---------- Forwarded message ---------
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Date: Mon, Dec 6, 2021 at 10:30 AM
Subject:
To: Nicole Naldi <nicolenaldi@gmail.com>

NumberGuessin
gGame.java

Write a program to generate a random number given a range that is input by the user and have them guess the number.

Do the following:

- Prompt the user to enter the min and max values for the number range that includes the number they want to guess. Use this range to generate a random number. Use the below statement to generate the random number
    - (int) Math.floor(Math.random()*(max-min+1)+min);
- Let the user play the game as many times as they want. Have them enter 'q' or 'Q' to quit the game.
- Do the below checks on the number range - min to max:
    - Don't allow negative numbers.
    - Make sure the minimum range value is not > the maximum range value.
    - Make sure the max value is <= 10000
    - Feel free to add a few more checks if you want.

When the user guesses the number, give them a hint if they guess either too high or too low to help them eventually guess the number. Record the number of tries and output it when the user guesses the correct number. Also allow them the option to quit the guesses by entering a 'q' or 'Q'. See the sample runs below for guidance.

When the program is completed, output the following:

- total number of games the user played
- the average number of guesses

Make sure your program has the following:

- Prompts for the user input. Remember you have to handle the input of a 'q' or 'Q' or min and max range.
- Some type of loop to allow the user to play the game multiple times and to allow them to guess at the number multiple times.

Sample runs:

1. Quit the Game right away

```
run:
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
The system will then output the average guesses it took for you
Please enter the min and max values for the number range in integer, q or Q to quit: q
I'm quitting per your command
Game Over
```

2. Play the game 2 times and see what your average guess score is

```
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
```

```
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
The system will then output the average guesses it took for you
Please enter the min and max values for the number range in integer, q or Q to quit: 1 10
Please guess the number from 1 to 10 enter q or Q to quit: 5
Higher - try again
Please guess the number from 1 to 10 enter q or Q to quit: 7
Higher - try again
Please guess the number from 1 to 10 enter q or Q to quit: 9
Higher - try again
Please guess the number from 1 to 10 enter q or Q to quit: 10
You got it in 4 guesses - Nice!

Please enter the min and max values for the number range in integer, q or Q to quit: 1 100
Please guess the number from 1 to 100 enter q or Q to quit: 50
Lower - try again
Please guess the number from 1 to 100 enter q or Q to quit: 25
Lower - try again
Please guess the number from 1 to 100 enter q or Q to quit: 12
Lower - try again
Please guess the number from 1 to 100 enter q or Q to quit: 7
Lower - try again
Please guess the number from 1 to 100 enter q or Q to quit: 4
Higher - try again
Please guess the number from 1 to 100 enter q or Q to quit: 6
You got it in 6 guesses - Nice!
Please enter the min and max values for the number range in integer, q or Q to quit: q
I'm quitting per your command

Game Summary
You played the game 2 times
Your average guesses were 5.00
Game Over
```

3. Quit during the 1st guess game

```
run:
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
The system will then output the average guesses it took for you
Please enter the min and max values for the number range in integer, q or Q to quit: 1 10
Please guess the number from 1 to 10 enter q or Q to quit: 5
Higher - try again
Please guess the number from 1 to 10 enter q or Q to quit: q
I'm quitting this guessing round - try again
Please enter the min and max values for the number range in integer, q or Q to quit: q
I'm quitting per your command
Game Over
```

4. Put in negative min value and check to make sure the program detects it and prompts you again

```
run:
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
The system will then output the average guesses it took for you
Please enter the min and max values for the number range in integer, q or Q to quit: 1 -10
You used a negative number for the range so try again
Please enter the min and max values for the number range in integer, q or Q to quit: 1 10
Please guess the number from 1 to 10 enter q or Q to quit: q
I'm quitting this guessing round - try again
Please enter the min and max values for the number range in integer, q or Q to quit: q
I'm quitting per your command
Game Over
```

5. Put in a min value that is > max and make sure the program detects it and prompts you again

```
run:
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
The system will then output the average guesses it took for you
Please enter the min and max values for the number range in integer, q or Q to quit: 10 0
C'mon man - min is > max so try again
Please enter the min and max values for the number range in integer, q or Q to quit: 1 5
Please guess the number from 1 to 5 enter q or Q to quit: 3
Higher - try again
Please guess the number from 1 to 5 enter q or Q to quit: 4
You got it in 2 guesses - Nice!
Please enter the min and max values for the number range in integer, q or Q to quit: 1 1000
Please guess the number from 1 to 1000 enter q or Q to quit: 500
Lower - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 250
Lower - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 125
Higher - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 175
Higher - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 200
Higher - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 225
Lower - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 210
```

```
Higher - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 220
Lower - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 215
Higher - try again
Please guess the number from 1 to 1000 enter q or Q to quit: 217
You got it in 10 guesses - Nice!
Please enter the min and max values for the number range in integer, q or Q to quit: q
I'm quitting per your command

Game Summary
You played the game 2 times
Your average guesses were 6.00
Game Over
```

6. Put in a max range value > 10000

```
run:
Welcome to Guess a Number Game
The system will generate a random # that you will try to guess
Enter 'q' to quit if you're done
```