

Hello CPPBuddy !!



**WELCOME MEMBERS**

# C++ Complete Bootcamp

**YOUR GUIDE TO PROGRAMMING**

In association with

**Inspire Club, MANIT BHOPAL**



# Hello CPPBuddies

Day 08

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Welcome

To

**C++ COMPLETE BOOTCAMP**

Your Guide To A Solid Foundataion in C++

Let us begin

# Introduction to Logic

1. **if** statement
2. **if else** statement
3. **if else if ladder else** statement
4. **switch** statement

In previous classes, we have discussed

3. if else if ladder else statement

4. switch statement

Along with,

Lots of problems

# Agenda for Today

Repetitive Statements

# Loops

# What is a LOOP ?

A loop statement is a **series** of **steps** or **sequence of statements** executed repeatedly **zero or more times** **satisfying the given condition**

**Looping statement** are the statements that execute **one or more statement** repeatedly several number of times.

In C ++programming language there are **three** types of loops;  
**while, for** and **do-while**.



Why do we need them ?

**Loops** in programming come into use when we need to **repeatedly execute** a block of statements.

**For example: Suppose we want to print “Hello World” 10 times.**

This can be done in one of the ways as shown next:

*// C++ program to illustrate need of loops*

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    cout << "Hello World\n";
```

```
    cout << "Hello World\n";
```

```
    cout << "Hello World\n";
```

```
    cout << "Hello World\n";
```

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```

```
    cout << "Hello World\n";
```

```
    cout << "Hello World\n";
```

```
    cout << "Hello World\n";
```

```
    return 0;
```

```
}
```

*// C++ program to illustrate for loop*

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    for (int i = 1; i <= 10; i++)
```

```
    {
```

```
        cout << "Hello World\n";
```

```
    }
```

```
    return 0;
```

```
}
```

# COMPARISION

# for loops

**for** is a keyword; so do not use this name as identifier

A **for loop** is a repetition control structure which allows us to write a loop that is executed a **specific number of times**

## SYNTAX

```
for (initialization expr; test expr; update expr)  
{  
    // body of the loop  
    // statements we want to execute  
}
```

# How does this work ?

**In for loop, a loop variable is used to control the loop.**

**First initialize this loop variable to some value, then check whether this variable is less than or greater than counter value.**

**If statement is true, then loop body is executed and loop variable gets updated .**

Steps are repeated till exit condition comes.

- **Initialization Expression**: In this expression we have to initialize the loop counter to some value.

**For example: `int i=1;`**

- **Test Expression**: In this expression we have to test the condition. If the condition evaluates to true then we will execute the body of loop and go to update expression otherwise we will exit from the for loop.

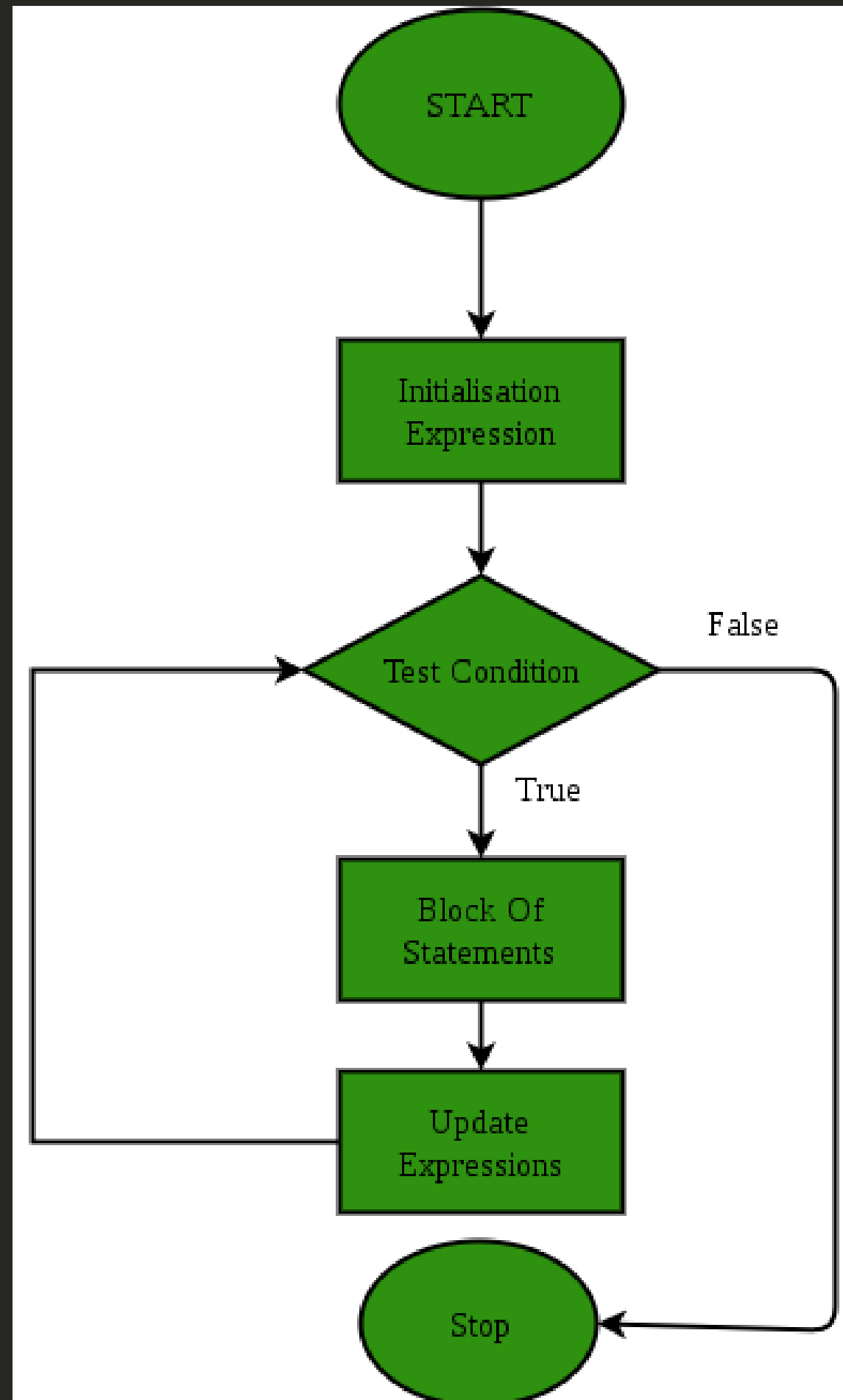
**For example: `i <= 10;`**

- **Update Expression**: After executing loop body this expression increments/decrements the loop variable by some value.

**For example: `i++;`**

In a for loop,  
we have to do

1. initialization
2. condition checking
3. updating variables





Example program for for-loop in C++

**Q1- Write a  
program to show  
the mechanism  
of a **for loop**.**



DEMO

## Program No. 1

Take integer **n** as input from user.

Then print all the numbers till n

## Program No. 2

Take integer **n** as input from user.

Then print all the even and odd  
numbers till n

## Program No. 3

Take integer **n** as input from user.  
Then print the table of number n.

## Program No. 4

Take integer **n** as input from user.  
Then find whether n is prime or not.



THANK YOU



keep calm,  
wear mask,  
and  
study hard



whoami

AKASH MAJI

Your Mentor