**Flow of Control statements - Example**

1. if a < b then

x = y + z

if a < b goto E.true

goto E.false

E.true: t1= y + z

x= t1

E.false:

1. if (a < b && x == y)

z = c\*d / -f

a = f – d

if a < b goto L1

goto E.false

L1: if x == y goto E.true

Goto E.false

E.true: t1= -f

t2= c \* d

t3= t2 / t1

z = t3

t4 = f -d

a = t4

E.false:

1. while i < 10 do

begin

x=0

i=i+1

end

S.begin : if i < 10 goto E.True

Goto E.false

E.true : x = 0

t1 = i + 1

i = t1

goto S.begin

E.false:

1. if a > b

x = a + b

else

x= a – b

if a > b goto E.true

goto E.false

E.true: t1=a+b

x=t1

goto L.next

E.false: t2=a – b

x= t2

L.next:

Boolean expression – Flow of control

1. a < b and b > c and d < c

if a < b goto L1

goto E.false

L1: if b > c goto L2

goto E.false

L2: if d< c goto E.true

goto E.false

E.true:

E. false:

1. a < b or b > c or d < c

if a < b goto E.true

goto L1

L1: if b > c goto E.true

goto L2

L2: if d< c goto E.true

goto E.false

E.true:

E. false:

**Case statements:**

switch(i+j)

{

case 1: x=y+z;

break;

case 2: u = v + w;

break;

default: p = q +r;

}

t1 = i + j

goto test

L1: t2 = y +z

x = t2

goto next

L2: t3=v +w

u = t3

goto next

L3: t4 = q +r

p = t4

goto next

test: if t1 = 1 goto L1

if t1 = 2 goto L2

goto L3

next:

**Examples**

1. if (a < b) then

c = a \*b +d

else

c=a\*b/d

if a<b goto E.true  
goto E.false

E.true: t1=a\*b  
t2=t1+d  
c=t2  
E.false: t3=a\*b  
t4=t3/d  
c=t4

1. while(i<n) do

{

i =i +5;

c = i \* c;

}

2)S.begin:if i<n goto E.true  
goto E.false  
E.true: t1=i+5  
i=t1  
t2=i\*c  
c=t2  
goto s.begin  
E.false:

1. Switch(i\*j+k)

{

case 1: z=a+b\*c;

Break;

case 2: z=a-b /c;

Break;

default: z= a/b;

}

t1=i\*j

t2=t1 +k

goto test

L1: t3=b\*c

t4= a + t3

z= t4

goto next

L2: t5=b/c

t6=a-t5

z=t6

goto next

L3: t7=a

z=t7

goto next

test: if t2=1 goto L1

if t2=2 goto L2

goto L3

next: