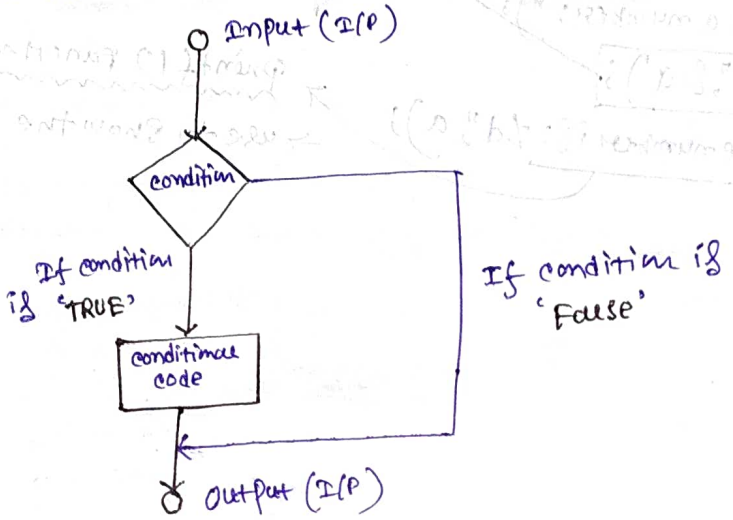
UNIT-2 ⇨ Conditional Control Statements

◆ Decision Making

Decision Making Structure require that the programmer specifies one or more conditions to be evaluated or tested by the programmer.

These statements to be executed if the condition is determined to be True, and optionally other statements to be executed if the condition is determined to be False.

General form of a typical decision making



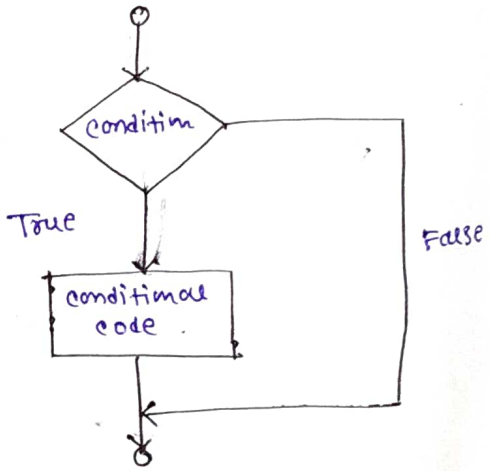
(1) If Statement

An if statement consists of a boolean expression followed by one or more statements.

syntax

```
if (expression/condition)
  {
  */ statements to be executed */
  ----------
  }
```

Flowchart Representation



Code Example

```
#include <stdio.h>
int main()
 {
   int a=10;
   if (a<20)
     { printf ("a is Less than 20");
     }
   return 0;
 }
```

OUTPUT

```
a is Less than 20
```

(2) If..... else Statement

An if statement can be followed by an optimal else statement, which executes when the boolean expression is 'false'

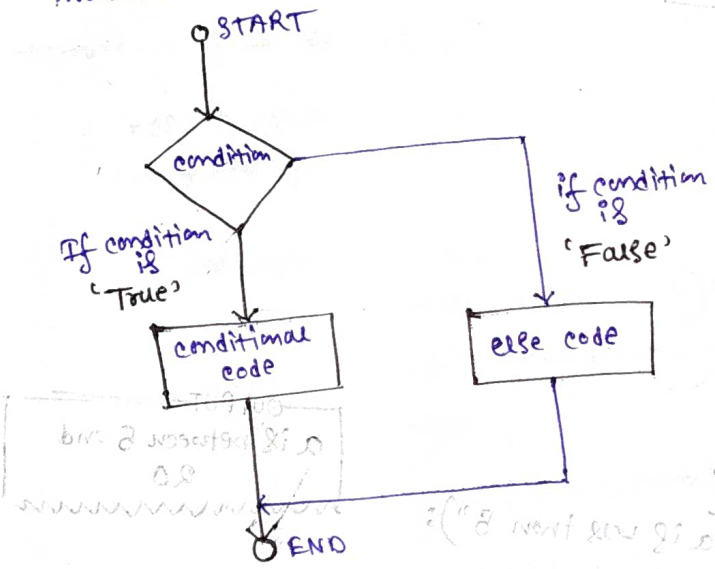
Syntax

```
if (boolean expression)
{
  /* Statement to be execute */
  .....
}
else
{
  /* statements */
  .....
}
```

{ if body executed if the boolean expression is True

else body execute if the boolean expression is False

Flowchart Representation



Code Example

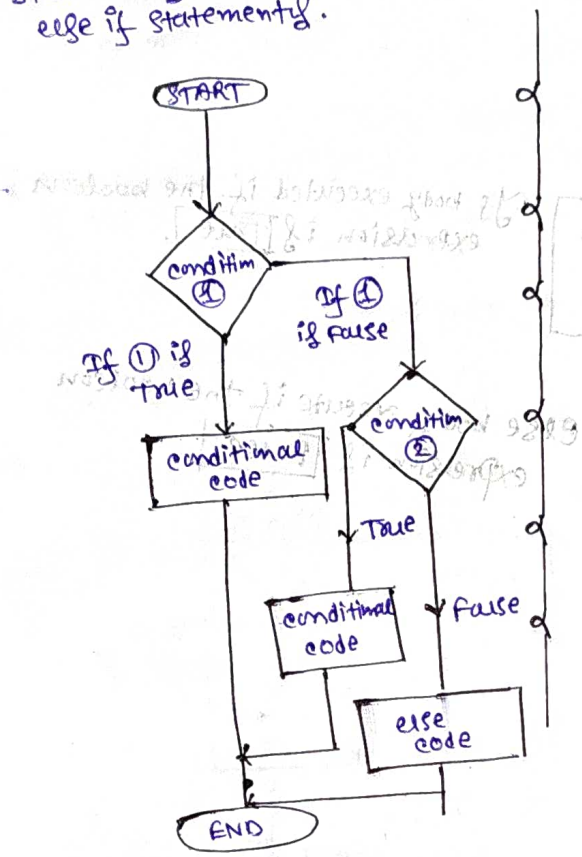
```
#include <stdio.h>
int main()
{
    int a = 10;
    int b = 5;
    if (a < b)
    { printf ("a is greater than b");
    }
    else
    { printf ("a is less than b");
    }
}
```

OUTPUT

a is greater than b

(3) If - Else Ladder

we can use one if or else if statements inside another if or else if statements.



Syntax

```
if ( ) {
/* Statements will be execute if boolean expression is True */
} else if ( ) {
/* statements will execute if this boolean expression is True and upper is False */
}
.
.
.
else {
/* statement will execute when all above conditions/expression are False */
}
```

Code Example

```
#include <stdio.h>
int main ()
{
    int a = 10;
    int b = 5;
    if (a < 5) {
        printf ("a is less than 5");
    } else if (a<20) {
        printf ("a is between 5 and 20");
    }
    else{
        printf ("a is greater 20");
    }
}
```

OUTPUT

a is between 5 and 20