```
import numpy as np
from sklearn.linear_model import LinearRegression
import matplotlib.pyplot as plt

# Create some sample data
X = np.array([1, 2, 3, 4, 5]).reshape(-1, 1)
y = np.array([2, 4, 5, 4, 5]).reshape(-1, 1)

# Create a linear regression object and fit the data
reg = LinearRegression().fit(X, y)

# Predict new values
X_new = np.array([6]).reshape(-1, 1)
y_pred = reg.predict(X_new)

# Plot the data and the linear regression line
plt.scatter(X, y)
plt.plot(X, reg.predict(X), color='red')
plt.show()
```

```
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import PolynomialFeatures
import matplotlib.pyplot as plt

# Create some sample data
X = np.array([1, 2, 3, 4, 5]).reshape(-1, 1)
y = np.array([2, 4, 5, 4, 5]).reshape(-1, 1)

# Transform the data to include another axis
poly = PolynomialFeatures(degree=2)
X_poly = poly.fit_transform(X)

# Create a polynomial regression object and fit the data
reg = LinearRegression().fit(X_poly, y)

# Predict new values
X_new = np.array([6]).reshape(-1, 1)
X_new_poly = poly.transform(X_new)
y_pred = reg.predict(X_new_poly)

# Plot the data and the polynomial regression curve
plt.scatter(X, y)
plt.plot(X, reg.predict(X_poly), color='red')
plt.show()
```

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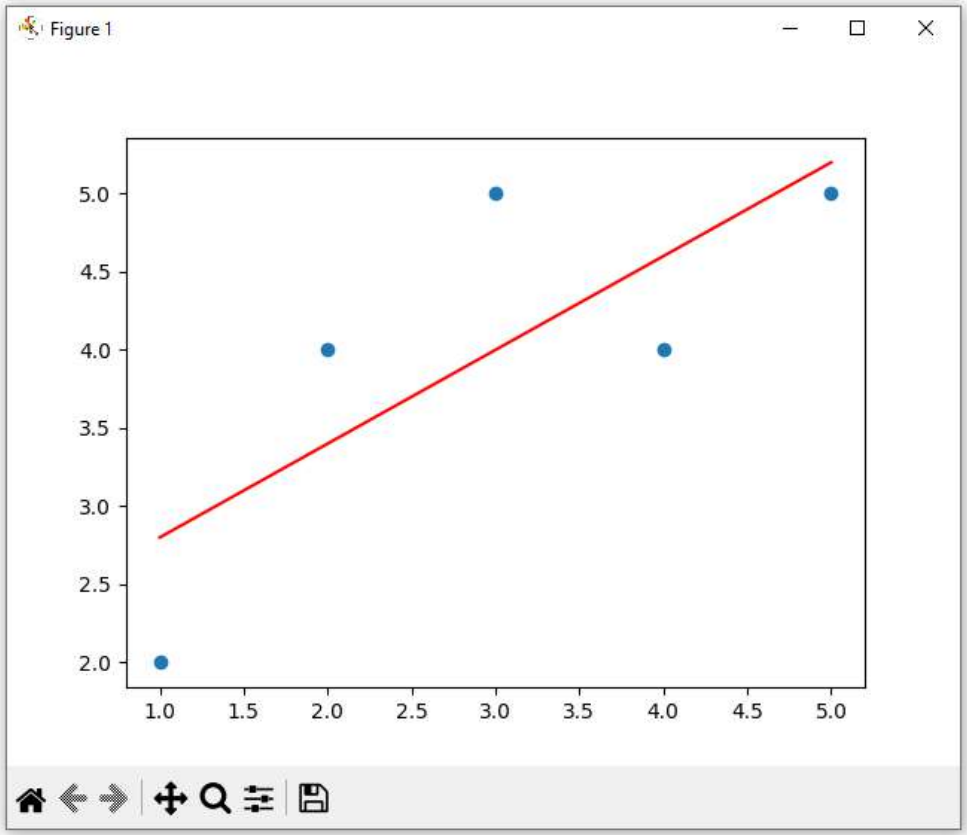
```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr  5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
== RESTART: C:\Users\Raghul\Desktop\ML\Linear And Polynomial Regression (9).py =
```



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```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr  5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
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>>>
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```

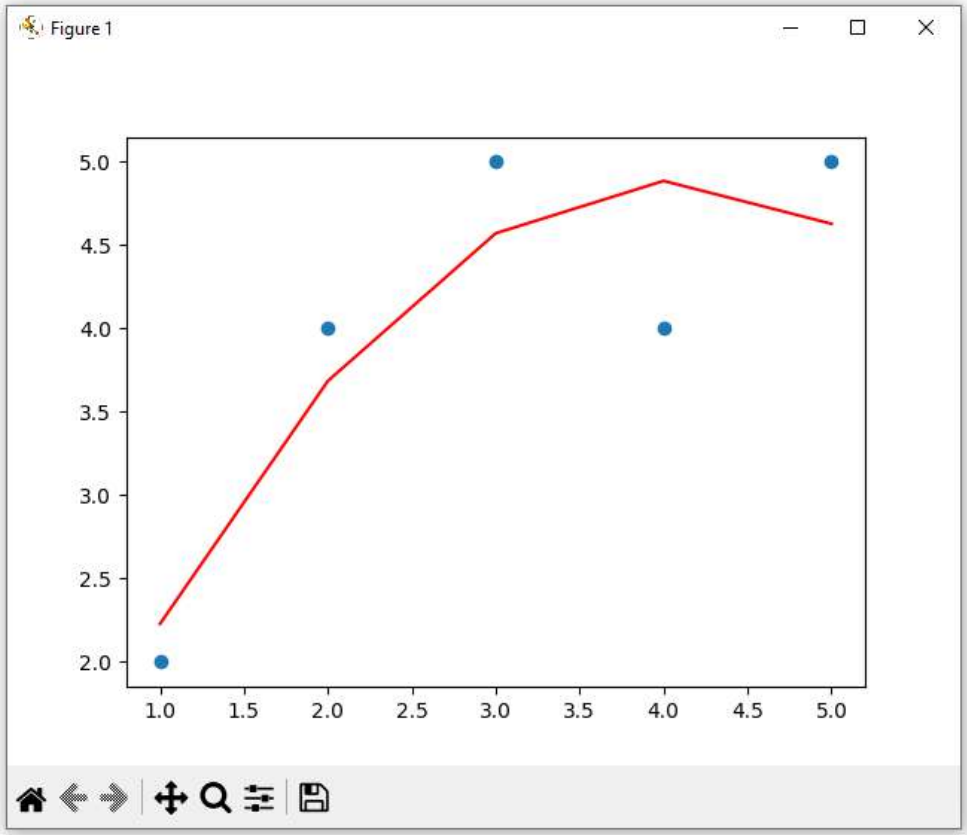

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