

Lab 2: Subtraction Quiz

Overview:

Listing 3.3 in the textbook, *Introduction to Java Programming* by Y. Daniel Liang, is titled “SubtractionQuiz.java”. It generates random integers in the range from 0 to 10, asks the player to calculate the value of the smaller subtracted from the larger and reports the player’s correctness. Your task is to make a few modifications to this.

Grading Rubric [20 points total]:

[1 point]: Attached one file in Blackboard Learn with the file name:
SubtractionQuiz_yourName.java.

[4 points]: generates two random numbers in the range from 0 to 10. Your program must generate two random numbers each in the range from 1 to 100.

[5 points]: The given program always subtracts the smaller number from the larger. Your program must not do this. That is, the answer to the subtraction question that your program presents will, about 50% of the time, be negative.

[5 points]: The given program always says “you are correct!” when the player enters the correct answer. Your program must select randomly between 3 different messages that all mean “you are correct!”, but so more colorfully. For example, “Wow, you must be a math wizard”...

[5 points]: The given program always says “Your answer is wrong” when the player enters the wrong answer. Your program report three different levels of wrongness: A gentle error message when the player is wrong by only 1 unit or has the correct magnitude, but wrong sign (i.e., the answer is -27 and the player enters “27”). If the player is wrong by more than 1 unit, but less than 10 units, then a stronger error message must be presented. If the player is off by 10 or more units, then a very strong (but within PG-13) message is presented.

Penalties:

[-5 points]: Code does not adhere to those parts of the hallowed CS-152 coding standard thus far covered:

- 1) Correct indenting (no tabs and two spaces per block level).
- 2) Correct placement of brackets.
- 3) A comment at the top of the class giving your full name and the date.
- 4) In-line comments as needed. “As needed”.
- 5) Must compile without warnings with IntelliJ’s default warning settings.

Note: all 5 points are lost if any **one** of the standards is severely broken.

Note: No more than -5 even will be assigned for this section even of the code is a total mess and breaks all our coding standards.