

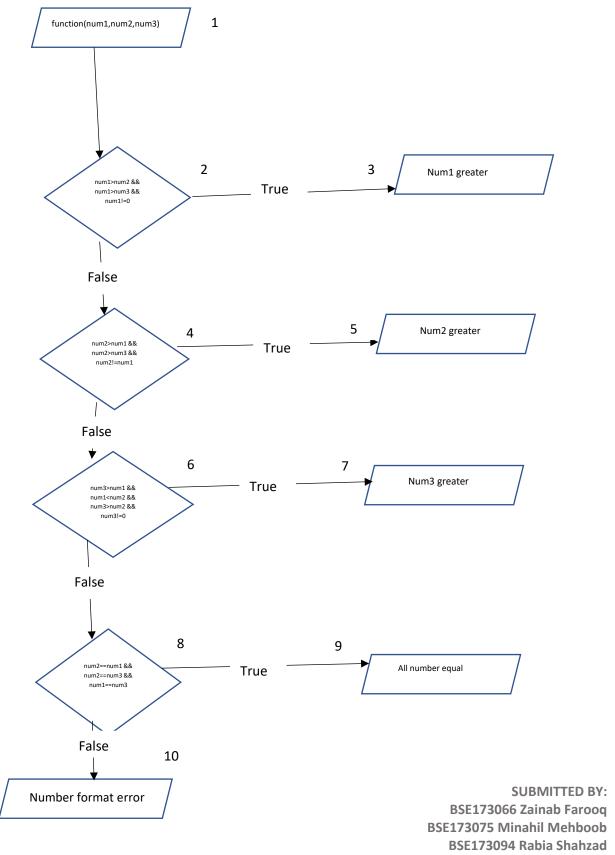
WhiteBox Testing

Software Testing

FLOW CHART MCDC PATH PREDICTION TEST ORACLE

SUBMITTED BY: BSE173066 Zainab Farooq BSE173075 Minahil Mehboob BSE173094 Rabia Shahzad

FLOW CHART:



MCDC:

1. DECISION STATEMENT

FOR: num1>num2 && num1>num3 && num1!=0

INPUT			EXPECTED OUTPUT	
num1	num1 num2 num3		num1>num2 && num1>num3 && num1!=0	
Т	Т	Т	Т	
Т	T	F	F	
Т	F	T	F	
Т	F	F	F	
F	T	T	F	
F	Т	F	F	
F	F	T	F	
F	F	F	F	

FOR: num1>num2 && num1>num3 && num1!=0

	INPUT		EXPECTED OUTPUT	
num1	num1 num2		num1>num2 && num1>num3 && num1!=0	
15	7	9	T	
34	6	71	F	
6	23	3	F	
753	511	3	F	
foo	22	2	F	
444	32	5	F	
90	444	4	F	
0	0	0	F	

2 DECISION STATEMENT

FOR: num2>num1 && num2>num3 && num2!=num1

INPUT			EXPECTED OUTPUT	
num1	num2 num3		num2>num1 && num2>num3 && num2!=num1	
T	T	Т	T	
T	T	F	F	
T	F	T	F	
T	F	F	F	
F	T	Т	F	
F	Т	F	F	
F	F	Т	F	
F	F	F	F	

FOR: num2>num1 && num2>num3 && num2!=num1

	INPUT		EXPECTED OUTPUT	
num1	num1 num2 num3		num2>num1 && num2>num3 && num2!=num1	
1	7	<mark>6</mark>	T	
4	6	7	F	
1	foo	0	F	
753	511	3	F	
541	974	222	F	
444	32	5	F	
90	444	4	F	
0	0	0	F	

3 DECISION STATEMENT

FOR: num3>num1 && num3>num2 && num3!=0

INPUT			EXPECTED OUTPUT	
num1	num2 num3		num3>num1 && num3>num2 && num3!=0	
Т	T	Т	Т	
Т	T	F	F	
Т	F	T	F	
Т	F	F	F	
F	T	T	F	
F	T	F	F	
F	F	Т	F	
F	F	F	F	

FOR: num3>num1 && num3>num2 && num3!=0

	INPUT		EXPECTED OUTPUT	
num1	num1 num2 num3		num3>num1 && num3>num2 && num3!=0	
1	5	6	T	
8	7	Foo	F	
10	9	8	F	
753	511	3	F	
10	5	goo	F	
444	32	5	F	
90	444	4	F	
0	0	0	F	

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4 DECISION STATEMENT

FOR: num2==num1 && num2==num3 && num1==num3

	INPUT		EXPECTED OUTPUT	
num1	num1 num2 num3		num2==num1 && num2==num3 && num1==num3	
Т	T	Т	T	
T	T	F	F	
T	F	T	F	
T	F	F	F	
F	T	T	F	
F	T	F	F	
F	F	T	F	
F	F	F	F	

FOR: num3>num1 && num3>num2 && num3!=0

	INPUT		EXPECTED OUTPUT	
num1	num1 num2 num3		num2==num1 && num2==num3 && num1==num3	
1	1	1	T	
8	7	Foo	F	
10	9	8	F	
753	511	3	F	
10	5	goo	F	
444	32	5	F	
90	444	4	F	
0	0	0	F	

PATH PREDICTION

• FOR: num1>num2 && num1>num3 && num1!=0

Path: 1 -> 2 -> 3

• FOR: num2>num1 && num2>num3 && num2!=num1

Path: 1 -> 2 -> 4 -> 5

• FOR: num3>num1 && num3>num2 && num3!=0

Path: 1 -> 2 -> 4 -> 6 -> 7

• FOR: num2==num1 && num2==num3 && num1==num3

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 9

• FOR: IF NO CONDITION IS TRUE

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 10

TEST ORACLE

INPUT			PATH	EXPECTE	ACTUAL
Num1	Num2	Num3		D OUTPUT	OUTPUT
6	3	1	1 -> 2 -> 3	6 is greater	6 is greater
1	6	3	1 -> 2 -> 4 -> 5	6 is greater	6 is greater
3	1	6	1->2->4->6->7	6 is greater	6 is greater
1	1	1	1 -> 2 -> 4 -> 6 -> 8 -> 9	All are same	All are same
foo	4	6	1 -> 2 -> 4 -> 6 -> 8 -> 10	Number format error	Number format error