

Object Oriented Programming (BSDSF24)

Programming Assignment 01

Date: 20-feb-2025

Due on: 24-05-25 7:00 AM

The submission should be in class through the CR

Wherever necessary, provide the details of your work through C++ comments option

1. Comprehensively describe (class with function bodies) a class for a three dimensional Point in Cartesian space. Name of the class and all of its members be meaningful! Note that, comprehensively means, all the appropriate getters/setters, constructors, operators, and other function members should be part of the description.
2. Define (code of the functions outside the class) the above class on separate pages.
3. Provide several sets of statements to demonstrate the use/working of the different members of the above class, each of separate pages.
4. Comprehensively describe (class with function bodies) a class for a Line in Cartesian space. The data members of the class must be two different Point (of task 1) objects, named P1 and P2. The names of the class and all of its members be meaningful! As comprehensively means, all the appropriate getters/setters, constructors, operators, and other function members should be part of the description, you must search the Internet/Books for the different aspects/operations/functionalities associated with the Line objects. Some of them are test of collinearness for two line objects, test of parallelism of two line objects, the computation of normal of a line at certain point on it, test of horizontalness and verticalness of a line object, computation of Point of intersection of two lines, test of coplainerness of two lines, test of three line intersect at one point or not, computation of distance between a point and a line, computation of distance between two parallel lines, and lot more.
5. Define the above Line class on separate pages.
6. Provide several sets of statements to demonstrate the use/working of the different members of the Line class, each of separate pages.