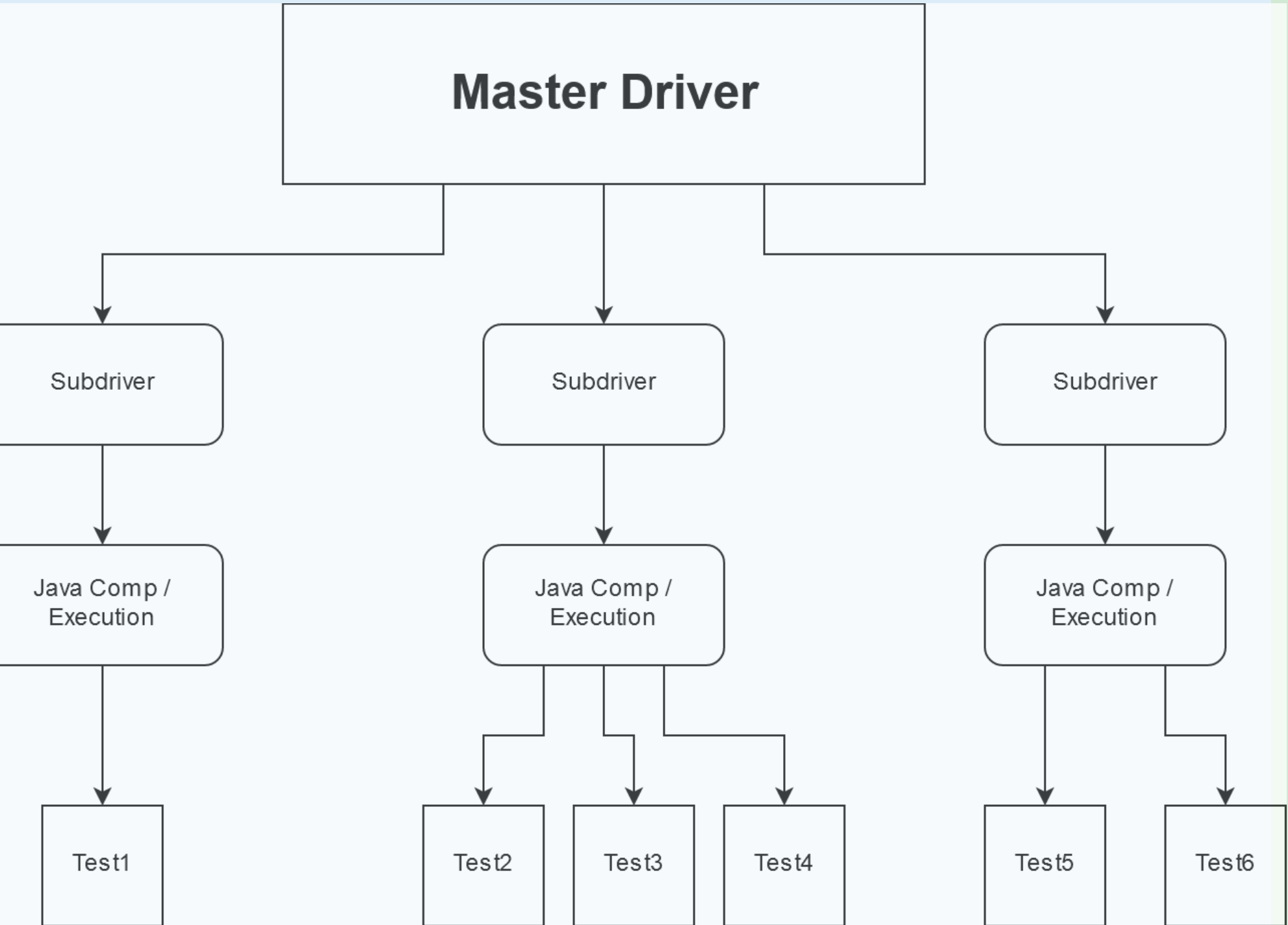


Objective:

Create an automatic testing frame work for the OpenMRS system. The testing framework will be invoked by calling the script from the TestAutomation. The framework is test for faults within the present code and to deem a method passing or failing

Initial Ideas:

In the beginning stages of the project we initially thought to make a script which would then access a set of java classes then apply Junit test cases and output the results into HTML. However we soon learned that this was not the intended scope and that we were to create our own signature framework.



During the early ages of the framework we came upon this design for the architecture however we later found better efficiency by removing the concept of a sub-driver and it also shortened the amount of needed code within the script. This approach improved efficiency by removing the need for each sub-driver to parse the test case folder.

OpenMRS Automated Testing Framework

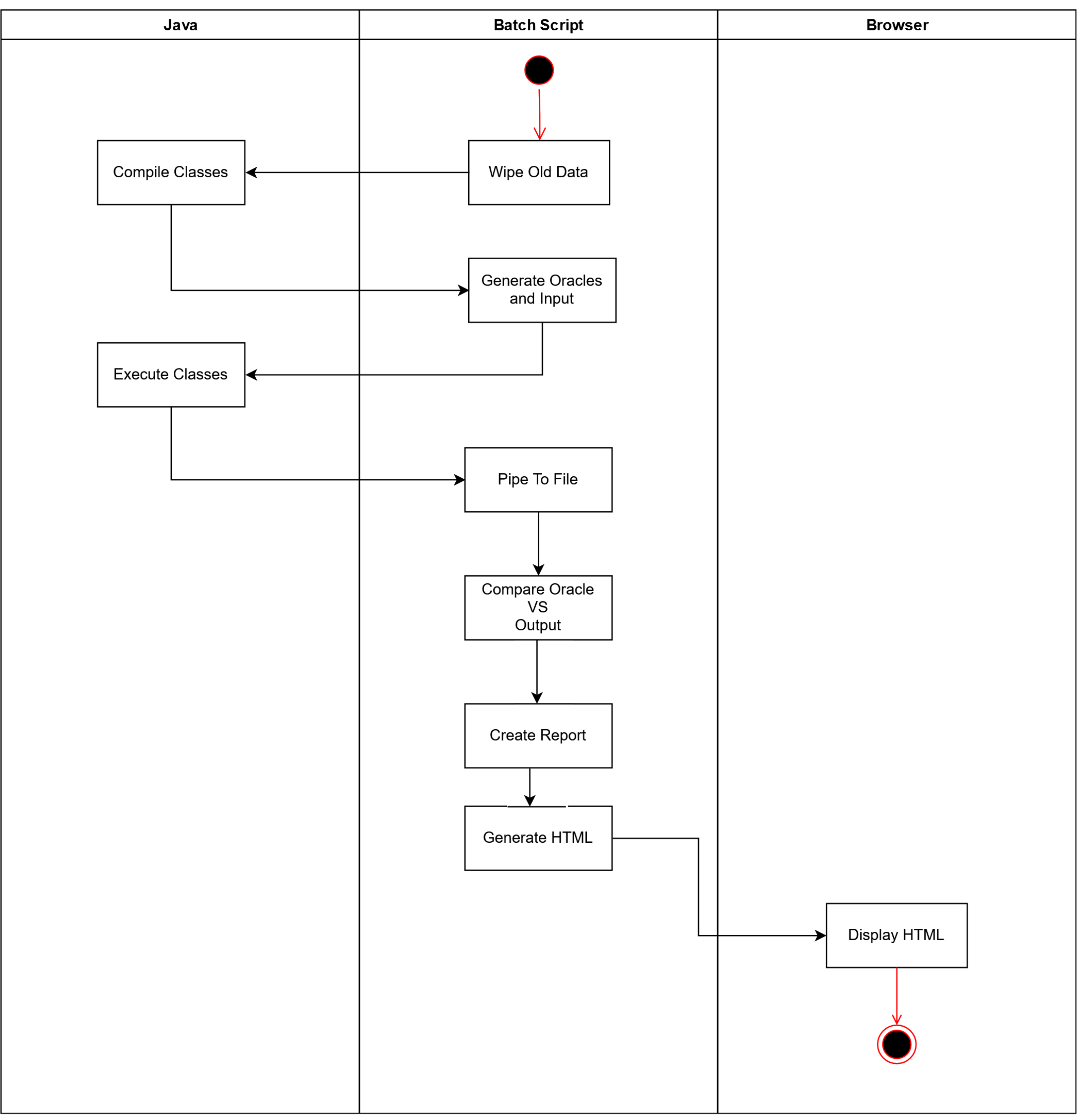
By Cameron Dey, Evan Tanner, Brandon Priester

Execution:

- Step 0: Make sure you are using Ubuntu 18. Install Java 8 if you have not already and set it as your primary Java version.
- Step 1: Clone the Team4 Github repository onto your machine.
- Step 2: Navigate into the Team4 repository and open the TestAutomation directory on the shell.
- Step 3: From the TestAutomation directory, type: ./scripts/runAllTests.sh
 - Step 3.5: Select the Jar
- Step 4: An HTML report should open automatically with the full documentation for each test which was run, including the results.

Result: The result tests the output of each individual method to its own oracle.

| Test Report | | | | | | | |
|---|------------------|---|---|---|---|---|--------|
| Today's Date: Wed Nov 20 2019 19:58:42 GMT-0500 (Eastern Standard Time) | | | | | | | |
| Test # | Class | Method | Requirement | Input | Output | Oracle | Result |
| 1 | OpenmrsUtil.java | convertToInteger(Long longValue) | Returns an Integer from a Long (tests assume you're on a 32-bit system) | 0 | 0 | 0 | Pass |
| 2 | OpenmrsUtil.java | convertToInteger(Long longValue) | Returns an Integer from a Long (tests assume you're on a 32-bit system) | 2147483647 | 2147483647 | 2147483647 | Pass |
| 3 | OpenmrsUtil.java | convertToInteger(Long longValue) | Returns an Integer from a Long (tests assume you're on a 32-bit system) | 2147483648 | 2147483648 cannot be cast to Integer without changing its value. | 2147483648 cannot be cast to Integer without changing its value. | Pass |
| 4 | OpenmrsUtil.java | convertToInteger(Long longValue) | Returns an Integer from a Long (tests assume you're on a 32-bit system) | -2147483648 | -2147483648 | -2147483648 | Pass |
| 5 | OpenmrsUtil.java | convertToInteger(Long longValue) | Returns an Integer from a Long (tests assume you're on a 32-bit system) | -2147483649 | -2147483649 cannot be cast to Integer without changing its value. | -2147483649 cannot be cast to Integer without changing its value. | Pass |
| 6 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | 1234516124546546460650564 | true | true | Pass |
| 7 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | a1012 | false | false | Pass |
| 8 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | | false | false | Pass |
| 9 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | - | false | false | Pass |
| 10 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | 12345? | false | false | Pass |
| 11 | OpenmrsUtil.java | containsOnlyDigits(String test) | Returns true if String contains only digits | 0 | true | true | Pass |
| 12 | OpenmrsUtil.java | containsDigit(String test) | Returns true if String contains any digits | Pizza | false | false | Pass |
| 13 | OpenmrsUtil.java | containsDigit(String test) | Returns true if String contains any digits | 1432 | true | true | Pass |
| 14 | OpenmrsUtil.java | containsDigit(String test) | Returns true if String contains any digits | test3 | true | true | Pass |
| 15 | OpenmrsUtil.java | containsDigit(String test) | Returns true if String contains any digits | .!@#\$!%&*%&!)-?7 | false | false | Pass |
| 16 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | | false | false | Pass |
| 17 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | dAnce gAvin dAnce | true | true | Pass |
| 18 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | PourMelikeAPotOfCoffeeKindOfSlowAndKindaPoppy | true | true | Pass |
| 19 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | !!!Pour Me Like A Pot of Coffee&&* | true | true | Pass |
| 20 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | TOTa | true | true | Pass |
| 21 | OpenmrsUtil.java | isStringInArray(String str, String[] arr) | Returns true if a String is included in a String array. | Pizza Taco | false | false | Pass |
| 22 | OpenmrsUtil.java | isStringInArray(String str, String[] arr) | Returns true if a String is included in a String array. | Pizza Taco Pizza | true | true | Pass |
| 23 | OpenmrsUtil.java | isStringInArray(String str, String[] arr) | Returns true if a String is included in a String array. | Pizza | false | false | Pass |
| 24 | OpenmrsUtil.java | isStringInArray(String str, String[] arr) | Returns true if a String is included in a String array. | - eggs taco pizza 123 42 - cheese | true | true | Pass |
| 25 | OpenmrsUtil.java | isStringInArray(String str, String[] arr) | Returns true if a String is included in a String array. | input eggs taco pizza 123 42 cheese | false | false | Pass |
| 26 | OpenmrsUtil.java | containsUpperAndLowerCase(String test) | Returns true if contains upper and lower case letters | aABbCc | true | true | Pass |



Updates:

Our updated framework removed the idea of a sub-driver besides the drivers for java files. The current architecture is displayed above. We also added the ability to run a jar that was injected with faulty code so that tests would result in failures.

OpenMRS:

For CSCI 362, we had to pick an open source project and build a testing framework for components of its API. Our team decided to choose OpenMRS as our open source project. OpenMRS is, “a patient-based medical record system focusing on giving providers a free customizable electronic medical record system” [1].The mission of OpenMRS, “is to improve health care delivery in resource-constrained environments by coordinating a global community to create and support this software” [2].

Citations:

- [1] <https://openmrs.org/>
- [2]<https://github.com/openmrs/openmrs-core>