Software Testing

Tutorial 1

Decision Table

Decision table approach for solving triangle problem

Design and develop a C program to solve the triangle problem defined as follows:
Accept three integers which are supposed to be the three sides of triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Derive test cases for your program based on decision-table approach, execute the test cases and discuss the results

Input data decision Table

RULES		**R1**	**R2**	**R3**	**R4**	**R5**	**R6**	**R7**	**R8**	**R9**	**R10**	**R11**
Conditions	C1: a < b + c											
	C2 : b < a + c											
	C3 : c < a + b											
	C4 : a = b											
	C5 : a = c											
	C6 : b = c											
Actions	a1 : Not a triangle											
	a2 : Scalene triangle											
	a3 : Isosceles triangle											
	a4 : Equilateral triangle											
	a5 : Impossible											

Triangle Problem -Decision Table Test cases for input data

id	Description	Input Data			Expected Output	Actual Output	Status	Comments
		a	b	c				
1	Enter the value of a, b and c Such that a is not less than sum of two sides	20	5	5	Message should be displayed can't form a triangle			
2	Enter the value of a, b and c Such that b is not less than sum of two sides and a is less than sum of other two sides	3	15	11	Message should be displayed can't form a triangle			
3	Enter the value of a, b and c Such that c is not less than sum of two sides and a and b is less than sum of other two sides	4	5	20	Message should be displayed can't form a triangle			
4	Enter the value a, b and c satisfying precondition and a=b, b=c and c=a	5	5	5	Should display the message Equilateral triangle			
5	Enter the value a ,b and c satisfying precondition and a=b and b $\neq$ c	10	10	9	Should display the message Isosceles triangle			
6	Enter the value a, b and c satisfying precondition and a $\neq$b , b $\neq$ c and c $\neq$ a	5	6	7	Should display the message Scalene triangle			