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FingsBugs Report

1. There were a total of 5 bugs found in the files with FindBugs 3 in OfConcernRankBugs and 2 in TroublingRankBugs. I have included some Eclipse errors as well but I have distinguished them from the FindBugs bugs. Listed below are all the errors:

OfConcernRankBugs.java bugs: (all are **FindBugs**)

- Line 32: Equals method for findbug.OfConcernRankBugs assumes the argument is of type OfConcernRankBugs [Of Concern(16), Normal confidence]
- Line 32: findbug.OfConcernRankBugs defines equals and uses Object.hashCode() [Troubling(14), High confidence]
- Line 32: findbug.OfConcernRankBugs.equals(Object) does not check for null argument [Troubling(11), Normal confidence]

ScaryRankBugs.java bugs: (the following were **Eclipse errors** and were **not** found by **FoundBugs**.)

- Line 21: The method executeSomeConditions() from the type ScaryRankBugs is never used locally
- Line 32: The method incorrectAssignment() from the type ScaryRankBugs is never used locally
- Line 33: The value of the local variable is never used

TroublingRankBugs.java bugs: (2 from **FindBugs** and 2 **Eclipse errors**)

- Line 10: The method emptySynchronized() from the type TroublingRankBugs is never used locally (**Eclipse error, not FindBugs**)
- Line 11: Empty synchronized block in findbug.TroublingRankBugs.emptySynchronized() [Troubling(14), Normal confidence]
- Line 22: The method sleepInSynchronized() from the type TroublingRankBugs is never used locally (**Eclipse error, not FindBugs**)
- Line 24: findbug.TroublingRankBugs.sleepInSynchronized() calls Thread.sleep() with a lock held [Troubling(14), Normal confidence]

Screenshots of all of these bugs are attached with this file.

2. My buggy file contains five bugs, according to FindBugs:

Line 3, Unused field: MichaelsBugs.a [Of Concern(18), Normal confidence]

Line 4, Unused field: MichaelsBugs.b [Of Concern(18), Normal confidence]

Line 5, Unused field: MichaelsBugs.c [Of Concern(18), Normal confidence]

Line 6, Unused field: MichaelsBugs.e [Of Concern(18), Normal confidence]

Line 7, Type mismatch: cannot convert from double to float

I fixed these errors by doing the following: I removed variables c and e, set d equal to a + b, and printed d. This way, all the variables are used and there are no extraneous variables.

After running FindBugs on the fixed file, no errors were reported.

My buggy file is **MichaelBugs.java** and my fixed file is **MichaelBugsFixed.java**.