Chapter 4: Automation

Framework Changes

To better comply with the instructions provided for the project, we adapted our framework. A script was added to automate the testing suite, cycling through each test case to produce a final, comprehensive report of the tests. We implemented more test cases and identified multiple classes with methods to test, including User, Student, and StringUtil.

The Script

The script begins by deleting all files in the /temp directory. It then proceeds to compile all .java files in both the /project/src and /testCaseExecutables directories, ensuring that all relevant java files are executable. A template for a html table is formatted into a new file called Report.html. Next the script should read each .txt file in the /testCases directory line by line using a for loop. As an individual test case file is read, each line is placed into an element of a string array. The script should now gather the relevant information to run the driver, such as the driver's file name and the parameters to be passed. Once the driver has been executed, the script checks the /temp directory for a .txt with the same name as the test case. The file is read into the next empty element of the array and compared to the expected output defined by the test case. The result of this comparison is stored in the final element of the array. Finally, each array element is formatted into a html table row and added to Report.html located in the /temp directory. After the script has looped through each test case, it completes the Report.html and opens it in the default web browser.

Sample Test Cases

Test01

Search the list set to null for null element

StringUtil.contains

ContainsDriver.java

false

null:null

Test02

Test Empty least for element test.

StringUtil.contains

ContainsDriver.java

false

:test

Test03

Valid list containing one element which is being searched for.

StringUtil.contains

ContainsDriver.java

true

test:test

Test04

Valid list containing elements

StringUtil.contains

ContainsDriver.java

false

test1:test2

Test05

Valid list containing elements

StringUtil.contains

ContainsDriver.java

false

test7:test1,test2,test3,test4

Test06

Valid list containing elements

StringUtil.contains

ContainsDriver.java

true

Test3:test1,test2,test3,test4