

# Lab #10: Basic Output

## Geometry (Partner Lab)

### Goal

To learn how to format output using the output manipulators (setw, setprecision, fixed, and showpoint).

### Instructions

After completing the lecture videos (and the associated exercises), complete the following problem. For this program you will engage in pair programming. Please refer to the partner rules for the class.

### Problem Statement

This program will obtain from the user the dimensions of 3 geometric objects: a triangle, a rectangle and a circle. Calculate, store, and output the area of each triangle, rectangle and circle object. Output should look like the Expected Input / Output below. The formatting is the same for each line, but each separate line will have different formatting. For example, the first line is displayed using one combination of output manipulators and the second line uses a different set (and so on). The formulas for the area are provided in the table below.

|      | Triangle          | Rectangle      | Circle                      |
|------|-------------------|----------------|-----------------------------|
| Area | height * base / 2 | width * height | $\pi$ * radius <sup>2</sup> |

USE 3.14159 for Pi *(Think about how this should be declared).*

Output should include **YOUR** class heading (make sure you modify it so that it will output the appropriate information). Line numbers should be displayed with your code and output.

### Additional Requirements:

- Use appropriate data types and variable names throughout the code.
- Do not use spaces or tabs for formatting --- use the manipulators discussed in class

### EXPECTED INPUT (in green) / OUTPUT (in blue)

Your Input/Output should look exactly like this (but not in color)

```

1. *****
2. * PROGRAMMED BY : Michele Rousseau
3. * CLASS : CS1A
4. * SECTION : MW: 7:30a - 12:00p
5. * LAB #8 : Intro to Programming
6. *****
7.
8. Enter the height of the triangle: 12.345
9. Enter the base of the triangle: 15.23
10.
11. Enter the width of the rectangle: 17.32
12. Enter the height of the rectangle: 25
13.
14. Enter the radius of the circle: 35
15.
16.
17. Triangle Area Rectangle Area Circle Area
18. 94.0072 433 3848.45
19. 94 433 3.85e+003
20. 94.0 433. 3.85e+003
21. 94.007 433.000 3848.448
22. 94.00718 433.00000 3848.44775
23. 94.0072 433 3848.45

```

Double  
Spaced

Triple  
Spaced

5 Spaces

5 Spaces

5 Spaces

### Submit into Canvas Discussion as a single pdf (in this order)

- 1 – Output (cut and pasted into a txt file in eclipse)
- 2 – Source Code

Make sure it conforms to the style detailed in the lecture notes → including line numbers –  
**printed out directly from eclipse**