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. Declare them as private. [1 mark]
* A no-arg constructor that creates a rectangle with width 1 and height 1. [1 mark]
* A constructor that creates a rectangle with the specified width and height. [1 mark]
* The accessor and mutator functions for all the data fields. [1 mark]
* A function named getArea()that returns the area of this rectangle. [2 marks]
* A function named getPerimeter() that returns the perimeter. [2 marks]

Formulas

area = height \* width

perimeter =2(height + width)

Filename: Rectangle\_yourStudentid.h , contains only the declaration

Filename: Rectangle\_yourStudentid.cpp , contains the implementation

Implement the class. Write a test program that creates two Rectangle objects. Assign width 4 and height 40 to the first object and width 3.5 and height 35.9 to the second. Display the width, height, area, and perimeters of the first object and then the second object.

Filename: TestRectangle\_yourStudentid.cpp [2 marks]

Use Makefile to compile the required files and create the executable. [2 marks]