

C Language

Chapter # 12

Loop Constructs

Lecture: 37

Today's Lecture

- ▶ What is Loop and its types?
- ▶ While Loop and its working with example.

What is Loop?

- ▶ A Statement or set of statements that is executed repeatedly is known as loop.
- ▶ The structure that repeats a statement(s) is known as iterative, repetitive or looping constructs.

Loops are basically used for two purposes.

- To execute a statement or set of statements for a specified number of times. For example, a user may display his name on screen for 10 times.
- To use a sequence of values, For example, a user may display a set of natural numbers from 1 to 10.

Types of Loops

1. while loop

2. do-while loop

3. for loop

while loop:

- ▶ while loop is the simplest loop of c language.
- ▶ This loop executes one or more statements while the given condition remains true. It is useful where the number of iterations is not known in advance.

Working of while loop:

- ▶ First of all the condition is evaluated.
- ▶ If it is true the controls enter in the body of loop and executes all statements.
- ▶ After executing all statements it again moves to the start of the loop and evaluates the condition again.
- ▶ This process continues as long as condition remains true.
- ▶ The loop terminate only when the condition becomes false.

while loop

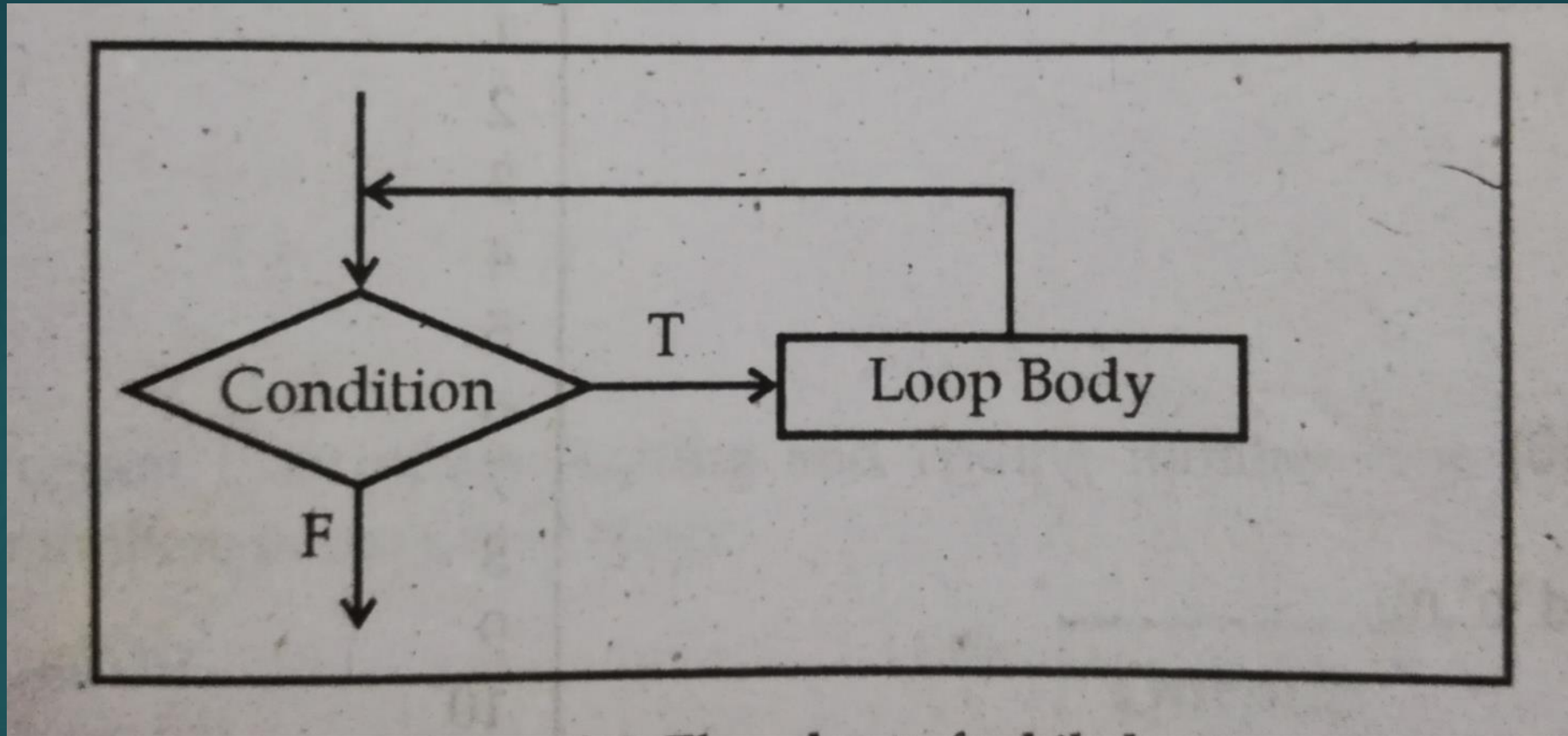
Syntax:

```
while(condition)  
Statement;
```

Syntax for compound condition:

```
while(condition)  
{  
Statement 1;  
Statement 2;  
Statement 3;  
}
```

Flowchart (while loop)



Example

Write a program that displays Pakistan five times using while loop.

```
#include <stdio.h>
#include <conio.h>
main()
{
    int n;
    n = 1;
    while(n <=5)
    {
        printf("Pakistan\n");
        n++;
    }
}
```



The End

Read this topic from your books and ask question if any confusion.

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