CONM Practicals:

Note: The programs should handle
- divide by zero error
- infinite loops
- maximum number of iterations

1. Apply Bisection method to solve the algebraic equation
$$f(x) = x^3 - x - 1 = 0 \text{ correct to 6 decimal places.}$$
2. Compute the number of iterations needed to find a root of $f(x) = xe^x = 1$ in the interval $(0,1)$ correct upto 6 decimal places. Apply Bisection method to solve the equation
3. Apply False Position method to solve the algebraic equation
$$f(x) = x\log_{10} x = 1.2 \text{ correct to 6 decimal places.}$$
4. Find the root of $f(x) = 3x - \cos x - 1$ using Secant method.
5. Set up a Newton Raphson iteration for computing the square root of a given positive number. Using the same find the square root of 2 exact to six decimal places.
6. Find the root of $f(x) = 3x - \cos x - 1$ using Fixed Point method.