Practicum Case	
MATH6183 | MATH6183001 | MATH6183016 | MATH6183049 Scientific Computing	
Mathematics & Statistics	**E231-MATH6183-JJ01-03**
Valid on *Even Semester Year 2022/2023*	**Revision 00**

Learning Outcomes

- LO2 – solve the systems of linear algebraic equations, eigenvalues, eigenvectors, regression and interpolation through scientific computation

Topic

- Session 03 – Regression & Interpolation

Sub Topics

- Plotting Using Matplotlib Library
- Least Square Regression
- Linear Interpolation
- Cubic Interpolation
- Newton Polynomial Interpolation

Soal

Case

1. **Least Square Regression**

Create a **Least Square Regression** from the matrix (x, y) in "**matrix-1.txt**", then **print** the value of '**m**' and '**c**' from the formula of **"y = mx + c"**. Lastly, show the **original matrix** and the result of **Least Square Regression** in **one plot** using **matplotlib** (with legend).

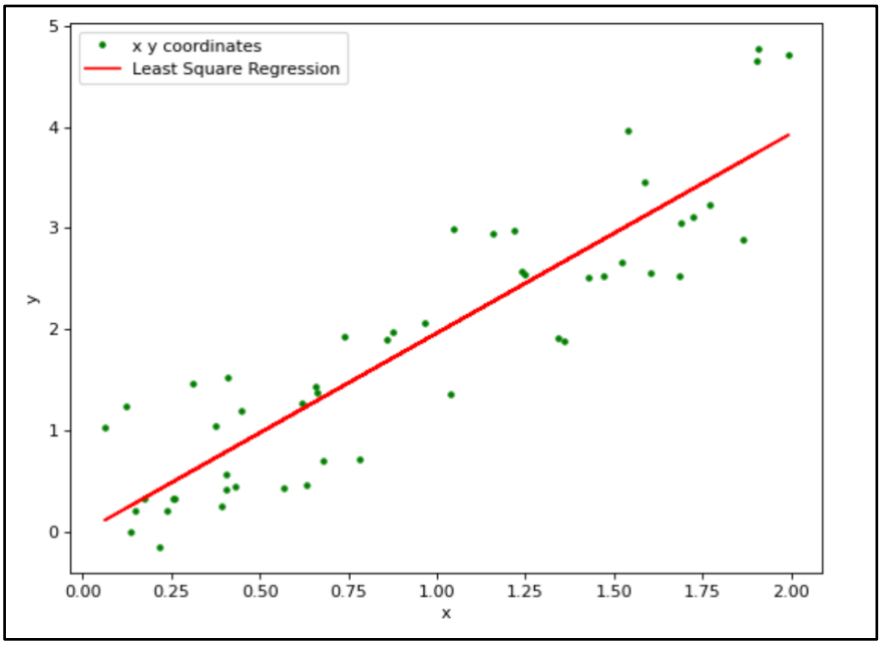

Figure 1. Least Square Regression

2. **Polynomial Regression**

Create a **Polynomial Regression** with 7 order from the matrix (x, y) in "**matrix-2.txt**", then show the result of **Polynomial Regression** in **each order plot** using matplotlib.

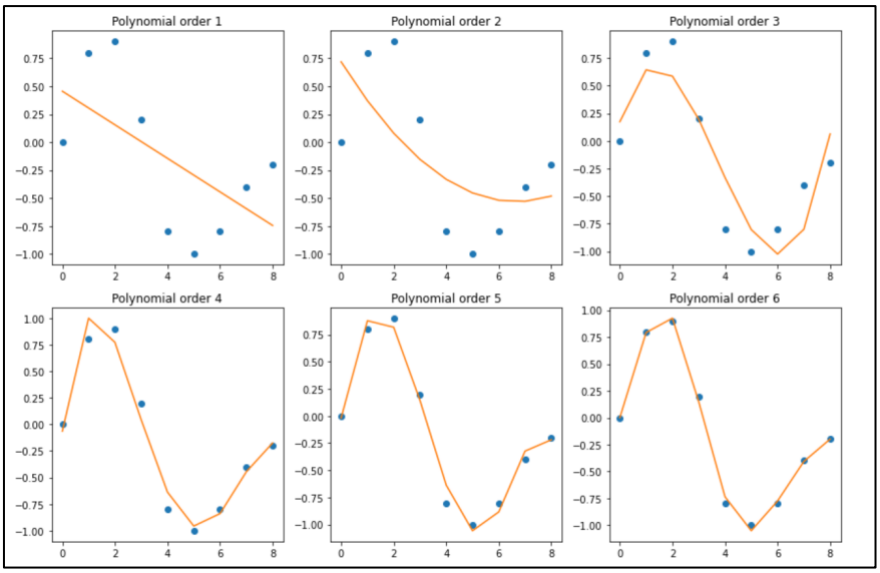

Figure 2. Polynomial Regression