PROGRAMS BASED ON CLASSES AND OBJECTS

1. Design a class named **Rectangle** to represent a rectangle. The class contains: Two **double** data fields named **width** and **height** that specify the width and height of the rectangle. The default values are **1** for both **width** and **height**.

   (i)A default constructor that creates a default rectangle.

   (ii)A constructor that creates a rectangle with the specified **width** and **height**.

   (iii)A method named **getArea()** that returns the area of this rectangle.

   (iv)A method named **getPerimeter()** that returns the perimeter.

   Implement the class. Write a test program that creates two **Rectangle** objects— one with width **5** and height **50** and the other with width **2.5** and height **45.7**. Display the width, height, area, and perimeter of each rectangle in this order.

2. Write a Java program to create a class called Student having data members Regno, Name, Course being studied and current CGPA. Include constructor to initialize objects. Create array of objects with at least 10 students and find 9-pointers.

3. Write a Java program that displays that displays the time in different formats in the form of HH,MM,SS using constructor Overloading.