C++ Guessing Game

Time required: 60 minutes

- Comment each line of code as shown in the tutorials and other code examples.

- Follow all directions carefully and accurately.

- Think of the directions as minimum requirements.

Pseudocode

1. Write pseudocode or TODO for the exercise

2. Submit with the assignment

Tutorial: C++ Random Number

This example program demonstrates how to generate random numbers in C++.

Create a C++ program named **RandomNumbers.cpp**

```cpp
1  /*
2   * Name: RandomNumber.cpp
3   * Written by:
4   * Written on:
5   * Purpose: Generate a series of random numbers
6   */
7
8  #include <iostream>
9  // For time function
10 #include <ctime>
11 // for rand srand functions
12 #include <cstdlib>
13
14 int main()
15 {
16     // te rand() function generates the same sequence
17     // each time the program runs
18     // srand() initializes the random number generator with different values
19     // time(0) is the time since January 1st, 1970 at 00:00:00 AM
20     srand(time(0));
21     int randomNumber;
22
23     for (int count = 1; count <= 10; ++count)
24     {
25         // Generate a random number between 1 and 10 inclusive
26         // rand() % 10 generates a random number betweeen 0 and 9
27         // + 1 brings it to 1 through 10 inclusive
28         randomNumber = rand() % 10 + 1;
29
30         std::cout << randomNumber << std::endl;
31     }
32     return 0;
33 }
34
```

Example run:

```
6
7
2
3
10
2
1
6
3
1
```

Minimum Requirements

Create the classic guessing game program.

- Print a nice title

- Generate a random number between 1 and 10

- Get the user guess

- Determine if the user guess is higher, lower, or equal to the random number

- Let the user know if they guess outside the range 1-10

- Track number of tries per game

- Allow the user to play again or quit

Example run:

```
+-----------------------------------+
|   ---     C++ Guessing Game   ---     |
+-----------------------------------+
Enter your guess between 1 and 10: 12
That was a wasted guess.
Pick a number between 1 and 10 inclusive!
Enter your guess between 1 and 10: 5
Your guess is too low!
Enter your guess between 1 and 10: 8
Your guess is too low!
Enter your guess between 1 and 10: 10
Congratulations!
You guessed the number in 4 guesses!
Thanks for playing!
Do you wish to play again? (y/n): n
```

Assignment Submission

1. Attach the pseudocode.

2. Attach the program files.

3. Attach screenshots showing the successful operation of the program.

4. Submit in Blackboard.