Homework 4 Computer Problem Requirements (Math 170B)

(a) A program for constructing the Newton form of the interpolation polynomial.

(b) A program for constructing the Lagrange form of the interpolation polynomial.

(c) A plot of the interpolation polynomial constructed using 10 equi-spaced nodes and a plot of the interpolation polynomial constructed using 20 equi-spaced nodes. These plots should be made using your program for the **Newton form**. Submit **one graph with two plots on it** or **two graphs with one plot on each**.

(d) A plot of the interpolation polynomial constructed using 10 equi-spaced nodes and a plot of the interpolation polynomial constructed using 20 equi-spaced nodes. These plots should be made using your program for the **Lagrange form**. Submit **one graph with two plots on it** or **two graphs with one plot on each**.

(e) A brief (2-3 sentence) explanation of your results. In particular, how do the graphs in (c) and (d) compare?