ANKARA UNIVERSITY COM1001 LAB

Q1-)Create a base class called Shape with the following specifications:

1. The __init__ method should take name as an argument and store it as an attribute.
2. The __str__ method should return the shape's name in the format:
   "Shape: [name]".

Create a subclass Rectangle derived from the Shape class:

1. Add attributes width and height in the __init__ method.
2. Implement the area method to calculate the area of the rectangle (width * height).
3. Implement the perimeter method to calculate the perimeter of the rectangle (2 * (width + height)).
4. Extend the __str__ method to include the width, height, area, and perimeter, formatted as:
   "Rectangle: Width: [width], Height: [height], Area: [area], Perimeter: [perimeter]".

Create another subclass Circle derived from the Shape class:

1. Add an attribute radius in the __init__ method.
2. Implement the area method to calculate the area of the circle (π * radius^2).
3. Implement the perimeter method to calculate the perimeter of the circle (2 * π * radius).
4. Extend the __str__ method to include the radius, area, and perimeter, formatted as:
   "Circle: Radius: [radius], Area: [area], Perimeter: [perimeter]".

Tasks:

1. Create an instance of Rectangle with the information that gathered from user, calculate its area and perimeter, and print its details.
2. Create an instance of Circle with the information that gathered from user, calculate its area and perimeter, and print its details.

Example input

```
Enter the details for the rectangle:
Width: 5
Height: 10

Enter the details for the circle:
Radius: 7
```

Output:

```
Shape details:
Rectangle: Width: 5, Height: 10, Area: 50.00, Perimeter: 30.00
Circle: Radius: 7, Area: 153.94, Perimeter: 43.98
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