Deliverable #4

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Experiences

- Creating Test Cases
- Creating Drivers
- Analyzing open-source code
- Bash scripting
    - File io
    - Piping
- Learning basic CSS and HTML
    - Creating tables
    - Changing text and background colors

Example Test Case

```
Format of Test Cases
    Id:
    Requirement:
    Class:
    Method:
    Input:
    Output:


Test Case:
    1
    Converts a color object to a HSL value
    ColorConverter.java
    rgb2Hsl
    000000
    hsl(0, 0%, 0%)
```

Test Automation Code

```bash
for file in testCases/*.txt #loop though all test cases
  do
    i=0
while read line #fill an array with the data from the test cases
  do
    lines[$i]="$line";
    i=$((i+1));
    done < $file

  #move values from array into varibles
  declare id=${lines[0]}
  declare requirement=${lines[1]}
  declare class=${lines[2]}
  declare method=${lines[3]}
  declare input=${lines[4]}
  declare expectedOutput=${lines[5]}
  declare output
  declare passFail

  #Adds Driver to the given method to get driver name
  declare driver=$method"Driver"


  cd testCaseExecutables #move to the location of the drivers

  #Runs driver to get the output
  output=$(java $driver $input)


  #Check to see if test passed or failed
  #pass fail messages are formatted to be an element of a table in html
  if [ "$output" == "$expectedOutput" ]
    then
      passFail="<td style=\"color:#228B22\">pass</td>"
    else
      passFail="<td style=\"color:#FF0000\">fail</td>"
  fi
```

This is the bulk of the automated testing script. A simple
for loop is the driving factor behind looking in every test
case to get the information needed for testing. As you can
see the pass/fail check is formatted so that the results
display will have a corresponding red/green color to the
outcome.

Example Output

ID	Requirement	Class	Method	Input	ExpectedOutput	Output	Result
1	Converts a color object to a HSL value	ColorConverter.java	rgb2Hsl	000000	hsl(0, 0%, 0%)	hsl(0, 0%, 0%)	pass
2	Converts a color object to a HSL value	ColorConverter.java	rgb2Hsl	ffffff	hsl(0, 0%, 100%)	hsl(0, 0%, 100%)	pass
3	Converts a color object to a HSL value	ColorConverter.java	rgb2Hsl	1234fc	hsl(231, 97%, 52%)	hsl(231, 97%, 52%)	pass
4	Converts a color object to a HSL value	ColorConverter.java	rgb2Hsl	abc123	hsl(68, 69%, 44%)	hsl(68, 69%, 44%)	pass
5	Converts a color object to a HSL value	ColorConverter.java	rgb2Hsl	8f32a6	hsl(288, 53%, 42%)	hsl(288, 53%, 42%)	pass
6	Converts hexadecimal value to a RGB value	ColorConverter.java	hex2Rgb	000000	java.awt.Color[r=0,g=0,b=0]	java.awt.Color[r=0,g=0,b=0]	pass
7	Converts hexadecimal value to a RGB value	ColorConverter.java	hex2Rgb	ffffff	java.awt.Color[r=255,g=255,b=255]	java.awt.Color[r=255,g=255,b=255]	pass
8	Converts hexadecimal value to a RGB value	ColorConverter.java	hex2Rgb	2f4a2c	java.awt.Color[r=47,g=74,b=44]	java.awt.Color[r=47,g=74,b=44]	pass
9	Converts hexadecimal value to a RGB value	ColorConverter.java	hex2Rgb	123abc	java.awt.Color[r=18,g=58,b=188]	java.awt.Color[r=18,g=58,b=188]	pass
10	Converts hexadecimal value to a RGB value	ColorConverter.java	hex2Rgb	a98cef	java.awt.Color[r=169,g=140,b=239]	java.awt.Color[r=169,g=140,b=239]	pass
11	Calculates Euclidian distance between two colors	DistanceCalculator.java	calculate	000000 ffffff	441.67	367.77	fail
12	Calculates Euclidian distance between two colors	DistanceCalculator.java	calculate	123abc abc123	255.04	135.0	fail
13	Calculates Euclidian distance between two colors	DistanceCalculator.java	calculate	a1b2c3 1a2b3c	233.83	194.7	fail
14	Calculates Euclidian distance between two colors	DistanceCalculator.java	calculate	1e8c66 a34c6b	147.68	127.87	fail
15	Calculates Euclidian distance between two colors	DistanceCalculator.java	calculate	10af7d fd65c4	258.24	236.72	fail
16	Calculates distance between two colors	ContrastChecker.java	distanceColor	000000 ffffff	441.6729559300637	441.6729559300637	pass
17	Calculates distance between two colors	ContrastChecker.java	distanceColor	123abc abc123	255.03529167548558	255.03529167548558	pass
18	Calculates distance between two colors	ContrastChecker.java	distanceColor	a1b2c3 1a2b3c	233.82685902179844	233.82685902179844	pass
19	Calculates distance between two colors	ContrastChecker.java	distanceColor	1e8c66 a34c6b	147.68209099278084	147.68209099278084	pass
20	Calculates distance between two colors	ContrastChecker.java	distanceColor	10af7d 10af7d	0.0	0.0	pass
21	Finds the contrast ratio of two colors	ContrastChecker.java	getContrastRatio	000000 ffffff	21.0	21.0	pass
22	Finds the contrast ratio of two colors	ContrastChecker.java	getContrastRatio	123abc abc123	4.405327061494763	4.405327061494763	pass
23	Finds the contrast ratio of two colors	ContrastChecker.java	getContrastRatio	a1b2c3 1a2b3c	6.648415996056606	6.648415996056606	pass
24	Finds the contrast ratio of two colors	ContrastChecker.java	getContrastRatio	1e8c66 a34c6b	1.3141695081977176	1.3141695081977176	pass
25	Finds the contrast ratio of two colors	ContrastChecker.java	getContrastRatio	10af7d fd65c4	1.0516702848607316	1.0516702848607316	pass