C PROGRAMMING
Flow Controls

What are Flow Controls?

The control statements used in the C language help a user to specify a program control’s flow. In simpler words, the control statements help users specify the order of execution of the instructions present in a program. These make it possible for the program to make certain decisions, perform various tasks repeatedly, or even jump from any one section of the code to a different section.

List of flow Controls

- if statement
- if...else statement
- for loop
- while loop
- break and continue

Syntax of if statement

- if (test expression)

  {

  Code

  }

How if statement works

- The if statement evaluates the test expression inside the parenthesis **().**
- If the test expression is evaluated to true, statements inside the body of **if** are executed.
- If the test expression is evaluated to false, statements inside the body of **if** are not executed.

How if statement works

Expression is true.

```
int test = 5;

if (test < 10)
{
  // codes
}

// codes after if
```

Expression is false.

```
int test = 5;

if (test > 10)
{
  // codes
}

// codes after if
```

Example of if statement

Program to display a number if it is negative

```
int number;
printf("Enter an integer: ");
scanf("%d", &number);

if (number < 0)
{
        printf("You entered a negative number");
}
```

Syntax of if...else statement

```
if (test expression)
{
    Code
}
else
{
    Code
}
```

How if...else statement works?

- If the test expression is evaluated to **true**,

  statements inside the body of **if** are executed.

  statements inside the body of **else** are skipped from execution.

- If the test expression is evaluated to **false**,

  statements inside the body of **else** are executed.

  statements inside the body of **if** are skipped from execution.

How if...else statement works?

Expression is true.

```
int test = 5;

if (test < 10)
{
    // body of if
}
else
{
    // body of else
}
```

Expression is false.

```
int test = 5;

if (test > 10)
{
    // body of if
}
else
{
    // body of else
}
```

Example of if...else statement

Program to display a number if it is positive or negative

```
int number;
printf("Enter an integer: ");
scanf("%d", &number);

if (number < 0)
{
        printf("You entered a negative number");
}
else
{
        printf("You entered a positive number");
}
```