Department of Mechanical Engineering
Indian Institute of Technology Kanpur
ME685A: Home Assignment 3

Due: on or before August 28, 2021

This assignment must be your own work. Taking help from others or helping others are not allowed.

Write a a computer program to solve an algebraic equation $f(x) = 0$ using Newton-Raphson Method.

1. Using the above computer program, compute the value of x where $x = \tan x$ and $0 < x < 2\pi$. For convergence, set $\epsilon = 10^{-6}$. For the definition of ϵ, check the class notes.

2. Write the step-by-step solution algorithm. Show the calculations (manually) for the first two iterations.

Write your name and roll no at the top of each page. Also write your name and roll no in the computer program (duly commented). Put all documents in a folder. Name the folder as $< name > \_ < roll > \_ < hw1 >$. Zip the folder and upload in MooKit.

Your program file must be a plain text file. The file extension should be as per your programming language (*.c, *.cpp,*.f90,*.py etc.).