

1. (10 points) Write codes to find derivatives of following functions
 - A. $\tanh(x)$
 - B. $\exp(-x^2/2)$
 - C. normal pdf

2. (10 points) Express Taylor series and state Taylor theorem

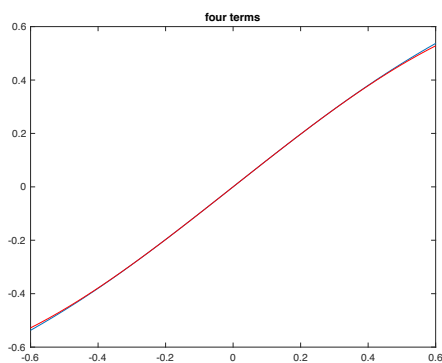
3. (15 points) Writes codes to generate inline functions that respectively represent the first, second, third and fourth derivatives of the following functions
 - A. $\tanh(x)$
 - B. normal pdf

4. (15 points) Draw a flow chart to illustrate the Newton method for root finding

Due to 11:10

4. (15 points) Writes codes to approximate $\tanh(x)$ within $[-0.6, 0.6]$ by a polynomial of degree 4

5. (10 points) Show figure by executing codes in 5.
(Checked by _____ time _____)



6. (25 points) Write codes to implement the Newton method.
- A. Solve $x^2 - 5x + 6$ (Checked by _____ time _____)
- B. Solve $2 \cdot x^2 - 10x + 1$ (Checked by _____ time _____)