EXP:9

```python
import numpy as np

from sklearn.linear_model import LinearRegression

from sklearn.preprocessing import PolynomialFeatures

X = np.array([[1],[2],[3],[4],[5]])

y = np.array([1,4,9,16,25])

lin = LinearRegression()

lin.fit(X, y)

poly = PolynomialFeatures(degree=2)

X_poly = poly.fit_transform(X)

poly_model = LinearRegression()

poly_model.fit(X_poly, y)

print("Linear Prediction:", lin.predict([[6]]))

print("Polynomial Prediction:", poly_model.predict(poly.transform([[6]])))
```



```
IDLE Shell 3.13.7                                                                    —   □   ×
File  Edit  Shell  Debug  Options  Window  Help
    Python 3.13.7 (tags/v3.13.7:bcee1c3, Aug 14 2025, 14:15:11) [MSC v.1944 64 bit (AMD64)] on win32
    Enter "help" below or click "Help" above for more information.
>>>
    = RESTART: C:\Users\spark\OneDrive\Pictures\Documents\Desktop\ITA-0612\EXP-9.py
    Linear Prediction: [29.]
    Polynomial Prediction: [36.]
>>> |
                                                                                 Ln: 7  Col: 0
```