
Task 1.

Correctness

Method ignores return value

- Return value of `string.replace` ignored in `charReplace`

Bad Practice

Comparison of String object using `==` or `!=`

- Comparison of String objects using `==` in `CharReader`

Method ignores result of `InputStream.read()`

- `CharReader` ignores result of `BufferedReader.read`

Method may fail to close stream on exception

- Char reader may fail to close stream on exception

Internationalization

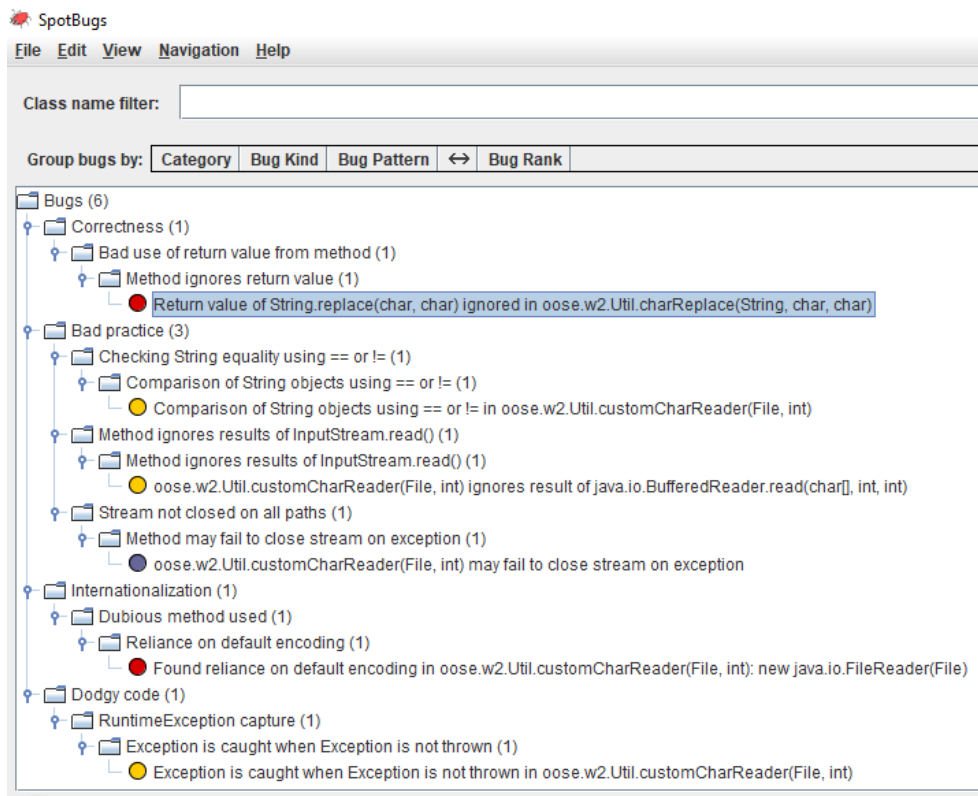
Reliance on default encoding

- Reliance on default encoding `CharReader`

Dodgy code

Exception caught when Exception not thrown

- Exception caught when not thrown in `CharReader`



Bug report before refactoring

Task 2.

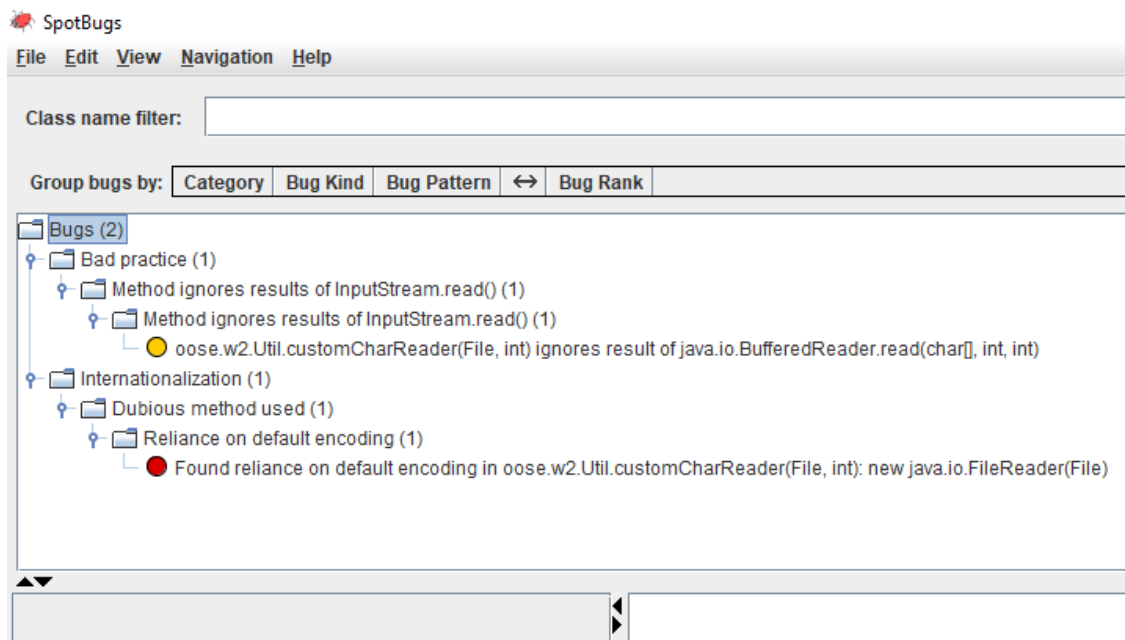
I believe the bugs detection system is unsound because there are bugs in the program that were not picked up:

- 1) The method `charReplace(String text, char oldchar, char newchar)` is unused.
- 2) The variable `int start` within the `customCharReader(File file, int n)` method is unused.
- 3) Within `customCharReader` the for loop and if statement iteration is incorrect as it produces an outofbounds error when replacing every even index with a blank space.

Task 3.

I believe the bugs detection system is imprecise because some of the bugs addressed are incorrect. One false bug is “`oose.w2.Util.customCharReader(File, int)` ignores result of `java.io.BufferedReader.read(char[], int, int)`”. The result is actually stored as `char[]` buffer, I believe the bugs detection system mistakenly thinks it is ignored because it is assigned to

buffer inside the .read function not externally. i.e instead of `buffer = reader.read` we have `reader.read(buffer,..)`



Bug report after refactoring