Exam 1

CSI 201: Computer Science 1
Fall 2016
Professors: Shaun Ramsey and Kyle Wilson

Question	Points	Score
1	20	
2	21	
3	20	
4	20	
Total:	81	

I understand that this exam is closed book and closed note and is to be
completed without a calculator, phone, or other computer. I am **NOT**
allowed to use any external resources to complete this exam. All of the work
that I am submitting for this exam is mine. I have completed this exam in
accordance with the Washington College Honor Code.

Name: _____

Signature: _____

Section: _____

1. 20 points Write the output that each code snippet would produce:

Code Snippet:	Console Output:

``cpp
int a = 13;
int b = 6;
cout << a / b + 1 << endl;
``	

``cpp
if (true || false) {
    cout << 5 << endl;
}
else if (true || true){
    cout << -3 << endl;
}
``	

``cpp
int i = 0;
while (i < 6) {
    cout << i * 2 << endl;
    ++i;
}
``	

``cpp
int j = 17;
int n = 5;
while (j > 0) {
    j = j / 2;
    cout << "j=" << j << endl;
    j = j - 1;
}
``	

``cpp
int b = 4;
if (b % 2 == 0 && b > 4) {
    cout << b / 2 << endl;
}
if (b % 2 == 1) {
    cout << b + 1 << endl;
} else {
    cout << b + 4 << endl;
}
``	

2. Concepts: answer each question briefly.

    (a) ☐ 3 points ☐ What include command is required to use the `time` function? (Write the one line of code as you would if you were writing a program.)

    (b) ☐ 3 points ☐ Write one line of code that declares a variable called `best_400m_freestyle_time`, without initializing the variable. Use the most appropriate variable type.

    (c) ☐ 3 points ☐ What does the function `srand` do?

    (d) ☐ 3 points ☐ Give four C++ arithmetic operators.

    (e) ☐ 3 points ☐ Is this expression true, or false:

```
!((true && false) && (true || false))
```

    (f) ☐ 6 points ☐ `x` is an `int`. Write a few lines of code to do this: increase `x` by `2` if `x` is one of these numbers: `[1, 3, 5, 7, 9, 11, 13, 15, 17, 19]`

3. 20 points Find four kinds of errors in the following code snippet. Identify each error that you found in the space below. There may be more than four errors, but you only need to find four. Do not include duplicate errors; that is, if two lines are missing semicolons, only include one of them. Refer to lines using the given line numbers.

```
1.  // Prompt the user for a number
2.  int n;
3.  cout >> "Enter your number: "
4.  cin >> n >> endl;
5.
6.  // Say if the number is even or odd
7.  if (n % 2 == 0) {
8.      cout << n " is odd" << endl;
9.  }
10. else {
11.     cout << n " is odd" << endl;
12. }
```

Error 1. _____ Line #: _____

Error 2. _____ Line #: _____

Error 3. _____ Line #: _____

Error 4. _____ Line #: _____

4. $\boxed{\text{20 points}}$ Write a program to asks the user for a (decimal) number between 1 and 10 (inclusive—the numbers 1.0 and 10.0 are good input). Keep asking until the user does this correctly.

To save time, the includes and a main are given to you. Be clear about using proper indentation!

```cpp
#include <iostream>
using namespace std;

int main() {

    // Your code goes here
```

```cpp
    // end of your code
    return 0;
}
```