Evaluate Logical Expressions with Conditions

Organised & Supported by **RuggedBOARD**

Agenda

- If , if..else.,
- Nested if..else
- Ternary Operator:
- switch

Control Statements

Def: To control the flow of sequence of execution of a program using certain statements are called "Control Statements".

A block of code will be executed based on given criteria (condition).

Ex:

1.Ternary operator statement (conditional Operator Statement)
2.if statements
3.switch statement (multiple block statement)

Conditional operator statement

The statement formed with conditional operators (ternary operators) is called "conditional operator statement".

syn: expr1 ? expr2 : expr3 ;

Here, expre1 is a condition, expr2 is a true statement and expr3 is a false statement.

Example:
(age >= 18) ? printf("Can Vote") : printf("Cannot Vote");

```
#include <stdio.h>
int main()
{
    int age;
  // take input from users
   printf("Enter your age: ");
   scanf("%d", &age);
  // ternary operator to find if a person can vote or not
  (age >= 18) ? printf("You can vote") : printf("You cannot vote");
  return 0;
}
```

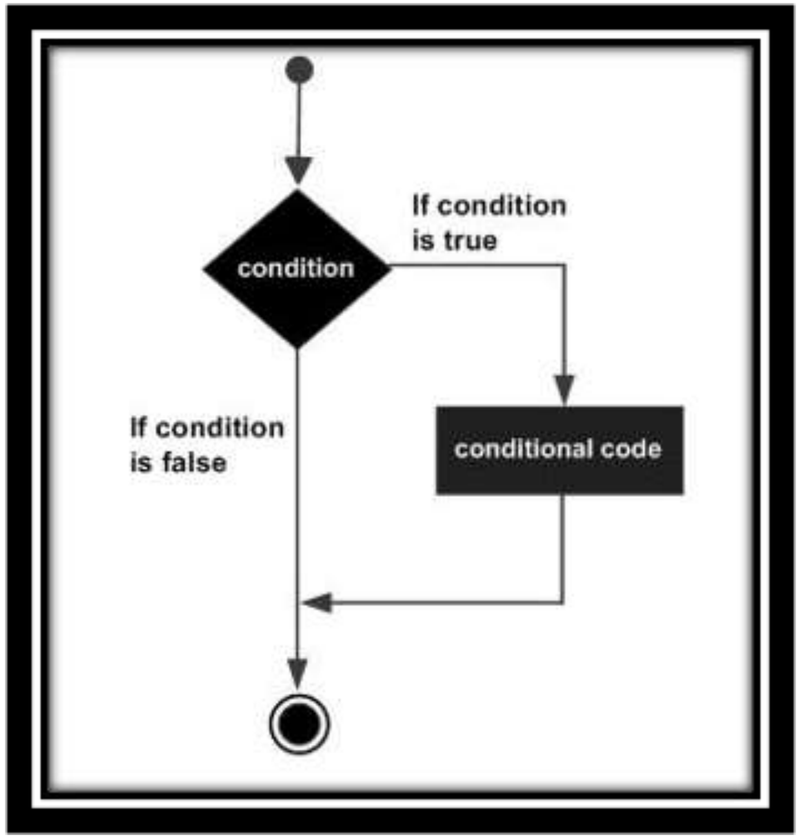
```
Enter your age: 12
You cannot vote
```

if statement

Simple if:

```
if (cond.)
{
//true statements
}
```

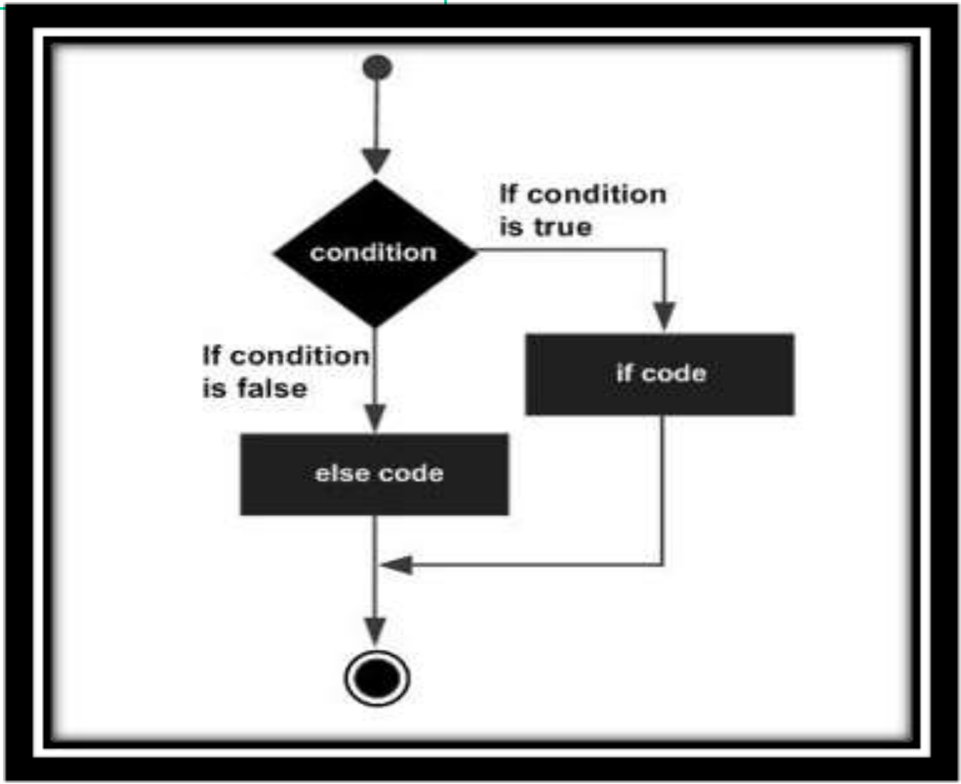
```
#include <stdio.h>
int main ()
{
        /* local variable definition */
        int a = 10;
        /* check the boolean condition using if statement */
        if( a < 20 )
        {
                /* if condition is true then print the following */
                printf("a is less than 20\n" );
        }
        printf("value of a is : %d\n", a);
        return 0;
}
```



if else statement

if- else statement:

```
if (cond.)
{
// true statements
}
else
{
//false statements
}
```

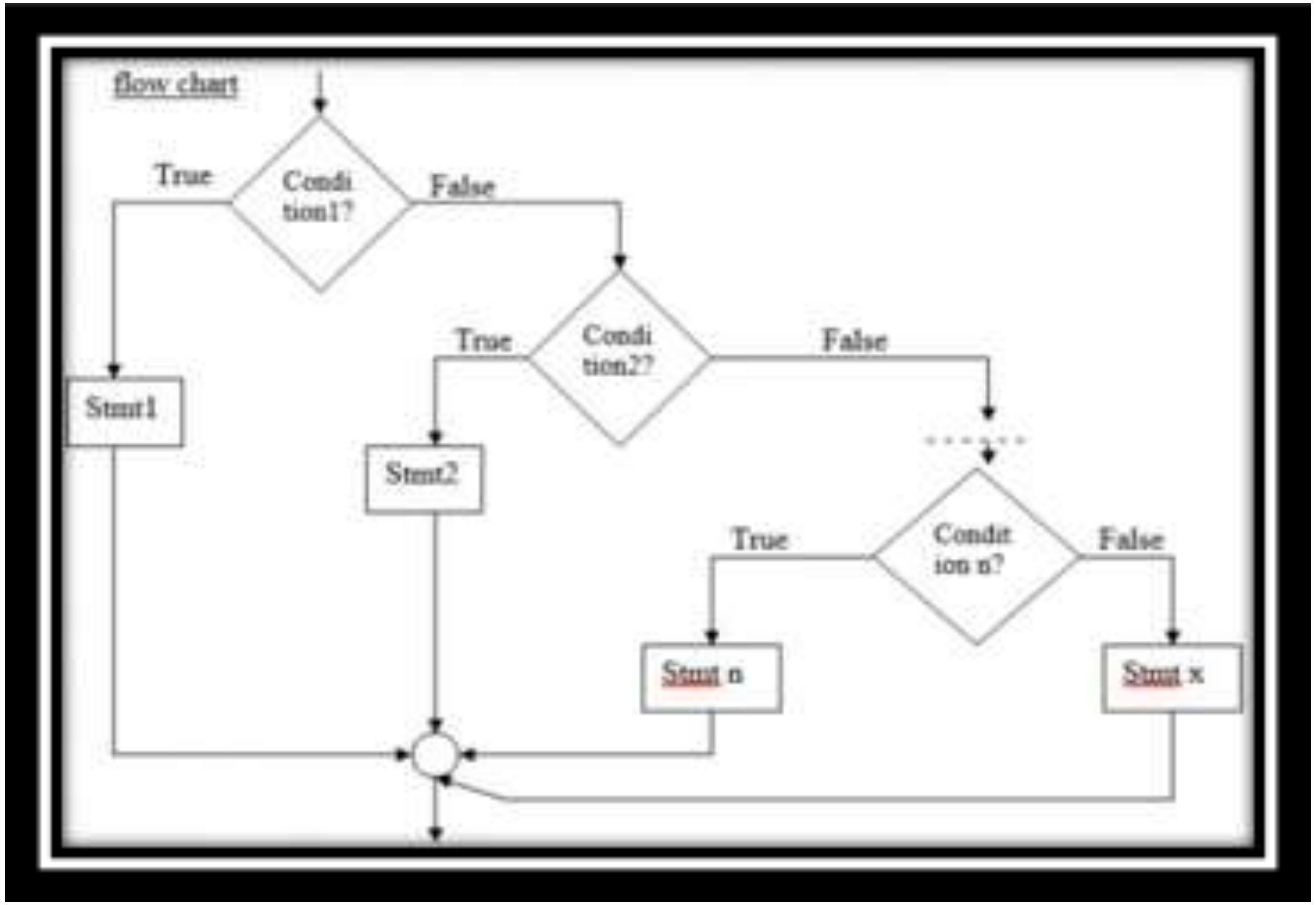


```
#include <stdio.h>
int main ()
{
        /* local variable definition */
       int a = 100;
       /* check the boolean condition */
      if( a < 20 )
      {
              /* if condition is true then print the following */
                printf("a is less than 20\n" );
      }
     else
      {
             /* if condition is false then print the following */
              printf("a is not less than 20\n" );
      }
      printf("value of a is : %d\n", a);
      return 0;
}
```

else if ladder statement

Ladder if:

```
if (cond1)
{
// 1 true statements
}
else if (cond2)
{
// 2 true statements
}else if (cond3)
{
// 3 true statements
}else
{
// false statements
}
```



else if ladder statement

```
#include<stdio.h>
Int  main ()
{
        int a,b,c,d;
        printf("Enter the values of a,b,c,d: ");
        scanf("%d%d%d%d",&a,&b,&c,&d);
        if(a>b && a>c && a>d)
        {
                printf("%d is the largest",a);
         }else if(b>c && b>a && b>d)
         {
                printf("%d is the largest",b);
         }else if(c>d && c>a && c>b)
         {
                printf("%d is the largest",c);
          }else
          {
                printf("%d is the largest",d);
           }
}
```

Nested if statement

Nested if:

```
if (cond1)
{
// outer true statements
       if (cond2)
       {
        //inner true statements
        }
        else
        {
         // inner flase statements
         }
}
else
{
//outer false statements
}
```

```
#include <stdio.h>
int main ()
{
            /* local variable definition */
            int a = 100;
            int b = 200;
            /* check the boolean condition */
            if( a == 100 )
           {
                      /* if condition is true then check the following */
                      if( b == 200 )
                      {
                         /* if condition is true then print the following */
                          printf("Value of a is 100 and b is 200\n" );
                       }
             }
             printf("Exact value of a is : %d\n", a );
             printf("Exact value of b is : %d\n", b );
             return 0;
}
```

Switch statement

-It is similar to if - statement.
-This is multiple blocks of statement.
-It is also a selection statement.
-Generally, it can used for Menu driven programs only.
Syn :

```
switch( var )
{ /*beginning of the switch  */
    case const1 :
     -----------;
     -----------;
     break;
     case const2 :
     -----------;
     -----------;
     break;
     default :
     -------------;
     break;
} /* end of switch*/
```

-It is an un-conditional control statement.
-It can be used as the last statement in every case in switch statement.
-But, in default case need not necessary.
-Because,default case is the last case in switch statement.
-So, control will be comes out from the switch automatically.
-Generally, it can be used in looping statements also.

Syn: break ;

Switch statement

```
#include <stdio.h>
int main()
{
    int x = 2;
    switch (x)
   {
         case 1:
               printf("Choice is 1");
               break;
        case 2:
               printf("Choice is 2");
               break;
        case 3:
               printf("Choice is 3");
               break;
        default:
               printf("Choice other than 1, 2 and 3");
               break;
    }
    return 0;
}
```

```
#include <stdio.h>
int main()
{
     char x = 'A';
     switch (x)
     {
         case 'A':
                 printf("Choice is A");
                 break;
         case 'B':
                 printf("Choice is B");
                 break;
          case 'C':
                 printf("Choice is C");
                 break;
          default:
                printf("Choice other than A, B and C");
                break;
     }
     return 0;
}
```

Questions ?