

Exercise 4-4: Polynomial approximation

14

■ Modify the polynomial program `poly.c` in the source code, calculate the 3rd and 5th order McLoughlin expansions of the sine function $\sin(x)$, create a graph with Excel, and compare the degree of approximation.

- The calculation range is x : -2π to 2π .

■ Submission:

1. `Poly_sin3.c` that expands $\sin(x)$ into 3rd order McLoughlin series
2. `Poly_sin5.c` which expands $\sin(x)$ into 5th order McLoughlin series
3. Make a graph of these functions using any plot softwares