

The Guessing Game (25pts)

Due Friday, 26 August 2017

You have been hired to create a program where the computer generates a hidden number in the range 1 to 100 and prompts the user to guess that number. Upon each incorrect guess, the program will inform the user if their guess is too high or too low. The game only ends when the user enters the correct answer.

Sample Listing

```
I'm thinking of a number between 1 and 100.  
Can you guess it?  
>>70  
Too high!  
>>35  
Too high!  
>>12  
Too low!  
>>20  
You win!
```

Note that your program need not match this listing exactly.

Random Numbers

To generate an integer pseudorandom number in the range $[a, b)$, use the following construction:

```
int random = (int)(a + b*Math.random());
```

Extra Credit

- (2pts) Modify your program so that the user first enters an upper bound for the random number. (I.E., instead of generating a number in the range

$[1, 100)$, generate a number in the range $[1, n)$ for an n determined by the user of the program.)

- (2pts) Instead of the program ending once the correct answer is determined, ask the user if they want to play again. If so, generate a new random number and start over. The user should be able to play as many times as desired.
- (5pts) Write a String function that randomly chooses between at least 5 different **school-appropriate** insults to display after informing the user if their choice is too high or too low (i.e. “Too high, elbow nose!”).