Lab instructions
Week 10

Introduction to Programming
ECS 102, 2018-19 Semester II

IISER Bhopal

bisection.c

Write an iterative program using bisection method to calculate the square root of a given number x.

Compare its convergence with Newton-Raphson method.

Find the *negative* square root (i.e., sqrt(16) = -4) using both bisection and Newton_Raphson methods.

use_structure.c

Define a structure named ***student*** that has following entries

Roll No.,
Name,
CPI,
Semester and SPI (10 semesters),
Subjects and grades (10 subjects in each semester).

Populate the structure with data for three different students and print it in a tabular format as follows. Calculate CPI and SPI from grades.

Roll No. Name CPI Semester SPI Subject Grade

You **should not repeat entries** in the table, e.g., “Roll No.” should not be printed multiple times for different semesters or different subjects/grades, “Semester” and “SPI” should not be printed multiple times for different subjects/grades.

function_structure.c

You can return multiple variables from a function by using structures, i.e., returning a structure containing multiple variables.

Define a structure named ***mult_and_div*** that has entries “mult” and “div”.

Define a function named ***mult_div*** that takes two inputs for multiplication and division, populate the structure ***mult_and_div***, and returns it to the main function.

Print the results of multiplication and division in the main function.