EXPERIMENT – 9

PROGRAM:

```
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import PolynomialFeatures
import numpy as np
X = np.array([1,2,3,4,5]).reshape(-1,1)
y = np.array([2,4,5,4,5])
model_linear = LinearRegression()
model_linear.fit(X, y)
poly = PolynomialFeatures(degree=2)
X_poly = poly.fit_transform(X)
model_poly = LinearRegression()
model_poly.fit(X_poly, y)
x_new = float(input("Enter X: "))
print("Linear prediction:", model_linear.predict([[x_new]])[0])
print("Polynomial prediction:", model_poly.predict(poly.fit_transform([[x_new]]))[0])
```