Queens College, CUNY, Department of Computer Science

Software Engineering

CSCI 370

Fall 2018

Instructor: Dr. Sateesh Mane

due date Friday October 12, 2018

3 Project 3

3.1 Background information

- I assigned "Quiz 1" to my CS365/765 Computational Finance class on Wed. Oct. 3, 2018.
- There are 69 students (in 2 sections).
- A total of 21 students scored D.
- It was a programming question, containing among other things a `for` loop as follows. *(Note: the initialization $i = 1$ is correct and is not a bug.)*

```
for (int i = 1; i < n; ++i) { ... }
```

- Many (but not all) of the 21 who scored D stated the `for` loop was erroneous because of the pre-increment `++i`.
- Sample student solutions are given below.

  1. First inside the for loop, by incrementing i as `++i` rather than `i++`, i will increment at the start of the loop. This should be `i++`.
  2. The condition `++i` gives a wrong answer for the bond by 1^{st} incrementing i before performing any calculation specified in the `for` loop.

3.2 Programming details

- The project is quite simple.
- **Find <u>one</u> value of n such that the print statement inside the loop is executed.**
- **Here is the C++ code you must compile and execute.**
- You must set the value of n in the program.

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

int main()
{
  cout << "begin loop_test.cpp" << endl;
  int n =                                          // *** set a value for n ***
  bool b = true;
  for (int i = 1; i < n; ++i) {
    if ((b==true) && (i==2)) {
      cout << "loop count begins with i = 2" << endl;
      break;
    }
    b = false;
  }
}
```

- **Here is the Java code you must compile and execute.**
- You must set the value of n in the program.

```
public class loop_test {
    public static void main(String[] args) {
        System.out.println("begin loop_test.java");
        int n =                                    // *** set a value for n ***
        Boolean b = true;
        for (int i = 1; i < n; ++i) {
            if ((b==true) && (i==2)) {
               System.out.println("loop count begins with i = 2");
               break;
            }
            b = false;
        }
    }
}
```

3.3 Submission details

- ***This is a final report, hence every student must submit a report.***
- Please employ the following naming convention for your report (zip archive).

  `StudentId_first_last_CS370_Project3.zip`

- The zip should contain a "cover" document (txt/pdf/docx).
- The cover document should contain one value of n such that the print statement inside the loop is executed.
- **It is my guess that your cover document will be very short.**