

ME685A: Applied Numerical Methods: Home Assignment 0

Due: January 09, 2019, in class

This homework will be graded but will not be used for your final grading

1. (20 points) The following Equation sometimes appears during analytical solution of certain partial differential Equations

$$x \tan x = 1, \quad 0 < x < \pi/2$$

We wish to find the root of the above Equation numerically using bisection method. Starting from a reasonable initial guess

- a) Show the first three iterations
- b) Write the algorithm (pseudocode)
- c) Write a computer program (in any language). Use primitive operations only (do not use in-built functions of bisection method)

Please note:

1. Shashwat will send you a mail giving the detail of how to submit the program
2. Write your program in the language of your choice and stick to that language for the rest of the course
3. If you do not know any language start with Fortran or C