Extra Credit. Test Input Generation Tools

DUE: 11:59PM, Tuesday, 21 March 2017

100 points

Objectives

The goal of this assignment is to gain experience with automatic test input generation tools.

- JCrasher: Click here for instructions on installation and usage.
- JCUTE: Click here for instructions on installation and usage.
- tpalus: Click here for instructions on installation and usage.
- AVMf: Click here for instructions on installation and usage.

Tasks

- Select any tool from the above list. Use the tool to generate test cases for any open source Java project. Do not test more than four classes of the software you chose to test.
- Provide the URL and details of the project (what the project is supposed to do). Which classes did you select to test (provide the number of public methods, private methods, line of code)?
- In a few paragraphs, comment on the utility of the selected tool. How it works? What worked well? What worked poorly? When would you want to use it (if ever!)? How do you think it should be improved?.
- Comment on how well the generated test cases cover the code of the project. Provide any data and graphs generated by the code coverage tool indicating the code coverage when executing the tests.
- Insert **five** faults one by one in the code (the selected classes). See if the generated test cases find them. Include a description of the fault (e.g., class name, line number, what you changed) and whether it was detected. If it was, describe the test case that detected it.

Submission

Canvas:

- Type the answers to the above questions in a document called extracredit.pdf. Submit the file in Canvas.

The class github repository: (under **projects/your-onid/extracredit**)

- The generated test cases.
- a README file with directions describing exactly how to run the selected tool on your selected classes.

Some open source Java projects

- commons-cli, NanoXML, Commons Lang, Apache Commons Codec