1. (10 points) State how to translate minimization of f(x)=(x-tanh(2*x+10)).^2 to the problem of root finding

2. (20 pints) Draw a flow chart to illustrate minimization of f(x)=(x-tanh(2*x+10)).^2

3. Lagrange polynomial

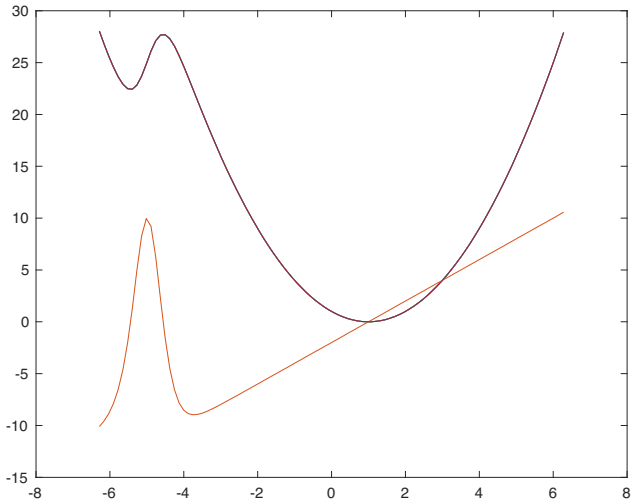
A. (5 points) Write codes to generate a polynomial with roots 0, -5 and 5

B. (5 points) Write codes to plot a polynomial with roots 0, -5 and 5

C. (10 points) Let L1, L2 and L3 denote Lagrange polynomial corresponding to knots 0, -5 and 5 respectively. Express L1, L2 and L3.

D. (10 points) Write codes to plot Lagrange polynomials corresponding to knots 0, -5 and 5

5. (10 points) Draw figures. Checked by_____time_____



6. (10 points) Execute codes to implement the flow chart of minimizing f(x)=(x-tanh(2*x+10)).^2. Checked by_____time_____

7. A. (5 points) Execute codes that generate a polynomial with roots 0, -5 and 5
   Checked by_____time_____
   B. (5 points) Plot a polynomial with roots 0, -5 and 5
   Checked by_____time_____
   C. (10 points) Let L1, L2 and L3 denote Lagrange polynomial corresponding to knots 0, -5 and 5 respectively. Draw L1, L2 and L3.
   Checked by_____time_____