CS 112 Assignment 4b

Submit your finished code to the Dropbox. You will need to pass off the assignments with the TA or tutor during their office hours (their information is in the CS 112 Course Information section of the Table of Contents), or the instructor in class. Follow the formatting guide which is also found in the CS 112 Course Information section.

Read the instructions carefully. Make sure your output matches the example run.

Note:

From here on out the programming assignments are going to be getting harder and you will be required to use all of the tools you have learned in combination to successfully complete each program.

Required:

Ponder: Everything we do moving forward requires mastery of all the programming concepts you have learned thus far. Take a moment to think about which concepts you are having the most difficulty with. Write down the top three programming techniques you don't fully understand and re-read the associated sections of the book, Automate the Boring Stuff.

Program: Guessing Game

For this assignment you'll need to use while loops and if statements to construct a guessing game. The computer will chose a random number between 1 and 100 and the user will need to guess what the number is. If the user guesses incorrectly, the computer will indicate whether the user's guess was too high or too low. If the user guesses correctly, the computer reports how many tries it took to get the correct answer and then asks if the user would like to play again.

import random

In order to generate a random number between 1 and 100, we will need to import a module from the Python standard library. To import a module, use an import statement immediately following your commented program header. This import statement must come before the def main() function to ensure that its scope includes the entire program.

The module you will be importing is the random module so the import statement will look like this:

```
Import random
```

That statement simply makes the functions within the random module available to you. In order to actually generate a random number between 1 and 100, you must assign a variable to the result of random.randint(1,100)

Details on importing modules and the random module in particular can be found at the end of Chapter 2 of our book, Automate the Boring Stuff.

Input Validation

In Assignment 4a we learned how to validate a user's input. In this assignment you will use those skills to validate both the input for when the user guesses a number as well as the Y or N answer to the question "Would you like to play again (Y/ N)?"

Example Run

```
I am thinking of a number between 1 and 100.
What is your guess? cow
Invalid response.  Please enter a whole number.
What is your guess? 50.555
Invalid response.  Please enter a whole number.
What is your guess? 50
Your guess is too high.
What is your guess? 25
Your guess is too high.
What is your guess? cow
Invalid response.  Please enter a whole number.
What is your guess? 15
Your guess is too high.
What is your guess? 7
CORRECT!  You guessed it in 4 tries!
Would you like to play again (Y/N)? 9
Invalid response.  Please answer with a 'Y' or 'N'
Would you like to play again (Y/N)? why?
Invalid response.  Please answer with a 'Y' or 'N'
Would you like to play again (Y/N)? n
>>>
```