CONTENT 8

### If Else Control Statement in C

Sometimes we want a set of instructions to be executed if certain condition is satisfied and an entirely different set of instructions to be executed if the condition does not fulfill. This kind of situation is dealt in C language using a **decision control instruction.**Here, we will discuss about if-else statements in C programming.

Like other programming languages, C also uses the **if keyword** to implement the decision control instruction. The condition for the if statement is always enclosed within a pair of parentheses. If the condition is true, then the set of statements will execute. If the condition is not true then the statement will not execute, instead the program skips that part.

**Assignment Operators:**

We express a condition for if statements using relational operators. The relational operators allow us to compare two values to see whether they are equal, unequal, greater than or less than.

|  |  |
| --- | --- |
| **Conditions** | **Meaning** |
| a == b | a is equal to b |
| a  != b | a is not equal to b |
| a < b | a is less than b |
| a> b | a is greater than b |
| a <= b | a is less than or equal to b |
| a >= b | a is greater than or equal to b |

#### The if-else Statement:

The statement written in if block will execute when the expression following if evaluates to true. But when the if is written with else block, then when the condition written in if block turns to be false, then the set of statements in the else block will execute.

Following is the syntax of if-else statements:

if ( condition ){

statements;}

else {

statements;}

#### Example:

Here is a program, which demonstrates the use of if-else statement.

#include <stdio.h>

int main( ) {

int num ;

printf ( "Enter a number less than 10 " );

scanf ( "%d", &num );

if ( num <= 10 ){

printf ( "Number is less than 10");}

else{

printf("Number is greater than 10");

}

return 0;

}

On execution of this program, if you type a number less than or equal to 10, program will show a message on the screen through printf( ).

#### Nested If-Else Statements:-

We can write an entire if-else statement within either the body of the if statement or the body of an else statement. This is called ‘nesting’ of ifs. The Example of nested if-else statements is given below

main( ) {

int a;

printf ( "Enter either 0 or 1 " ) ;

scanf ( "%d", &a ) ;

if ( a == 1 ){

printf ( "Number 1 is entered!" ) ; }

else {

if ( a == 0 ){

printf ( "Number 0 is entered" ) ;}

else {

printf ( "Wrong Input" ) ; }

}

return 0;

}

#### Summary

we learned about the if-else statements in C language. If-else statement is used when a program needs to take a certain decision. An if block does not always need to be associated with an else block. However, an else block will always be associated with an if statement.  If the expression in if statement is evaluated to true, statements inside the body of if are executed. And when the test expression is evaluated to false, statements inside the body of if are not executed. If the else is associated with if block, then the statements written in else block will execute.

#### Code as described:

#include <stdio.h>

int main()

{

int age;

printf("Enter your age\n");

scanf("%d", &age);

printf("You have entered %d as your age\n", age);

if (age>=18) {

printf("You can vote!");

}

else if(age>=10)

{

printf("You are between 10 to 18 and you can vote for kids");

}

else if(age>=3)

{

printf("You are between 3 to 10 and you can vote for babies");

}

else{

printf("You cannot vote!");

}

return 0;

}