

# CSC1300: LAB 3

**Complete this lab with your lab partner.**

**You have a single group submission folder to upload your zipped lab.**

## part a: variables, simple input, simple output & casting

1. Name your source file **Lab3A.cpp**.
2. In the main function of your program, prompt the user to input an integer, a double, a character, and a string, storing each into separate variables.
3. Then, output those four values on a single line separated by a space.
4. Then, output those four values in reverse order.
5. Now cast the double to an integer and then output in this example syntax where 3.77 is the double entered by the user: “3.77 cast to an integer is 3”.

### SAMPLE OUTPUT

**Enter integer:**

**99**

**Enter double:**

**3.77**

**Enter character:**

**z**

**Enter string:**

**Howdy**

**99 3.77 z Howdy**

**Howdy z 3.77 99**

**3.77 cast to an integer is 3**

## Part B: Painting A Wall (input, calculations, output)

1. Name your source file **Lab3B.cpp**.
2. Prompt the user to input a wall’s height and width.
3. Calculate the wall’s area.
4. Calculate the amount of paint in gallons needed to paint the wall. Assume a gallon of paint covers 350 square feet. Store this value using a const double variable.
5. Calculate the number of 1 gallon cans needed to paint the wall (use a math function to round up to the nearest gallon).
6. Print the wall area, paint needed, and cans needed to paint the wall.

### Sample Output

**Enter wall height (feet):**

**12.0**

**Enter wall width (feet):**

**15.0**

**Wall area: 180 square feet**

**Paint needed: 0.514286 gallons**

**Cans needed: 1 can(s)**

## Part C: debugging & troubleshooting

1. Download the given program from ilearn called Lab3C\_given.cpp and rename it to **Lab3C.cpp**.
2. Fix the loads of errors in the given program.
3. Once you fix the program, your program should prompt the user for diameter and allow the user to enter in a floating point variable for diameter. Then it should ask the user for their first & last name (space should be allowed), and read that in to a string variable. Then, your program should print the user’s name and the circumference of the circle. Sample output is below.

### SAMPLE OUTPUT

**What is the diameter of the circle?**

**5.6**

**What is your first & last name?**

**April Crockett**

**Hello, April Crockett! The circumference of your circle is: 17.5929**

## What to Turn In

Create a **zip file** containing the following .cpp files and upload it to the ilearn LAB 2 assignment folder.

* **Lab3a.cpp**
* **Lab3b.cpp**
* **Lab3c.cpp**