

CSE503 : Program Analysis, Monsoon 2018

Assignment 1

To verify the correctness of a program, certain properties are to be verified such as you can only write to a file after opening it. For this assignment, you have to design an instrumentor that takes Java source code client program and instrument it to generate the program's trace for a set of inputs. The generated trace must be then analyzed if it holds the following properties:

1. The channel is always closed after it is opened.
2. Channel is always opened before it is closed.
3. Reading from and writing to the channel is only allowed after opening and before closing of the channel.
4. No two or more consecutive channel open or close are allowed

Resources provided:

1. A sample test case with two sets of inputs and their expected outputs.
2. Channel class.

Note:

1. You are not allowed to use standard libraries.
2. The test cases and the input sets may differ at the time of evaluation.
3. Assume there is only one channel which can also be restarted.

Hint: Match the generated traces with the Regex.