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SE 333: Software Testing

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Static Analysis Report

a. Provide a detailed analysis for findings more severe than 3 (1 or 2). Each one should be addressed individually.

**For Main:**

**EqualsNull**

1. Should such a flaw block the build? Why or why not?

Yes, because it is a bad form. You only use equals when it’s a string.

1. What is the consequence of not addressing each flaw?

You might get Null Pointer Exception

**AvoidUsingShortType**

1. Should such a flaw block be build? Why or why not?

No, because Java uses the ‘short’ type to reduce memory usage, not to optimize calculation.

1. What is the consequence of not addressing each flaw?

The JVM does not have any arithmetic capabilities for the short type: the JVM must convert the short into an int, do the proper calculation and convert the int back to a short. Thus, any storage gains found through use of the ‘short’ type may be offset by adverse impacts on performance.

**SystemPrintln**

* Should such a flaw block be build? Why or why not?

Yes, if you don’t mind a lot of print statement in the output.

* What is the consequence of not addressing each flaw?

Can clog the Standard out log.

**For Tests:**

There are no level 1 or 2 priority errors.

b. Provide a summary of the other findings

There are a lot of “Junit assertions should include a message” which would be help to find a particular test but I used Display names to cover that. There are a lot of “ Potential violation of Law of Demeter” problems but it is not that severe.

* are there any that you think ought to be considered more severe than their current rating? Why if so?

No, I don’t think there are any problems that ought to be considered more severe than their current rating.

c. What specific changes to the application do you recommend, to address these findings? You do not need to actually make the changes, just make a recommendation. This recommendation must include all level 1 and 2 violations but can include others as well.

The recommendations are for the codes in the main file to not use null equals when we can use “==”. And To make the output cleaner, instead of system.out.println, logger can be used. I could also provide assertion message for better understanding the tests after execution.