COSC 1436, Professor Clark

Assignment 5a: 6 points (with up to 2 points of bonus!)

Write a Program: Guessing Game

Your goal is to play a guessing game with the user where the computer chooses a random number and the user then tries to guess it. The basic version of the game will have the computer choose a number between 1 and 50. The user guesses a number that is too high or too low, the computer will tell them so and ask them to try again. The program should use a loop that repeats until the user gets the right answer.

*For this assignment, the basic game requirements will be stated, but there is also the opportunity for bonus! The bonus additions will be listed **under** the example output for the basic game. In order to receive any bonus points, the assignment must be turned in on time.*

BASIC GAME REQUIREMENTS

- 3 comment lines (description of the program, author, and date).
- Generate a random number between 1-50 for the computer's choice. Make sure that a different random number is chosen each time the game is played. (1 point)
- Ask the user for their first guess and store it in a variable. (1 point)
- If the user's guess is too high or too low, tell them so and give them the opportunity to guess again. (1 point)
- Use a loop that repeats telling them too high or too low until they get the right answer. (1.5 points)
- Tell the user when they have successfully guessed the number. (.5 point)
- Demonstrate your program works by copy and pasting two different execution runs into your output section of your report. (1 point)

Turn in a .txt file to Canvas with our normal submission formatting.

Example Output:

```
Welcome to the guessing game! I'll choose a random number between 1
and 50, and you guess what it is.
I'm thinking of a number! What is it? 20
Too high. Try again: 10
Too low. Try again: 15
You guessed it! Thanks for playing!

Welcome to the guessing game! I'll choose a random number between 1
and 50, and you guess what it is.
```

```
I'm thinking of a number! What is it? 50
Too high. Try again: 25
Too high. Try again: 13
Too low. Try again: 17
Too low. Try again: 21
Too high. Try again: 19
Too low. Try again: 20
You guessed it! Thanks for playing!
```

BONUS OPPORTUNITY

Add enhancements to your game. The enhancements are listed in the order they need to be put into your code. You don't have to do them all, but you do have to do them in order. You'll get an extra .5 point for each enhancement that you add. Example output for each enhancement will be available in the Canvas assignment (as to not make this document too long). *Remember: you can only get bonus points if you turn in the assignment on time!*

Note: you only need to turn in output for the last enhancement that you made. For example, if you get the first three enhancements added, you don't need to provide output for the basic version, enhancement 1, enhancement 2, and then enhancement 3. Just provide one set of output – does that make sense? Let me know if you have questions.

Enhancement List:

1. Instead of 1-50, let the user choose the upper guessing limit.
2. Keep track of the number of tries that it took for the user to get the right answer and display that to them once they've guessed the correct answer.
3. Add the ability for the user to play again without having to restart the game.
4. Keep track of an overall low score (the lower the number of guesses, the better). If the user beats the current best score, display a message to them telling them so, and set the overall low score to be the number of guesses it took from that round.