Name: (as it would appear on official course roster)	
UCSB email address:	**@ucsb.edu**
Lab Section Time:	
Optional: name you wish to be called if different from above	
Optional: name of "homework buddy" (leaving this blank signifies "I worked alone")	

Homework 02: Basic C++

Assigned: *Tuesday, October 13th, 2020*
Due: *Monday, October 19th, 2020 by 11:59 PM*
Points: *65 (normalized to 100)*

- You may collaborate on this homework with AT MOST one person, an optional "homework buddy".
- MAY ONLY BE TURNED IN ON **GRADESCOPE as a PDF file**. Instructions on How to Submit (applicable to ALL homework assignments in this class) are on Piazza.
- There is NO MAKEUP for missed assignments.
- We are strict about enforcing the LATE POLICY for all assignments (see syllabus).
- **IMPORTANT:** If you use code techniques we have NOT covered in class, you will **get a zero grade** on that problem. If you cheat, or have someone else do your work, you will **get an F in the class**.

Reading: Read all of Chapter 2

1. (3 pts) Is this variable declaration ok to do in C++? Why or why not?
   ```
   double unagi = 50;
   ```

2. (3 pts) Describe what appears on the display when the following C++ statement is executed?
```
cout << "My dog likes to eat\t" << 5 << " cans of dog food a day" << " !" << endl;
```

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3. (12 pts) Mark up this code to show (at least) four things that are missing from this program.

```cpp
#include <iostream>

int main()
   int a(0),b(0),c(0);
   string quote;
   cout << "Enter 3 numbers separated by spaces: ";
   cin >> a,b,c;
   sum = a + b + c;
   quote = "The sum of these 3 numbers is: "
   cout << quote << sum;
   return 0;
}
```

4. (4 pts) What is the resulting output display from the following C++ statements?
   AND EXPLAIN WHY.

```cpp
int x(35), y(5);
bool v, w;
v = (x >= y);
w = ((x/y) == 7);
cout << v << w << endl;
```

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5. (6 pts) Write code that has to include <u>ONE while loop</u> that prints out these 5 lines like this (assume a newline after each line):

```
COUNTDOWN TO ZERO: 4
COUNTDOWN TO ZERO: 3
COUNTDOWN TO ZERO: 2
COUNTDOWN TO ZERO: 1
COUNTDOWN TO ZERO: LIFT OFF!
```

6. (4 pts) What is the exact output of the following statements?

```
int s = 1;
do
{
    cout << s << " ";
}
while (s++ < 5);
```

7. (3 pts) Same question as above, but the last statement now reads:
```
while (++s <= 5);
```

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8. (15 pts) Write a <u>definition</u> for a void function called **check_it()** that takes three integer arguments and prints "**YES**" if the arguments are in descending order; otherwise, it returns "**NO**". You can use any type of C++ statement types that we've gone over in class so far to accomplish this goal.

   For example, check_it(1, 2, 3) returns "**NO**", as does check_it(5, 3, 5), but check_it(10, 6, 2) returns "**YES**" and so does check_it(6, 6, 4), etc...

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9. (15 pts) Write a <u>definition</u> for a void function called **roll()** that takes no arguments and prints a *random integer number* between 2 and 13 (incl. 2 and 13) every time the function is called. For example, if, in a program, you do this:

```
for (int k = 0, k < 5, k++)
{
    roll();
}
```

You could get an output like this to the display (note, there's a newline after each number):

```
9
6
2
2
11
```

Assume that your program already has included the **cstdlib** and **ctime** libraries and has seeded the random number generator. Just give us the function definition for the answer.