

Assignment 5

Flow Control & State Variables

CEC – Computer Science

Instructor: M. Wolverton

Items Due

- **Source Code for Higher-Lower-Game**

Instructions

Complete the coding directive in an IntelliJ IDEA project with the assignment name (e.g. Higher-Lower-Game) and package name `ceccs`. Login to the file server at cec-code-lab.aps.edu and create a folder with the assignment name (e.g. Assignment 5). Locate the `fileName.java` (e.g. `Main.java`) files of your source code, then upload them to into the assignment folder. Code will be downloaded and archived for grading on the assignment due date.

Be careful to look at the specific requirements for each program!

Higher-Lower-Game

Write a command line game where the player is supposed to guess a random number between 1 (inclusive) and 1000 (exclusive). After each guess, they are told if their answer is correct, and whether they guessed too high or too low. The game is over after a fixed number of turns (e.g. 5) or they have guessed the value.

After each round they should be presented with a score board and an option to play again.

Additional criteria:

- The winning number, and player's guess should be stored as an `int`.
- After each turn, the program should remind the player how many guesses they have remaining.
 - At 1 guess, the hint text should not be plural.
- The score board should contain wins and losses.
- If a guess is invalid (out of range) print an error message and do not consume a turn.

Sample Output

```
-----
-----Higher-Lower Guessing Game-----
-----
Guess a number between 1 and 1000. You have 5 Guesses Remaining.
400
Too High!
...
Guess a number between 1 and 1000. You have 3 Guesses Remaining.
100
Too Low!
...
Guess a number between 1 and 1000. You have 1 Guess Remaining.
175
Too High!
You Lose. So sorry.
Wins: 0 Losses: 1
Do you want to play again? (y/n)
n
Goodbye.
```

Optional Challenges

- **Difficulty Settings:** Create a 'difficulty' options menu. Easier would involve a smaller range (e.g. 1 ... 100) and more guesses, Harder would involve a larger range and fewer guesses.
- **Guess List:** After every turn, have the program list all previous guesses along with their hints (too high, too low).
- **Reverse Play Mode:** A different game mode where the user thinks of a number and the computer generates guesses. The player is given 3 options every guess e.g. [1] guess is too low [2] you got it! [3] guess is too high