

CST238 Spring 2020

Lab 1: C++ Review

Objective: After completion of this lab, you will be able to

- Recall the basic constructs and operations of the C++ programming language
- Implement C++ programs to use these basic constructs

How to turn in:

- Lab Part: Not turned in
- Kattis Part: Solve “**Week 1**” problems at <https://csumb.kattis.com/courses/CST238/01-02-S20>
- Kattis problems due Friday end of day

General guidelines for the lab:

Lab grading is based on:

- Arriving at lab on time (5 minutes late is OK on rare occasions only)
- Participating in completing the lab with your pair programming partner
- You will lose points if you:
 - Fail to attend
 - Arrive later than 5 minutes **OR** if you are regularly up to 5 minutes late
 - Don't participate with your pair programming partner
- Kattis assignments and homework can be completed during lab time *only if you have completed the lab first and shown the TAs*

You **can discuss the lab with your classmates** to improve your understanding and quality of your code. Lab is not an exam or quiz. This is **your learning activity**.

You should **review the lab solutions** when they are posted to see a different implementation, even if yours worked and was completed.

When you write the any code for this class, don't forget to include six items below. This is a good habit, and if you forget for a submitted assignment, you'll lose points you need!

```
/* Title: lab1_1.cpp
 * Abstract: This program displays a message Hello World on the screen.
 * Author: Dr. Gross [In your case, you should put your name]
 * Email: jgross@csumb.edu [In your case, you should put your email]
 * Estimate: 1 hour [put your best guess]
 * Date: MM/DD/YYYY [In your case, put the date you write this program.]
 */
#include <iostream>
using namespace std;
int main() {
    cout << "Hello World!\n";
    return 0;
}
```

Lab Exercises

1. Write a C++ program called **lab1_1.cpp** that reads four numbers from a user and display the max value on the screen. For this lab, you **can't use an array and a loop**. You must **use four separate variables such as "num1, num2, num3, num4"** and use **"if ... else" statement(s)**.

A sample run of your program on the repl.it should be like below:

```
Enter 4 numbers: 20 40 35 37
Max is 40
```

This is another sample run:

```
Enter 4 numbers: -1000 0 -1 0
Max is 0
```

2. Write a C++ program called **lab1_2.cpp** that draws a square and a triangle of the **length** size that is given by a user. A sample run of your program on the repl.it should be like below. [**Hint:** You should use a **nested loop** for this program.]

```
Enter a length: 3
* * *
* * *
* * *

*
* *
* * *
```

This is another sample run of your program.

```
Enter a length: 5
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

*
* *
* * *
* * * *
* * * * *
```