# PHY 422

*Computational methods in Physics -I*

Lab 2

1) Write a simple code to get the roots of a quadratic equation.

2) Find root of equation for $f(x) = x^3 - 3x + 1$ on [0,1] using bisection method.

3) Write a program that determines he solution of equation $8 - 4.5(x - sinx)$ by using bisection method. Solution should have tolerance $(x_{i+1} - x_i) / x_i$ of less than 0.001 rad.

4) Write code for equation $x^3 - x - e^x - 2 = 0$ having root between [2,3] using
a) Secant Method
b) Regula-falsi method
c) Newton Raphson method
d) Chebyshev method

# Lab Report Submission

PDF file with the flow chart,  code and output

MS31199_3.pdf

If my Roll No. is MS31199 and submitting Lab Report No. 3 then

Prepare folder MS31199_3  containing files as:

MS31199_3.pdf
MS31199_3_code1.C
MS31199_3_code2.C
MS31199_3_code3.C and so on.
MS31199_3_output3.out
MS31199_3_input2.in

Assume that  MS31199_3_output3.out is output of code3
And  MS31199_3_input2.in is input for code2

Zip the folder as MS3119_3.zip and upload to moodle

Should contain
**0)** Problem
**1)** Algorithm
**2)** The code, just add the image of code
**3)** Instructions on system done
**4)** Output,  just image of output
**5)** Summary

If you are given the Lab exercise today (Thursday), then deadline is next week Thursday afternoon (13:01 )

*Thursday, Friday, Saturday, Sunday, Monday, Tuesday, Wednesday*