13016209 Object-Oriented Concepts and Programming

Lab 7

Start your program with your information using the following format:

/*

ID:

Name:

Lab No:

Question No:

Date:

*/

1. Modify program in Lab 6 by adding the necessary constructors and destructors.
2. Modify the program in question 1 by using vector instead of pointer. In this program you should modify only inside your class, not the parts of the program that use the class.
3. Write a C++ program to display the menu to ask a user to choose to calculate the area of circle, rectangle, and triangle. If the user chooses circle, the program asks the user for radius, the program then calculates the area and prints the result. If the user chooses rectangle, the program asks the user for width and height and the program calculates the area of the rectangle and prints the result. If the user chooses triangle, the program asks for the height and base, then calculates the area of the triangle and print the result.
   Note:
   Area of a circle = PI * radius * radius
   Area of a rectangle = width * height
   Area of a circle = (1/2) * base * height

For this program you need to declare the following classes Circle, Rectangle, Triangle to store the information of a circle, a rectangle, and a triangle, respectively. You also need to have a utility class called PrintShape that has functions to print the information of a circle, a rectangle, and a triangle, the functions must have the same name.

The examples output of the program are as follows:
1.Circle
2.Rectangle
3.Triangle
0.Exit
Your choice: 1
Enter radius of the circle: 3
area of the circle with radius = 3 is 28.2743
1.Circle
2.Rectangle
3.Triangle

0.Exit
Your choice: 2
Enter width of the rectangle: 5
Enter height of the rectangle: 4
area of the rectangle with width = 5 and height = 4 is 20
1.Circle
2.Rectangle
3.Triangle
0.Exit
Your choice: 3
Enter base of the triangle: 4
Enter height of the triangle: 5
area of the triangle with width = 4 and height = 5 is 10
1.Circle
2.Rectangle
3.Triangle
0.Exit
Your choice: 0
Good bye