

# Chapter 5 :- Structured Programming

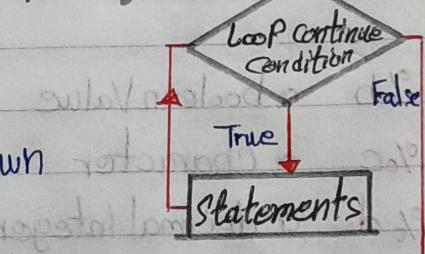
## while Loop :-

### Def :-

It's a repetition statement which used for Unlimited Range of execution and we can write it as following Syntax :-

while (Loop Continuation Condition) {  
    Statement(s); } → loop body

and it's Flowchart as shown



and any loop contains Somethings :-

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- [1] Counter
- [2] LCC → Loop - Continuity - condition
- [3] increment or Decrement

ex:-

```
int Count = 0;  
while (Count < 100) {  
    System.out.println("Welcome to Java!");  
    Count++; }
```

?

note:- Don't use floating Point numbers in a loop

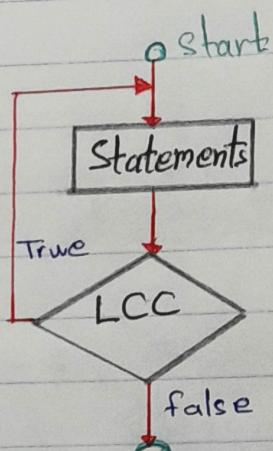
## Do-while loop :

### Def:

It's a repetition statement used in displaying lists or execute some of instructions for atleast 1 time and we can write it as following Syntax :

```
do {  
    statements;  
} while (Loop-continuity-Condition);
```

and it's flow chart as shown



syntax is not wrong, it is also good not offend anyone

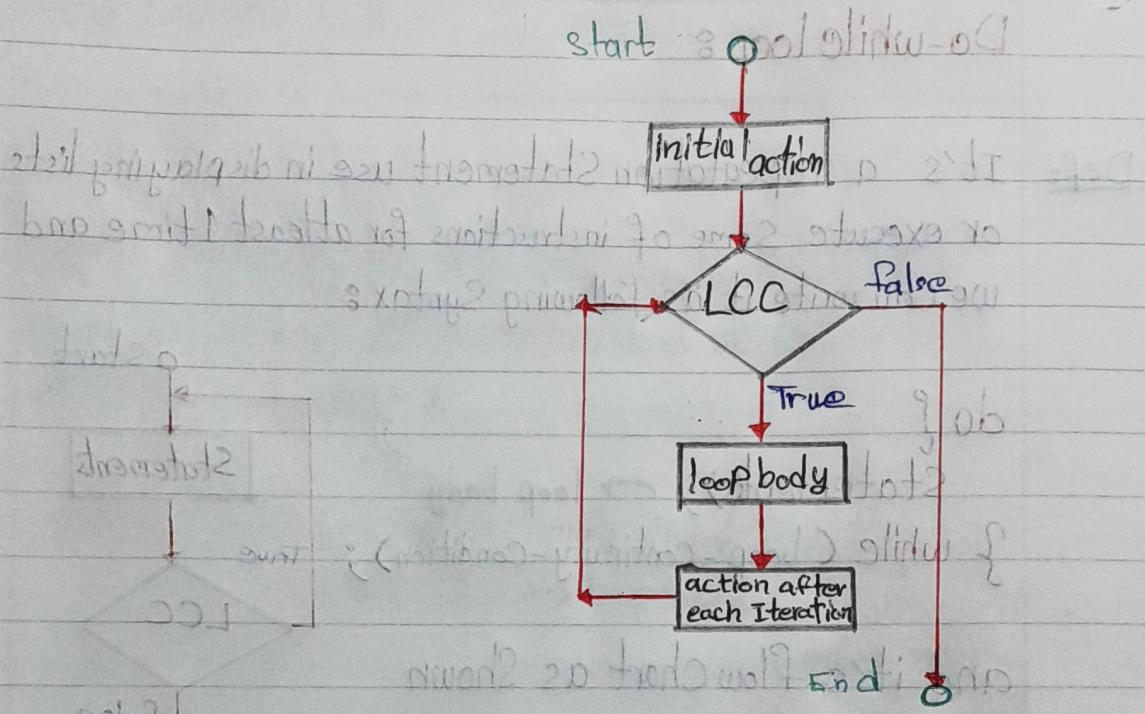
## For-Loop :

### Def:

It's a repetition statement used when we know the initial and final point of repetition and we can write it as following Syntax :

```
for (Counter = initial value ; LCC ; increment/Decr) {  
    Statement(s);  
}
```

and its flow chart as shown in the next page



You can write for loop also as the following Syntax :-

[1] `for (int i=0 ; i < 10 ; ) {  
 loop body  
}`

*(+ +) has been converted into integer*

[2] `int i = 0;  
for ( ; i < 10 ; ) {  
 loop body  
 i++;  
}`

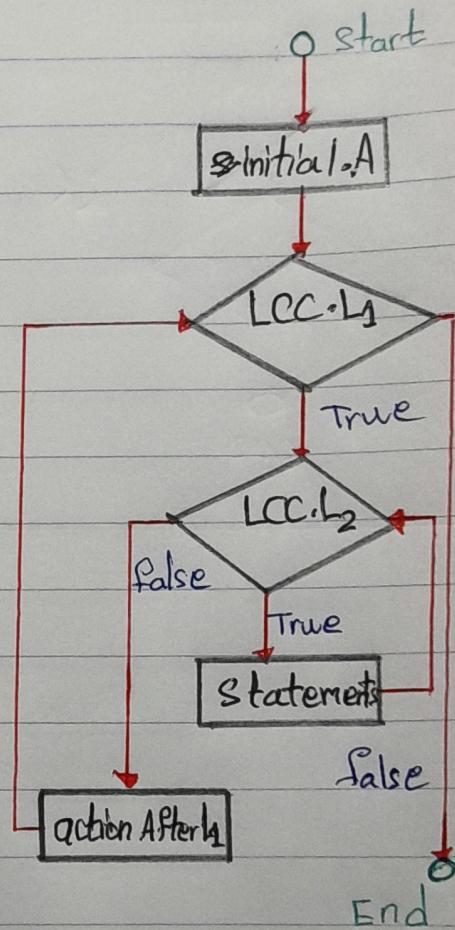
note You can use more than one statement in the Components of for

## Nested Loops :

Def: is a loop inside another loop which we use it in the Two dimensional array or in a Matrix and we can write it as following Syntax :

```
for (int i=0; i<10; i++) {  
    while (i < 9) {  
        statements;  
        i++;  
    }  
}
```

and its flowchart as shown



## Break and Continue Statements :

Def: Break statement is used to terminate the loop, but Continue Statement it's to Get back for the first loop Syntax