**CMSC203 Assignments 2 Design**

Class: CMSC203 CRN 25800

 Program: Assignment # 2

Instructor: Professor Grinberg

 Summary of Description: A program that generates a random number between 0 and 99 for the user to guess

 Due Date: 9/20/2020

 Integrity Pledge: I pledge that I have completed the programming assignment independently.

 I have not copied the code from a student or any source.

**Part1: Pseudo Code:** Here is a pseudo code for Assignment 2 program:

DRIVER CLASS

**Create Scanner input**

**Create int variables nextGuess, lowGuess, highGuess, count, and randNum**

**Create char answer**

**DO**

**randNum = RNG.rand(100)**

**lowGuess = 0**

**highGuess = 99**

**count = 1**

**Print Enter your first guess**

**DO**

**nextGuess = input.nextInt()**

**WHILE RNG.inputValidation(nextGuess, lowGuess, highGuess) == false**

**nextGuess = input.nextInt()**

**Print number of guesses is count**

**IF nextGuess == randNum**

**continue**

**ELSE IF nextGuess > randNum**

**Print Your guess is too high**

**highGuess = nextGuess**

**Else IF nextGuess < randNum**

**Print Your guess is too low**

**lowGuess = nextGuess**

**count++**

**Print Enter your next guess between lowGuess and highGuess**

**WHILE nextGuess != randNum**

**Print Congratulations, you guessed correctly**

**Print Try again? (y or n)**

**answer = input.next().charAt(0)**

**WHILE answer != “y” && answer != “n”**

**Print invalid input type “y” or “n”**

**answer = input.next().charAt(0)**

**WHILE answer == “y”**

**Print Thanks for playing…**

**Part2: Comprehensive Test Plan**

A good test plan should be comprehensive. This means you should have a few test cases that test when the input is in and out of range, division by 0, incorrect Data type, etc. (Provide valid and invalid input)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cases | Input | Expected Output | Actual Output | Did Test Pass? |
| Case 1  randNum = 88 | 94  27  58  88  no | Number of guesses is 1  Your guess is too high  Enter your next guess between 0 and 94  Number of guesses is 2  Your guess is too low  Enter your next guess between 27 and 94  Number of guesses is 3  Your guess is too low  Enter your next guess between 58 and 94  Congratulations, you guessed correctly  Try again? (yes or no)  Thanks for playing… |  |  |
| Case 2  randNum = 50  randNum = 7 | 75  25  50  Yes  21  10  7  no | Number of guesses is 1  Your guess is too high  Enter your next guess between 0 and 75  Number of guesses is 2  Your guess is too low  Enter your next guess between 25 and 75  Congratulations, you guessed correctly  Try again? (yes or no)  Number of guesses is 1  Your guess is too high  Enter your next guess between 0 and 21  Number of guesses is 2  Your guess is too high  Enter your next guess between 0 and 10  Congratulations, you guessed correctly  Try again? (yes or no)  Thanks for playing… |  |  |
| Case 3  randNum = 77 | 50  42  81  76  77  no | Number of guesses is 1  Your guess is too low  Enter your next guess between 50 and 99  Guess must be between 50 and 99. Try again  Number of guesses is 2  Your guess is too high  Enter your next guess between 50 and 81  Number of guesses is 3  Your guess is too low  Enter your next guess between 76 and 81  Congratulations, you guessed correctly  Try again? (yes or no)  Thanks for playing… |  |  |
| Case 4  randNum = 88 | 94  27  58  88  No  no | Number of guesses is 1  Your guess is too high  Enter your next guess between 0 and 94  Number of guesses is 2  Your guess is too low  Enter your next guess between 27 and 94  Number of guesses is 3  Your guess is too low  Enter your next guess between 58 and 94  Congratulations, you guessed correctly  Try again? (yes or no)  Invalid input type “yes” or “no”  Thanks for playing… |  |  |