

Lab Assignment#1

Title: Root Finding Using Newton-Raphson Method

1. Develop a code to find roots of the function,

$$f(x) = 2x^3 - 11.7x^2 + 17.7x - 5$$

using **Newton-Raphson** method. Run the code for different initial conditions (guess values) in the range of $-5 < x < +5$ and obtain **all** the roots within $\epsilon_a < 0.01\%$.

2. Report the number of iterations it takes in each of the cases.
3. Report the values of $f(x_r)$ for each of the cases.

Note: Use double precision for all variables in your code.