

Array

Take the attached file `Array.java` and write a small test program `Main` in the style of the program presented in class that allows to test the method `subarray(a,i)` with arrays of various lengths.

`Main` should check the command line arguments such that they do not let the program crash in any case.

Annotate the methods in `Array` and the auxiliary methods in `Main` with light-weight specifications (method contracts) that as strongly as possible capture the expected behavior of the methods. As a minimum, make sure that `escjava2` does not complain on these files. Please note that `Array` contains a bug that has to be fixed for this purpose.

Compile the test program with the runtime assertion checking tool `jmlc` and let it run with `jmlrac`.

As a result of this exercise, deliver

1. the source of `Main.java` and of the JML annotated (buggy) `Array.java`;
2. the output of an execution of `Main` with the buggy class `Array` using `jmlrac` such that an assertion exception demonstrates the bug;
3. the output of `escjava2` on `Main` and the buggy `Array`;
4. the source of the JML annotated `Array.java` after fixing the bug;
5. the output of a correct execution of `Main` with `jmlrac`;
6. the output of of `escjava2` on `Main` and the correct `Array`.