BIL 142 LAB 6

Design a base class “Shape” and 3 derived classes “Square”, “Rectangle” and “Circle”.

For “Shape” class which has **2 private member fields** which are x and y coordinates of the center point and **1 protected member field** which is length of the line that belongs to Shape; segment.

- Write **a copy constructor.**

For each of “Square”, “Rectangle” and “Circle” classes

- Write **a copy constructor.**

Member Fields

For “Shape” class:

private:

- x coordinate of center point(int)
- y coordinate of center point(int)

protected:

- segment, a length of the line that belongs to Shape(int)

For each of “Square”, “Rectangle” and “Circle” classes:

- Add necessary protected member fields needed for the derived geometrical shape.

Member Functions

For “Shape” class:

- Getter and Setter functions.
- **void enterValues()**
  This function will assign the values that the user will input from the terminal. Takes no input parameters.
- **int getPerimeter()**
  This function will return the perimeter of the shape. Takes no input parameters.

For each of “Square”, “Rectangle” and “Circle” classes:

- Make necessary changes to inherited “Shape” member functions. Other than the copy constructor and setter functions no function takes input parameters.
- **int getArea()**
  This function will return the area of the shape. Takes no input parameters.

Define PI as 3.1415926535897

Important: Add comments to your code and at the top of your code note which compiler you're using in a comment
Suggestion: Writing a main function all functions can be useful for you to check if the code is working(optional).

Upload your code file to 'uzak'.(deadline 21:10)