**UNIT TESTING ( WHITE BOX TESTING )**

DFA - ( Data Flow Diagram )

CFT – ( Control Flow Testing )

Branch Coverage Testing

Statement Coverage Testing

Decision Coverage Testing

**DFT ( Data flow testing )**

Data flow testing it is one of the white box testing techniques

In which statement the variable are defined.

In which statement the variable are used

.it designs the test cases that cover control flow path around variables definitions and their uses in modules.

Example:

Read a, b, c,

If( a>b)

X=a+1

Print x;

Else;

X=b-1

Print z;

A=30

B=20

C=10

30>20

A 1 2,3

B 1 2,5

C 1

X 3,5 4

Z 6

**CFT ( Control Flow Testing )**

Control flow testing is a testing technique that comes under white box testing. The aim of this technique is to determine the execution order of statements or instructions of the program through a control structure.

( Control Flow Graph )

Node

Edge

Decision node

Junction node

Junction node

Example:

a=b

if( a>b)

a=a-b; t f

else b=b-a;

returns a:

**Branch Coverage Testing:**

 aims to ensure that each one of the possible branch from each decision point is executed at least once and thereby ensuring that all reachable code is executed.

Read a

Read b

If a+b> 10 then

Print”a+b” is grater

End if

If a>5 then

Print”a is grater”

end if

**1**

Read a,b,c

**A**

A+b>10

**2**

**B c**

Print a+b is greater

**E d**

a>5

**g**

A>5 is greter

**5**

**f**

**h**

1. 1a-2c -3d -e -4g -5h

**Statement Coverage Testing:**

Used to design white test cases and calculate the total number of executed statement of the code

Example:

Main()

{

Int n1,n2,n3;

If ( n1>=n2&& n1>=n3 )

Printf(“%d n1 is the largest number.”,n1);

Else if ( n2>=n1&& n2 >=n3 )

Printf(“%d n2 is the largest number.”,n2);

Else

Printf(“%dn3 is the largest number.”,n3);

}

Line=10

If n1=30

N2=20

N3=10

If is N1 >n2=true

Then n2>n1=true

Sc=no of executed statement

Total no statement

5/10\*100

50%