Example

The floating ball has a specific gravity of 0.6 and has a radius of 5.5 cm. You are asked to find the depth to which the ball is submerged when floating in water.

The equation that gives the depth x to which the ball is submerged under water is given by

$$x^3 - 0.165x^2 + 3.993 \times 10^{-4} = 0$$

Write a program in C for bisection method in first attempt and regula-falsi method in the second attempt for finding roots of equations to find the depth x to which the ball is submerged under water. Conduct three iterations to estimate the root of the above equation. Find the absolute relative approximate error at the end of each iteration, and the number of significant digits at least correct at the end of each iteration.

Instructions

1. Input the equation from the user.(through function)
2. Code should be generic.
3. Make a sub-folder in your google drive naming the method. Save the code and respective output in it.