Code at Random (OPC) PVT. LTD.

Module 5: Iterative Constructs

What Are Iterative Constructs??

- *Need Of Iterative Constructs:-*

- Till now, we have learnt Sequential and Selective Constructs, where we learn about conditions, print statements, operators, mathematical functions and many more things.
- We know to execute our code according to the situation but what about when anyone asks you to print your name 5 times using Java. You will simply execute System.out.print("*Your Name*"); five times.
- But what about to print 10, 50 , 100 or more than that. Then, will you write 100 times the print query?? I am sure you don't want to write.
- That's why, Iterative Constructs are made to evaluate a particular code multiple times.

- *Definition Of Iterative Constructs:-*

- Iterative Constructs:- The set of statements which are executed repeatedly in a program are called iterative constructs. They are also known as loops.

Types Of Iterative Constructs

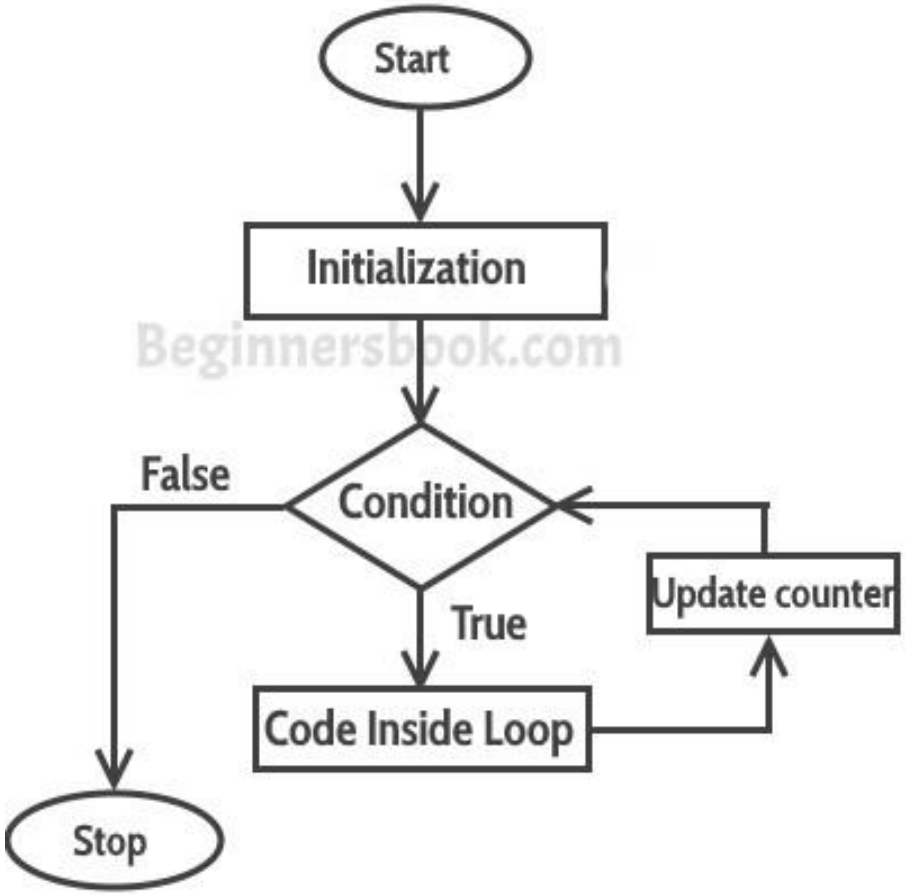
Different Types of Loops are :-

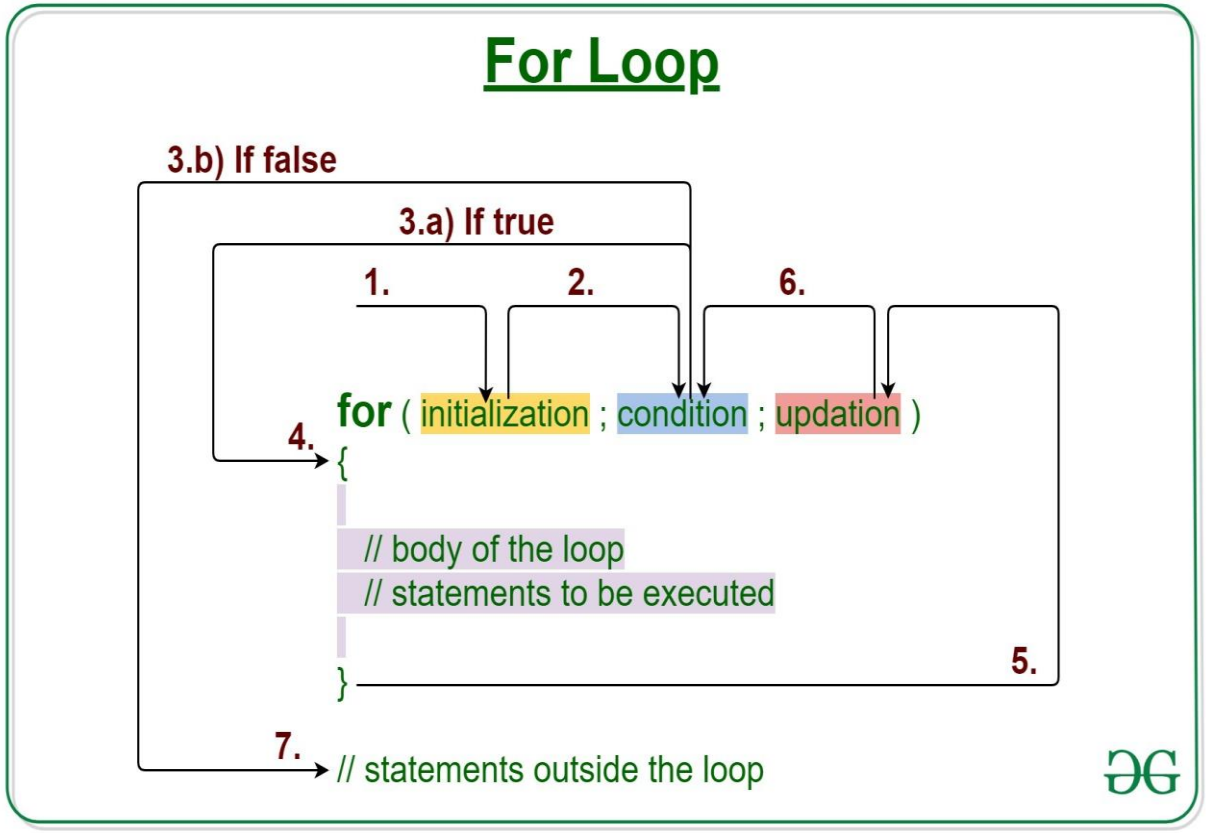
- For Loop
- While Loop
- Do-While Loop

➢ *Note* :- In every loop, these four elements are common:-

- Initialization [i=1] -> For where loop is starting
- Condition [i<=5] -> Upto where loop is ending
- Iteration/Update Expression/Increment-Decrement [i++] -> How to update the value of i
- Loop Body [Sop(“Hello”);] -> Which statements to execute multiple times.

Working Of For Loop



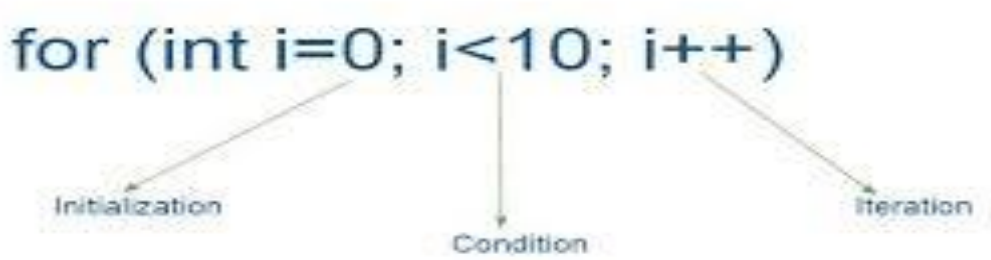


For Loop

- It is an iterative construct used to execute set of statements repeatedly.
- It is used when we know the number of iterations (or how many times loop will execute).
- Here, the three elements initialization, condition and iteration are placed together.
- Example :-

```
for(i=1;i<=5;i++)
{
    System.out.println(“Hello”);
}
```

Exploring For Loop



Declaring and Initializing loop control variable

Checking condition

Incrementing loop control variable

```
for (int i =0; i<10 ; i++) {

// Loop statements to be executed

}
```