

Activity 4.3 - HigherLower

Overview

You will write a program that will play a game of higher or lower. It will ask you to guess a number within a range and you must guess what it is.

Instructions

Getting Started

1. Create an "Activity4.3" folder in VScode.
2. Import "[HigherLower.java](#)" into your project. (This is a slight variation of Listing 4.3: Guessing.java in the Java Foundations textbook).
3. Modify `HigherLower.java` as specified below.

Specifications

1. Add an `if` statement to check if the user's guess is in the expected range. If it is out of range, let them know and don't bother checking if their guess was correct.
2. Add `else if/else` statements to determine if the guess was higher or lower than the expected answer. If their guess was lower, print "Guess higher". If their guess was higher, print "Guess lower". Note: This is *replacing* the existing `else` clause that prints the answer and tells them their guess was incorrect.
3. Add a `while` loop to keep asking the user for another guess *while their guess is not equal to the answer*. Make sure to read in their new guess each time you ask them for one.
4. How would you allow the user to play another game after the current game is finished? Update your program so you ask the user if they want to play another game and exit only if they enter "No" (or something similar). Your prompt should be specific about the exact "yes" or "no" options you expect. The user should be able to play as many games as they want. Note: the number they are guessing must stay



the same throughout the current game, but a new number should be generated for a new game.

Sample Sessions

Session 1 - One game only

```
I'm thinking of a number between 1 and 10. Guess what it is: 55
Your guess is out of range. Guess again: -1
Your guess is out of range. Guess again: 5
Guess lower: 3
Guess lower: 2
Guess lower: 1
You got it! Good guessing!
```

Session 2 - Option to play again

```
I'm thinking of a number between 1 and 10. Guess what it is: 5
Guess higher: 7
Guess higher: 8
Guess higher: 10
Guess lower: 9
You got it! Good guessing!
```

```
Would you like to play again? (y/n) y
```

```
I'm thinking of a number between 1 and 10. Guess what it is: 3
Guess higher: 4
You got it! Good guessing!
```

```
Would you like to play again? (y/n) n
```

```
Game over. Goodbye!
```

Terminology Identification

In your code add comments identifying examples of the following: initial conditions, terminating conditions, loop, equality. These should be identified with an @keyterm tag within the comment.



Code Review

When you are finished with this activity, pair up with a classmate and review each other's code to make sure it meets all the requirements.

Submission

After completing the assignment, use the assignment link in Canvas and follow the submission instructions there. You will upload your `HigherLower.java` file and submit your reflection in the "Comments" box.

Reflection Requirements

Write a one paragraph reflection describing your experience with this activity. The reflection should also include the name of your code review partner AND something interesting you found in their code. Please review the activity rubric for more details.

