# Experiment/Practical 3 ****Polynomial Linear Regression****

**Title:** Implementation of Polynomial Linear Regression

**Aim**: To apply a polynomial regression algorithm for the prediction

**Objective:** Students will learn

* Implementation of polynomial linear regression algorithm on the given dataset(s)
* To visualize and interpret the result

# Problem statement

Use the given datasets to demonstrate polynomial regression to predict a dependent variable based on polynomial features derived from independent variables.

# Explanation/Stepwise Procedure/ Algorithm:

* Give a brief description of polynomial linear regression.
* Give mathematical formulation of polynomial linear regression
* Write the importance of polynomial linear regression in data analysis.
* Mention applications of polynomial linear regression in real-world scenarios.
* Brief explanation of performance metrics (e.g., R², Mean Squared Error, Root Mean Squared Error).
* ***Add necessary figure(s)/Diagram(s)***

# Input & Output:

# About dataset and custom user input

Analyze the results: How well the model fits the data.

Challenges encountered during the implementation.

**Conclusion:**

Summarize the significance of independent variables and their polynomial interactions.

Discuss the nature of the relationships based on regression coefficients.

Highlight the importance of performance metrics