

**Fall 2019**

## CSE-5321-002 - Software Testing

### Homework Assignment 3

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Please find the worksheet I used for calculations (HW\_3\_answers.xlsx), attached to the zip file I submitted.

### Question 1

**Decision table:**

	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
<b>Conditions</b>						
250.1 <= batteryPower (watts) <= 1,000.0	Y					
125.0 <= batteryPower (watts) <= 250.0		Y				
75.1 <= batteryPower (watts) <= 124.9		Y	Y			
50.0 <= batteryPower (watts) <= 75.0			Y	Y		
0.1 <= batteryPower (watts) <= 49.9					Y	
batteryPower (watts) == 0.0						Y
<b>Actions</b>						
green	ON	OFF	OFF	OFF	OFF	OFF
yellow	OFF	ON	ON	OFF	OFF	OFF
red	OFF	OFF	ON	ON	OFF	OFF
bell	OFF	OFF	OFF	OFF	ON	OFF
siren	OFF	OFF	OFF	OFF	OFF	ON
<b>Table implements "first-of" rule</b>						

Test case table:

Test Case Number	Inputs	Expected Outputs					Basis Path	Comments
	batteryPower(watts)	red	yellow	green	bell	siren		
1	0.0	FALSE	FALSE	FALSE	FALSE	TRUE	15-16-32	
2	49.9	FALSE	FALSE	FALSE	TRUE	FALSE	15-18-19-32	
3	75.0	TRUE	FALSE	FALSE	FALSE	FALSE	15-18-21-22-32	
4	124.9	TRUE	TRUE	FALSE	FALSE	FALSE	15-18-21-24-25-32	
5	250.0	FALSE	TRUE	FALSE	FALSE	FALSE	15-18-21-24-27-28-32	
6	250.1	FALSE	FALSE	TRUE	FALSE	FALSE	15-18-21-24-27-30-32	
7	0.1	FALSE	FALSE	FALSE	TRUE	FALSE	-	
8	50.0	TRUE	FALSE	FALSE	FALSE	FALSE	-	
9	75.1	TRUE	TRUE	FALSE	FALSE	FALSE	-	
10	125.0	FALSE	TRUE	FALSE	FALSE	FALSE	-	
11	1000.0	FALSE	FALSE	TRUE	FALSE	FALSE	-	Extreme range test

Code coverage achieved is: full boundary coverage, full statement coverage, full decision coverage and extreme range coverage.

The test cases support the description (logical expression).