**Southern Connecticut State University**

**CSC152-01 Summer 2021**

**Take-Home Assignment 04**

Total Points: 100

Due Date-Time: Thursday June 24, 2021 at 6:00PM

Instructions: This is an individual assignment; you cannot seek help from anyone or the internet. However, you can access your lecture notes and course materials distributed on MS Teams.

**Submission instructions:** Submit your solution as a single “.ipynb” file (upload it to blackboard). You will lose at least 50% points if the submitted file type is not “.ipynb” or its contents are invalid.

*FAILING TO SUBMIT WITHIN THE TIME LIMIT OR FAILING TO ADHERE TO THE REQUIRED FILE FORMAT WILL RESULT IN A ZERO GRADE.*

**IF YOUR PROGRAM CANNOT BE RUN DUE TO SYNTAX/RUNTIME ERRORS, YOU WILL LOSE AT LEAST 50% OF THE POINTS. YOU MIGHT GET PARTIAL POINTS DEPENDING ON THE CORRECTNESS OF THE PROGRAM AND IF IT IS RUNNABLE AFTER FIXING ONE MISTAKE.**

*Note: Your program MUST follow the exact input and output format (including empty spaces and empty lines) as shown in the sample inputs and outputs shown at the end of this document, otherwise you will lose 25% of the total points.*

**Problem Description:**

In this assignment, you will need to write a program that will allow the user to play a game. The program will start with showing the user a list of two games (‘Guess the Number’ and ‘Math Challenge’) and ask the user which one she/he wants to play. However, to keep the assignment manageable, you are being asked to implement only the first of these two games. If the user selects the second game, a ‘technical error’ message is shown, and the list of games is again shown to select an option from.

If the user selects the first game, “Guess the Number”, the program will randomly generate a number between 10 and 30 (inclusive) and allow the user at most 10 (ten) chances to guess it. If the user can correctly guess the number within 10 chances, she/he is awarded one point, otherwise zero point is awarded. After a round is over, the user is asked if she/he wants to play a game again or not. If the user enters a ‘Y’, she/he is again shown the list of games to choose from. If the user anything else, she/he is shown the total number of points obtained in this session of play (each round contributes at most one point) and the program exits.

**Implementation:**

You need to implement the program using 5 (five) functions:

1. get\_validated\_input
2. get\_game\_choice
3. play\_math\_challenge\_game
4. play\_guess\_the\_number\_game
5. main

Each of these functions is dedicated to performing a single task. (i) gets a number from the user within a specified range, (ii) gets a number from the user indicating which game she/he wants to play, (iii) shows a message that this game is not currently playable, (iv) implements the game ‘Guess the Number’, and (v) is the function that drives the program by presenting the user game options, collecting the option and calling the appropriate game function, asking the choice to continue playing, showing the total points at the end, bidding goodbye, etc.

A skeleton code (CSC152-01\_THA\_04\_skeleton.ipynb) is provided for your convenience to start working from. The first three functions have been implemented for you already in the skeleton code; you need to only write the last two. DO NOT MODIFY ANY PART OF THE CODE OTHER THAN THE TWO FUNCTIONS YOU ARE SUPPOSED TO IMPLEMENT.

Your program MUST follow the exact input/output formatting shown in the **sample outputs on the next page**, otherwise it will be subject to at least 25% penalty.

**Sample Outputs:**

Sample output #1

Text, letter

Description automatically generated

Sample output #2

Text, letter

Description automatically generated

Sample output #3

Graphical user interface, text, application, email

Description automatically generated