**For ExtraProblems4.java**

1. - total += trialRun(maximum instead of total = total + trialRun(maximum) makes the program faster and increases readability

- By using the class trialRun, the programmer modulated the code and didn’t hard code any variables so the method is reusable, making it easier to test

1. - Even though the programmer wrote multiline comments he/ she didn’t use the appropriate syntax /\* this is a comment \*/ and instead used a single line comment //. This isn’t an issue with the code, but it improves readability and is a proper coding standard.

- Programmer hard coded the number of times the program can run (15), which isn’t the number of games that should be played the computer, which is 1000. Programmer should have used the variable runs instead. New, improved line of code should be:

**if** ((number == guess) || (count > ~~15~~ **runs**))

Note, since the above code is in a method, the variable runs should become a global variable

with a static type.

1. Question said program should be run 1000 times, not 15. So output is slightly skewed. When program is corrected with keeping the above condition in mind, the output is incorrect. The method trialRuns is incorrect and guesses multiple times which is not the correct route.

**For Problem4.java**

1. - Using JOptionPane to display the output helps a user who doesn’t know how to use the Console/ doesn’t want to read the code or come near it, and just wants to run it

- Programmer used comments so another programmer can read and understand the code without thinking too much

1. - Programmer could have used a method for calculating whether the number guessed by the computer was correct

- More spacing between the method so another programmer can read it better

1. Output isn’t correct because the while loop is testing Boolean variables which don’t need to be tested. This exits out the loop much sooner than normal.

**For Question4.java**

1. - Using JOptionPane to display the output helps a user who doesn’t know how to use the Console/ doesn’t want to read the code or come near it, and just wants to run it

- Programmer used typecasting to get a more precise answer

1. - No comments were added in the program, which made it harder to read and understand

- Programmer could have used a method for calculating whether the number guessed by the computer was correct

3) Output is incorrect,

**For WordProblem4.java**

1. - Programmer used comments so another programmer can read and understand the code without thinking too much

- Seeing the comments, programmer was debugging the program to see if it worked properly. This is a really great way of testing the program at different stages to see which section was causing issues by printing out variables.

1. - Running on top of the previous technique for debugging, the programmer could have actually debugged the program properly by using breakpoints and watching how certain variables change over a period of time in a particular program. This would be much more effective than leaving stray comments of debugging code in a program

- The programmer could have spaced out the program more for readability

1. Output isn’t correct, average should be closer to 7, but program keeps on outputting answer which is ~13