import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

from sklearn.linear\_model import LinearRegression

from sklearn.preprocessing import PolynomialFeatures

from sklearn.metrics import mean\_squared\_error

# Load the dataset

df = pd.read\_csv('C:/Users/DELL/Downloads/Fish.csv')

# Extract the relevant columns (in this example, using 'Length1' as X and 'Weight' as y)

X = df['Length1'].values.reshape(-1, 1)

y = df['Weight'].values

# Define the degree of the polynomial

degree = 3  # You can change this value to fit your data better

# Create polynomial features

polynomial\_features = PolynomialFeatures(degree=degree)

X\_poly = polynomial\_features.fit\_transform(X)

# Fit the polynomial regression model

model = LinearRegression()

model.fit(X\_poly, y)

# Make predictions

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

# Calculate the mean squared error (MSE) as a measure of model accuracy

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

print(f"Mean Squared Error: {mse:.2f}")

# Visualize the results

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

plt.plot(X, y\_pred, label=f'Polynomial Regression (Degree {degree})', color='red')

plt.xlabel('Length1')

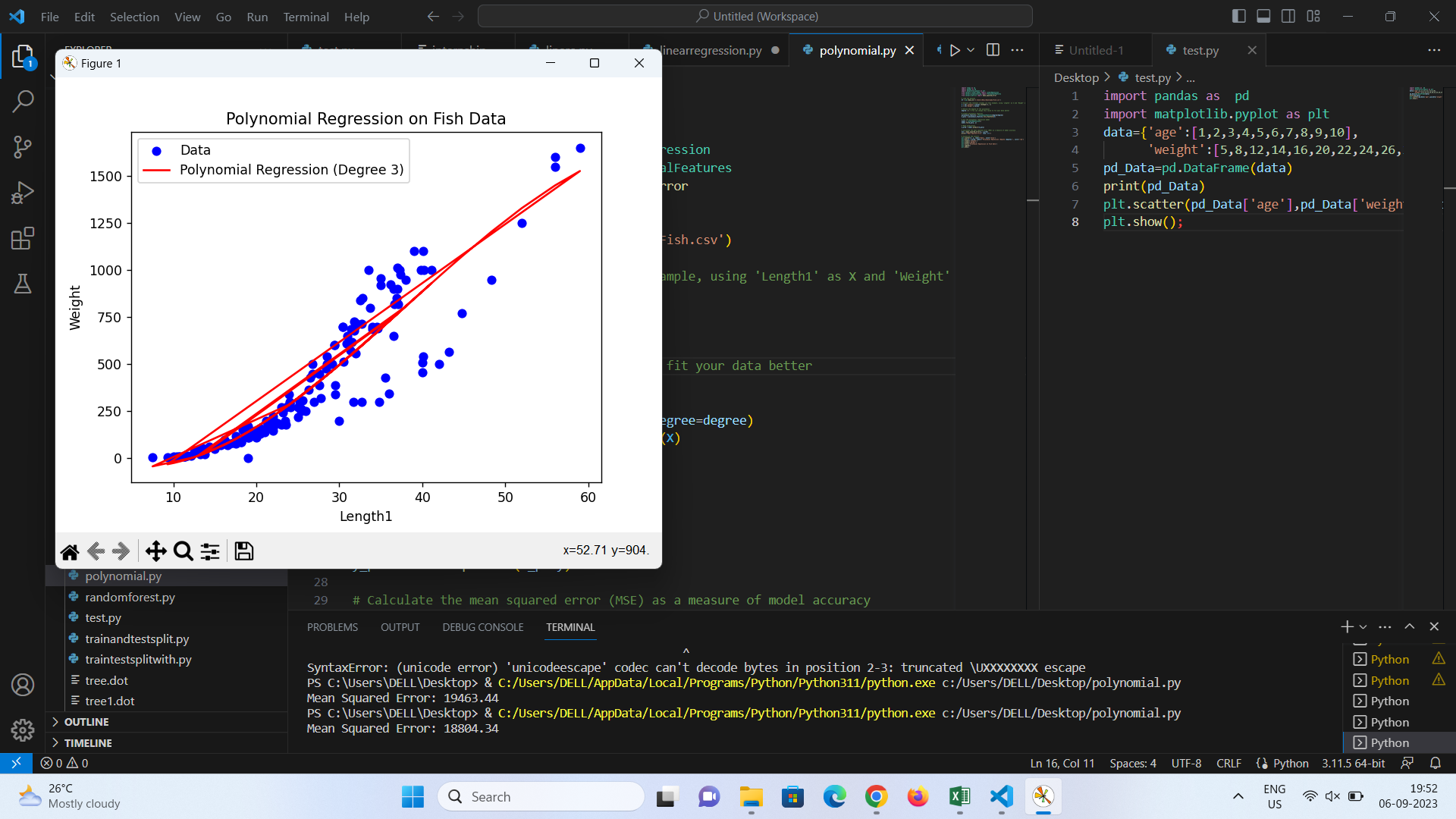
plt.ylabel('Weight')

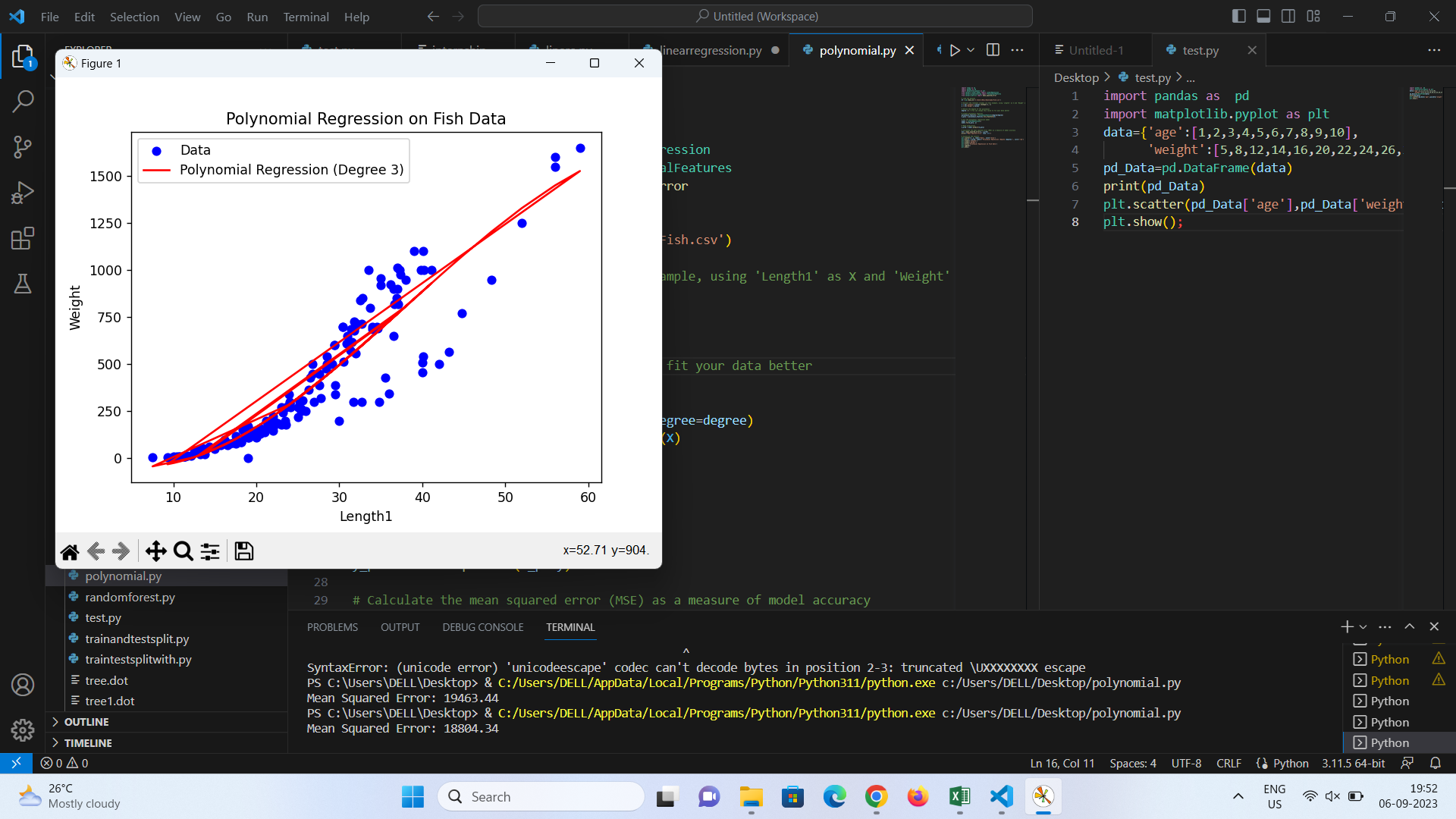
plt.title('Polynomial Regression on Fish Data')

plt.legend()

plt.show()

**Polynomial Regression Model**

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