Looping Statements

A program loop is a series of statements that executes for a specified number of repetitions or until specified conditions are met.
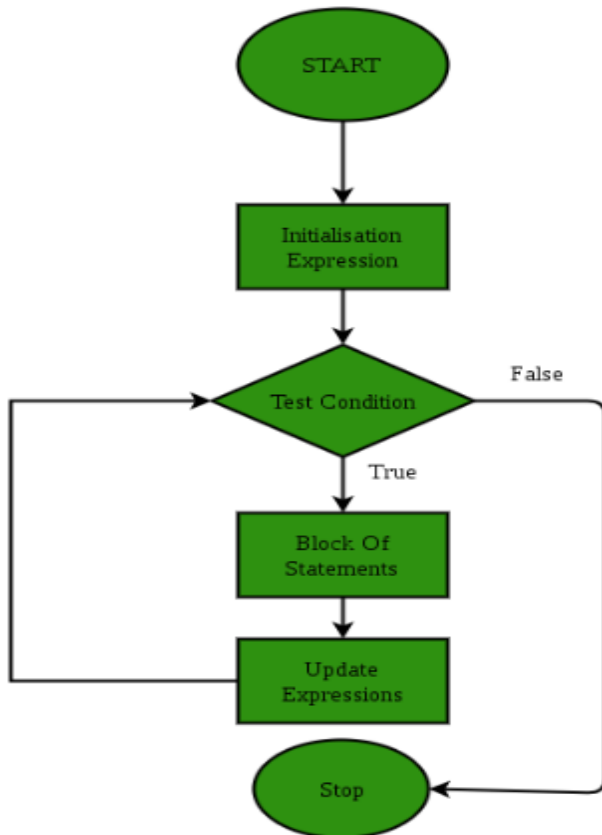
Types

- For
- While
- Do-while

for Loop

for loop in C programming is a repetition control structure that allows programmers to write a loop that will be executed a specific number of times. for loop enables programmers to perform n number of steps together in a single line.

Syntax:

for (initialize expression; test expression; update expression)

{

  //

  // body of for loop

  //

}

Program

```c
// C program to illustrate for loop
#include <stdio.h>

// Driver code
int main()
{
  int i = 0;

  for (i = 1; i <= 10; i++)
  {
    printf( "Hello World\n");
  }
  return 0;
}
```

Output

Hello World

Hello World

Hello World

Hello World

Hello World

Hello World

Hello World

Hello World

Hello World

Hello World

Program 2

```c
#include <stdio.h>
int main() {

  int i, n;

  // initialize first and second terms
  int t1 = 0, t2 = 1;

  // initialize the next term (3rd term)
  int nextTerm = t1 + t2;

  // get no. of terms from user
  printf("Enter the number of terms: ");
  scanf("%d", &n);

  // print the first two terms t1 and t2
  printf("Fibonacci Series: %d, %d, ", t1, t2);

  // print 3rd to nth terms
  for (i = 3; i <= n; ++i) {
    printf("%d, ", nextTerm);
    t1 = t2;
    t2 = nextTerm;
    nextTerm = t1 + t2;
  }

  return 0;
}
```

Output

```
Enter the number of terms: 10
Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34,
```