Guess The Number
Lab Practicum

The assignment is to write a program that allows the user to play a number guessing game.

The program should randomly pick a number from within some specified range (e.g. 1 .. 1000) and then prompt the user to guess the number selected. If the user guesses the number randomly selected, the program should display a congratulatory message and ask the user if they want to play again. If the user does not guess the correct number, then the program should guide the user and inform the user whether the guess is too high or too low and continue until the user zeros in on the number.

The program should keep track of the number of guesses that the user makes with each play. If the user guesses the number correctly within some number of guesses (e.g. 10), then display the message ***"WOW, either you are insightful or got really lucky!"***. If the user guesses the number on the 10th guess, the program should print out the message **"Ahah! 10th time lucky!"**. If the user, however, takes more than 10 guesses to correctly pick the number, the program should display the message ***"Really, you can do better than N number of guesses!"***, where N represents the actual number of guesses it took to zero in on the number. In fact, you might want to make the program display increasingly obnoxious messages after the 10th missed guess.

Note: It is up to you to design the program using logical (method) blocks.

Sample code to generate a random number in Java

```
import java.util.Random;

public class RandomNumberGenerator {
   public static void main(String[] args) {
      Random random = new Random();
      int randomNumber = random.nextInt(100) + 1;
      System.out.println("Random number between 1 and 100: " + randomNumber);
   }
}
```

Understanding the code segment:

- a Random object is created.
- the call random.nextInt(100) generates a random integer between 0 (***inclusive***) and 100 (***exclusive***).
- adding 1 to the result shifts the range to 1 to 100 (***inclusive***).

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Note: Be sure to follow proper programming standards including proper use of comments, descriptive variable names and consistent alignment and indentation techniques as presented in lecture.

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The following is a possible sample run of the program:

Welcome to my number guessing game!!

I have a number between 1 and 1000.

Please enter your first guess:

>> The player then types in the first guess and the program will respond in one of the following ways:

One of:

- **WOW, either you are insightful or really lucky!** *// if guessed on first try*
- **Ahah! 10th time lucky!** *// assuming they guessed it on the 10th try*
- **Really, you honestly can do better than 12 guesses!** *// assuming 12 guesses*

when the correct number is entered by the user, or one of:

- **Too Low. Try again**
- **Too High. Try again:**

when an incorrect number is entered by the user.

After the first round is played, the user should be given an option to play the game again.

I have a number between 1 and 1000.
Can you guess my number, enter (Y,N):

If 'Y' is entered the game continues with a new random number; If 'N' is entered, print out a nasty message (i.e. "I knew you were a coward!!") and the game ends, informing the user the average number of guesses taken.

<u>Use the following page(s) to write your logic and or pseudocode</u>

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