Team: 404-Error
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**Deliverable #4**

**Project:** OpenMRS

**Task:** Complete the design and implementation of your testing framework as specified in Deliverable #3. You are now ready to test your project in earnest. You will create 25 test cases that your framework will automatically use to test your H/FOSS project.

**Progress:** Our team wrote the rest of the twenty test cases:
Five test cases for the isStringInArray(String str, String[] arr) method in the OpenmrsUtil class
Five test cases for the containsDigit(String str) method in the OpenmrsUtil class
Five test cases for the containsOnlyDigits(String str) method in the OpenmrsUtil class
Last five test cases for the compareNaturalIgnoreCaseAscii(String s, String t) method in the NaturalStrings class.

Below are the rest of our test cases:

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

006
This is testing that the correct boolean value will be printed from the isStringInArray(String str, String[] arr)
method in OpenmrsUtil.java
isStringInArray(String str, String[] arr)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver
random, random, test, computer
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

007
This is testing that the correct boolean value will be printed from the isStringInArray(String str, String[] arr)
method in OpenmrsUtil.java
isStringInArray(String str, String[] arr)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver
test, random, test, computer
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

008
This is testing that the correct boolean value will be printed from the isStringInArray(String str, String[] arr)
method in OpenmrsUtil.java
isStringInArray(String str, String[] arr)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver
computer, random, test, computer
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

009
This is testing that the correct boolean value will be printed from the isStringInArray(String str, String[] arr)
method in OpenmrsUtil.java
isStringInArray(String str, String[] arr)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver
allergy, random, test, computer
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

010
This is testing that the correct boolean value will be printed from the isStringInArray(String str, String[] arr)
method in OpenmrsUtil.java
isStringInArray(String str, String[] arr)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver
medicine, random, test, computer
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

011
This is testing that the correct boolean value will be printed from the containsOnlyDigits(String str) method in
OpenmrsUtil.java
containsOnlyDigits(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver2
12345
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

012
This is testing that the correct boolean value will be printed from the containsOnlyDigits(String str) method in
OpenmrsUtil.java
containsOnlyDigits(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver2
67930
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

013
This is testing that the correct boolean value will be printed from the containsOnlyDigits(String str) method in
OpenmrsUtil.java
containsOnlyDigits(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver2
99999999
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

014
This is testing that the correct boolean value will be printed from the containsOnlyDigits(String str) method in
OpenmrsUtil.java
containsOnlyDigits(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver2
This is a string!
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

015
This is testing that the correct boolean value will be printed from the containsOnlyDigits(String str) method in
OpenmrsUtil.java
containsOnlyDigits(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver2
123412341234a
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

016
This is testing that the correct boolean value will be printed from the containsDigit(String str) method in
OpenmrsUtil.java
containsDigit(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver3
asdf3
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

017
This is testing that the correct boolean value will be printed from the
containsDigit(String str) method in OpenmrsUtil.java
containsDigit(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver3
ddddddd9
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

018
This is testing that the correct boolean value will be printed from the containsDigit(String str) method in
OpenmrsUtil.java
containsDigit(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver3
11234
true
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

019
This is testing that the correct boolean value will be printed from the containsDigit(String str) method in
OpenmrsUtil.java
containsDigit(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver3
string
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

020
This is testing that the correct boolean value will be printed from the containsDigit(String str) method in
OpenmrsUtil.java
containsDigit(String str)
OpenmrsUtil.java
org.openmrs.util.OpenmrsUtilDriver3
asdfasdlkajsdf
false
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

021
This is testing that the compareNatural method will return a 0 if the two strings are equal
compareNaturalIgnoreCaseAscii(String s, String t)
NaturalStrings.java
org.openmrs.util.NaturalStringDriver2
test, test
0
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

022
Testing that the compareNatural method will return a negative number if s lexicographically precedes t
compareNaturalIgnoreCaseAscii(String s, String t)
NaturalStrings.java
org.openmrs.util.NaturalStringDriver2
Test, whITe
-3
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

023
Testing that the compareNatural method will return a positive number if s lexicographically follows t
compareNaturalIgnoreCaseAscii(String s, String t)
NaturalStrings.java
org.openmrs.util.NaturalStringDriver2
test, strING
1
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

024
Testing that the compareNatural method will return a positive number if s lexicographically follows t
compareNaturalIgnoreCaseAscii(String s, String t)
NaturalStrings.java
org.openmrs.util.NaturalStringDriver2
TEST, Check
17
```

```
# Test cases are written in the following format:
# 1. Test Case ID
# 2. Requirement being tested
# 3. Component being tested
# 4. Class
# 5. Driver being used
# 6. Test Inputs(s)
# 7. Expected Result
#

025
Testing that the compareNatural method will return a positive number if s lexicographically follows t
compareNaturalIgnoreCaseAscii(String s, String t)
NaturalStrings.java
org.openmrs.util.NaturalStringDriver2
tESt, pneUMOnia
4
```

Below are the new drivers we added:

```java
package org.openmrs.util;

public class OpenmrsUtilDriver {

	public static void main(String[] args) {
		if(args.length == 4) {
			String str = args[0];
			String[] arr = new String[3];
			arr[0] = args[1];
			arr[1] = args[2];
			arr[2] = args[3];
			OpenmrsUtil.isStringInArray(str, arr);
		}else {
			System.out.println("Error: Incorrect number of arguments!");
		}
	}
}
```

```java
package org.openmrs.util;

//Driver for containsOnlyDigits(String str)
public class OpenmrsUtilDriver2 {
	public static void main(String[] args) {
		if(args.length == 1) {
			String str = args[0];
			System.out.println(OpenmrsUtil.containsOnlyDigits(str));
		}else {
			System.out.println("Error: Incorrect number of arguments!");
		}
	}
}
```

```java
package org.openmrs.util;

import java.text.Collator;
import java.util.Comparator;

public class NaturalStringDriver2{
	public static void main(String[] args){
		NaturalStrings testNS = new NaturalStrings();
		String[] temp = args[0].split(", ");
		String s = temp[0];
		String t = temp[1];
		System.out.println(Integer.valueOf(testNS.compareNaturalIgnoreCaseAscii(s, t)));
	}
}
```

**Team Experience:**

This deliverable was pretty straight forward in what was required. We needed to find 4 new methods to have 20 new test cases to test. Our group found methods to use fairly quickly and easily without problems. We ran into some issues when trying to get some of our drivers to work for a couple of the new methods, but after looking at them for a while we were able to alleviate our issues and make them work. Our HTML output is still very basic in its implementation and presentation, but that is something that we will improve upon for the next deliverable to make it more aesthetically pleasing. We still have our driver and classes compiling directly by reference in our script, but that is something that we are aware of how to fix and will do so soon. Overall

the team experience for this deliverable was good, and it went smoother than previous deliverables that we had issues on.