1. Implement a class Triangle having data members a,b,c as it's sides. Include the following methods:

(i) set Dim(): is used to initialize the data members a,b and c.

(ii) boolean is Triangle(): is used to check whether the sides are permissible values to form

triangle or not.

(iii) float find area(): this method is only invoked if is Triangle() is true otherwise

appropriate message is displayed.

(iv) float find\_perimeter(): this method is only invoked if is\_Triangle() is true otherwise appropriate message is displayed.

(v) void show(): is used to display the sides, area and perimeter of the triangle.

Write down the application class Triangle\_Demo where the functionality of the Triangle class is tested.

1. Implement a class Number having data members value. Include the following predicate methods:
2. boolean is\_Even(): (): is used to check whether the value is even or not.
3. boolean is\_Prime(): (): is used to check whether the value is prime or not.

(iii) boolean is Perfect(): (): is used to check whether the value is Perfect or not. (iv) int fin Factorial(): recursive method to find the factorial.

Write down the application class Number\_Demo where the functionality of the Number class is tested.

1. Implement a Point class for three diemensional point(x,y,z). Include appropriate constructors: Point(), Point(int,int,int) and Point(Point). Include the following methods

(i) float find\_distance(): distance from the origin (0,0,0).

(ii) float find\_distance(int x1, int y2, int z2): distance between (x,y,z) and (x1,y1,z1). (iii) float find\_distance(Point P1): distance between two points.

(iv) boolean is\_Equal(Point P1): equality between two points.

(v) void show(): shows the description about the point object.

Write down the application class Point Demo where the functionality of the Point class is tested.