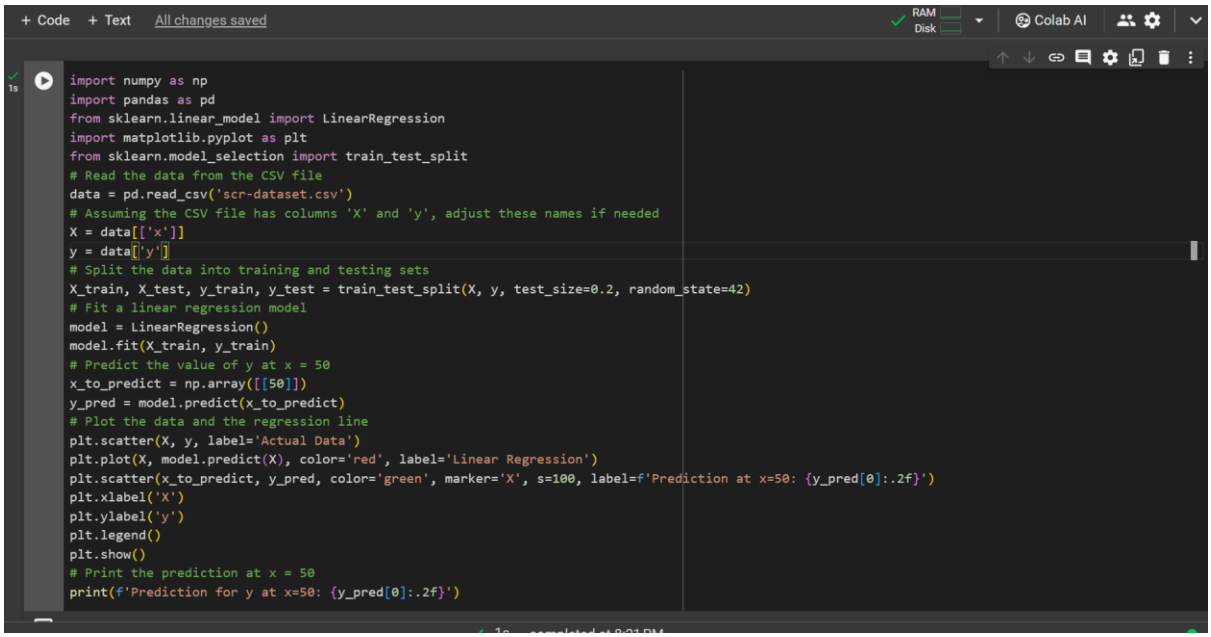
plt.ylabel('y')

plt.legend()

plt.show()

Print the prediction at x = 50

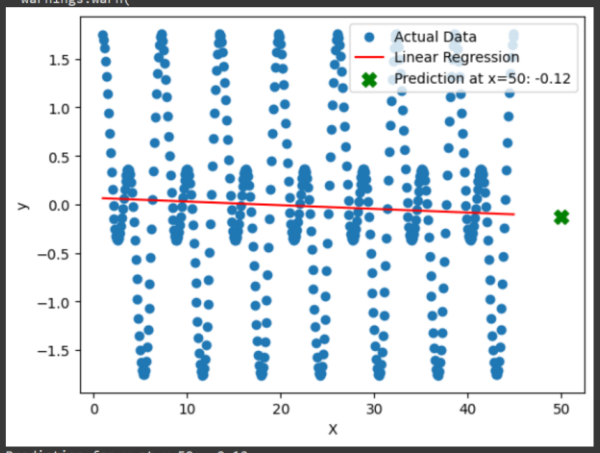
print(f'Prediction for y at x=50: {y_pred[0]:.2f}')



OUTPUT:

```
print(f'Prediction for y at x=50: {y_pred[0]:.2f}')
```

```
/usr/local/lib/python3.10/dist-packages/sklearn/base.py:439: UserWarning: X does not have valid feature names, but LinearRegression was fitted with
  warnings.warn(
```




```
Prediction for y at x=50: -0.12
```