

ICA: Fault Localization

Overview

Goal: Perform fault localization using the Tarantula method

1. Track statements executed by test cases and the test cases' pass/fail status
2. Run test cases on bookstore
3. Identify suspicious statements

In class on Wednesday, 11/4.

Hints

- Prepare a really good test suite for bookstore ahead of time
- Have implementation of Tarantula to run in class
- Practice!
- Automation!
- Speed!

Blank

Implement

- Design a test suite that makes the seeded errors the most suspicious (i.e. #1)
- Generate report showing suspiciousness and calculations for each fault

Grading

100 total points

- 15 points for the quiz
- 25 points for in-class completion (11:40am)
- 3 @20 points for fault finding test suites

20 points for each seeded fault

- Full credit if fault is top five
- Five point penalty if top 10
- Ten point penalty if top 20
- Five bonus points if it is #1

Submit

1. Implementation of Tarantula
2. Any shell scripts used
3. Suspicious rankings report
4. Test suite for each servlet

Instructions:

- Only one zipped file with name format "Last name_first name_ICA#"
- Submit all reports in one submission. TA will only grade the last submission.

Format of Suspicious Rankings Report

- Generate a report for each test suite. In that report list for all lines in the web application where suspiciousness is greater than 0, the following:
- `<Servlet> <line number> <number of failing test cases> <number of passing test cases> <suspiciousness>`
- Show lines ranked by suspiciousness

Seeded Faults

1. Login.jsp, line 102 (104): sPage -> "MyInfo.jsp"
2. OrdersGrid.jsp, line 190: "DESC" -> "ASC"
3. Default.jsp line 634: "No records found"