COMP2710 – Frequently Asked Questions About Homework 3

1. I'm having an issue with initializing the "srand(time(0))" for our homework 3. I get a compiler error (using the Linux remote servers) about expecting a constructor (or a destructor, but I'm guessing that's not relevant here). The line of code is merely:

   ```
   "srand(time(0));"
   ```

   And I've included the following above it:

   ```
   # include <iostream>
   # include <stdlib.h>
   # include <cassert>
   # include <ctime>
   ```

   Answer: you must include the following library:
   ```
   # include <cstdlib>
   ```

2. Can I add more parameter at Strategy2 function. I mean like this?
   ```
   void A_shoot2(bool& B_alive, bool& C_alive, int first);
   ```

   Answer: Yes, you can.

3. How to tell Aaron to miss his first shoot intentionally in the second strategy?

   Answer: You may either temporally set Aaron's accuracy rate down to zero, or do nothing but keeping the Charlie_alive's value unchanged (i.e., true).

4. Do I write a whole different c++ program for test cases or write the test cases in the same program?

   Answer: Please write one test driver (i.e., one function) for each tested function.

5. Will it be a problem if the program is printing over 10000 lines when it is looped?

   Answer: Your main function can simply include a release version, which will not print over 10000 lines when it looped. The test drivers can be maintained in your debug version.

6. Is it mandatory that I use the functions given or would it be ok to implement a Shooter class?

   Answer: You are strongly recommended to follow the suggested functions to implement Homework 3. This is because we have suggested how to build test drivers for the recommended functions in the description.

7. What is the difference between "void getNumbers (int& input1, int& input2)" and "void getNumbers (int input1, int input2)"? Essentially why is the "&" character there after the data type?

   Answer: "void getNumbers (int& input1, int& input2)" is considered as "call by reference"; whereas "void getNumbers (int input1, int input2)" is referred to as "call by value". Please click this link http://www.codingunit.com/c-tutorial-call-by-value-or-call-by-reference for details on the differences between "call by value" and "call by reference".

8. Can we put the function declarations inside the main function?

   Answer: No. Please don't put function declarations inside the main function.

9. Are we allowed to make any more functions than the five functions, the five test functions, and the main function?

   Answer: You can create other functions, but please use the suggested functions as a good starting point.

10. How to get the predefined void functions to alter variables outside their scope. I'm trying to make those shooter functions change a variable in main() that tells whether or not the person in question is still alive. Do you have any recommendations for how to do this?

    Answer: We use "call by references" to solve this problem. Please see the `Aaron_shoots ()` function in the sample source code `test_Aaron_shoots.cpp` for an example of "call by references".

11. I only used two const variables as I do not know what the other two variables should be. I used the const on the duel variable holding 10,000 and the rate variable for converting to percentage. Can you give a hint for what the other const variables should be?

    Answer: You declare a hit_rate constant for each shooter, then there are three hit_rate constants for three shooters. The number of simulated duels is the fourth constant.