

## Course Software Testing: Assignment 6 SAMPLE SOLUTION

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1. For which of the conditions do you have to create additional test cases to obtain 100% Basic Condition coverage?

Additional test cases needed for:

Condition 4

Condition 5

Condition 6

Justification:

Conditions 4, 5 and 6 have or statements between each condition, so if first condition is true, the program does not check out the other ones. Let's take for example Condition 5,  $i f ((a == 0) || (b == 0) || (c == 0) || ((c \square a) == b)) \{$  if the first statement  $(a == 0)$  is true, the other statements won't be tested

2. Logical and concrete test case to reach 100% basic condition coverage for:

Condition 4

Logical test cases ("-" = "Don't care" symbol, T=true, F=false)

It is not necessary to specify expected outputs.

As logical conditions, use the atomic conditions of the tested expressions

(use not logical conditions for the input parameters).

	$a < 0$	$b < 0$	$c < 0$	$(c-1) > b$					
TC1	TRUE	-	-	-					
TC2	FALSE	TRUE	-	-					
TC3	FALSE	FALSE	TRUE	-					
TC4	FALSE	FALSE	FALSE	TRUE					
TC5	FALSE	FALSE	FALSE	FALSE					

It might be that for some your test cases contradict the fact that a, b, c go sorted, i. these test cases are not feasible and need to be removed.

Write down below the remaining logical test that are feasible:

	$a < 0$	$b < 0$	$c < 0$	$(c-1) > b$	Replace conditions as needed)				
TC4	FALSE	FALSE	FALSE	TRUE					
TC5	FALSE	FALSE	FALSE	FALSE					

Now, turn your logical test case into concrete test cases:

(this time, use concrete values for the input parameters)

	a	b	c
TC4	1	2	4
TC5	1	2	3

3.	Logical test cases to be added to condition from 2. to achieve minimal multiple condition coverage	
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Your own scratch area (replace, not graded):						
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TCs to cover atomic condtions:									
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[illegible][illegible]

TCs to cover composed parts:									
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(a >= 0 && b >= a) && (c > b    (c - 1) > b)							
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[illegible][illegible]

Need to add further logical test cases in comparison to 2.:	No					
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No

If yes, further logical TCs to be added:								
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[illegible]