

# TOPIC: Looping Statements

In any programming language, loops are used to execute a set of statements repeated until a particular condition is true. or

A sequence of statements is executed until a specified condition is true.

The sequence of statements to be executed is kept inside the curly braces {} is known as loop body.

Categories of loops

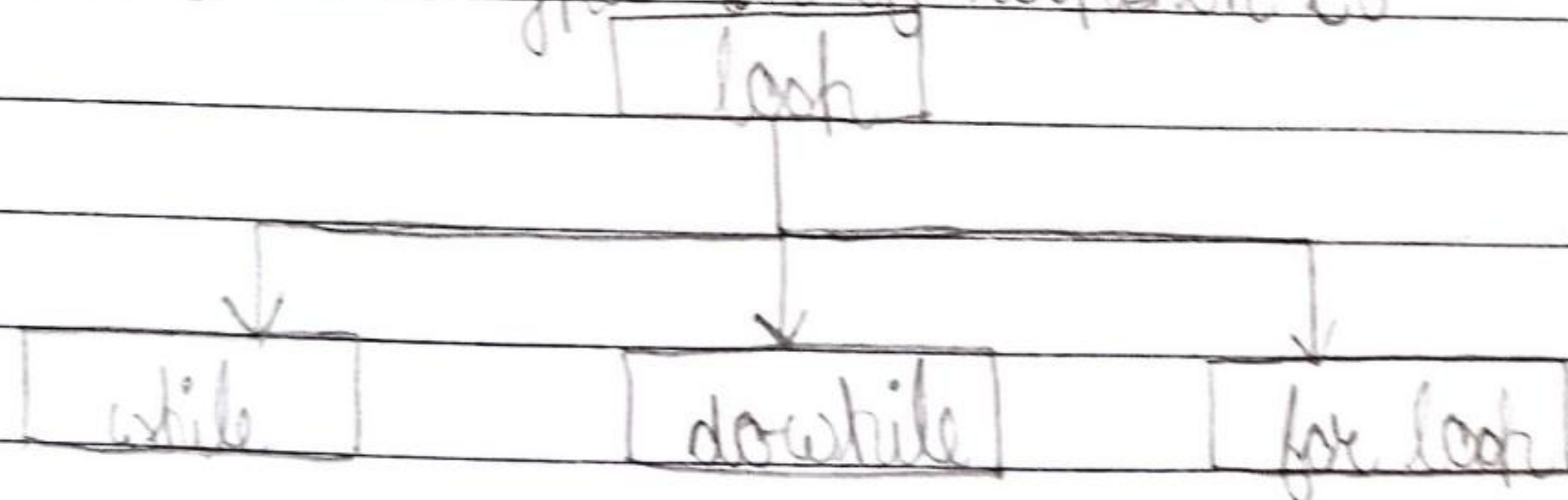
- ① Pretested or entry control loop.
- ② Posttested or exit control loop.

① Pretested or entry control loops In this the condition is first tested then the body of loop is executed.

② Posttested or exit control loops In this, the loop body is executed first and then the condition is tested.

Loops in C

There are three types of loops in C



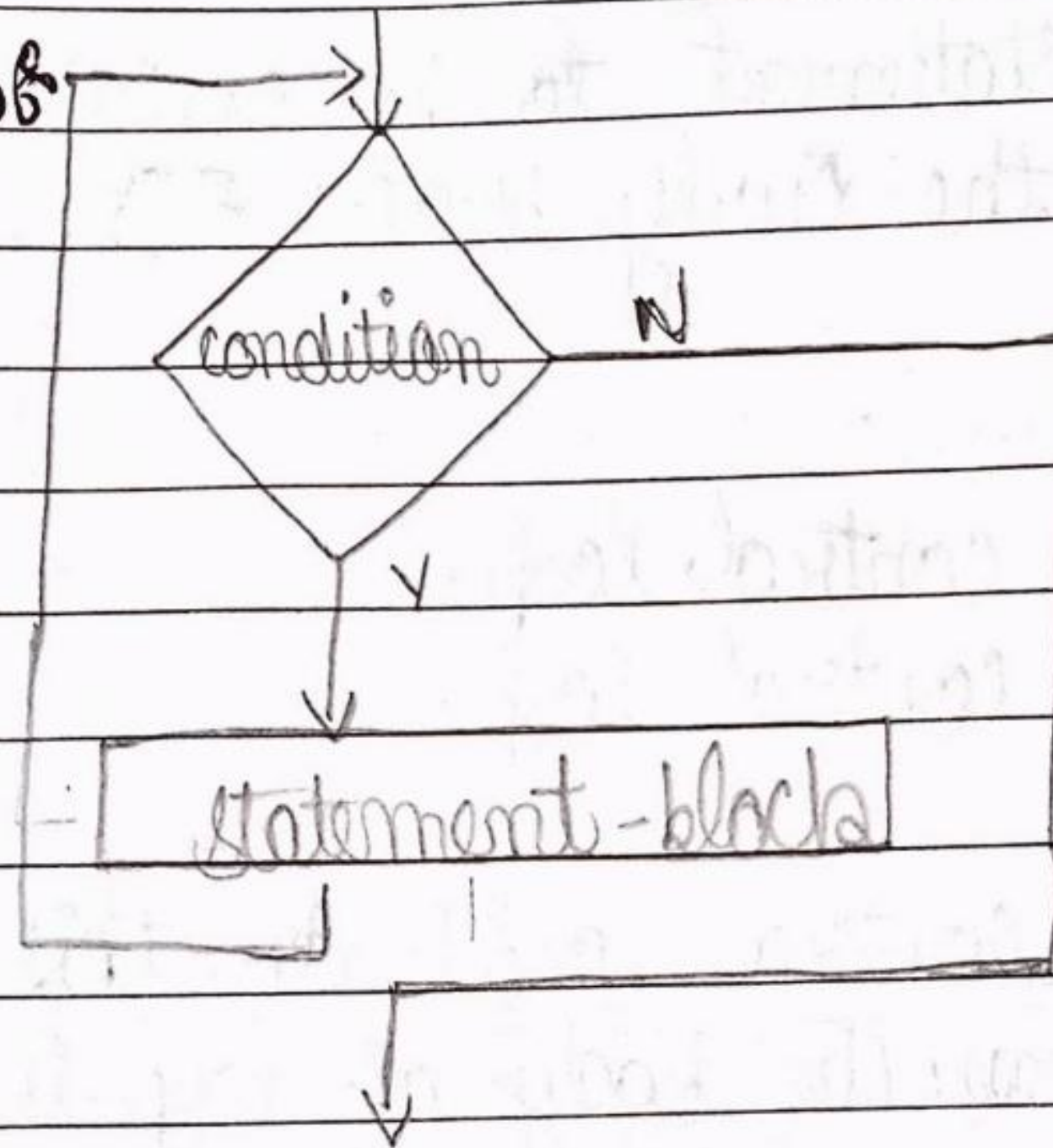
① while loop while loop is entry control loop. It is a pretested loop, in which the condition is firstly checked and if the condition is true, then the loop

body is executed.]  
The execution of the loop body is repeated till the condition holds true and when it becomes false, the control comes after the end of the loop body.  
The general form (syntax) is while (condition)

{ statements;

}

Flowchart



program:

```
#include <stdio.h>
```

```
#include <conio.h>
```

```
void main()
```

```
{
```

```
int num = 1;
```

```
while (num <= 30);
```

```
{
```

```
printf("\t%d", num);
```

```
num = num + 1;
```

```
}
```

```
getch();
```

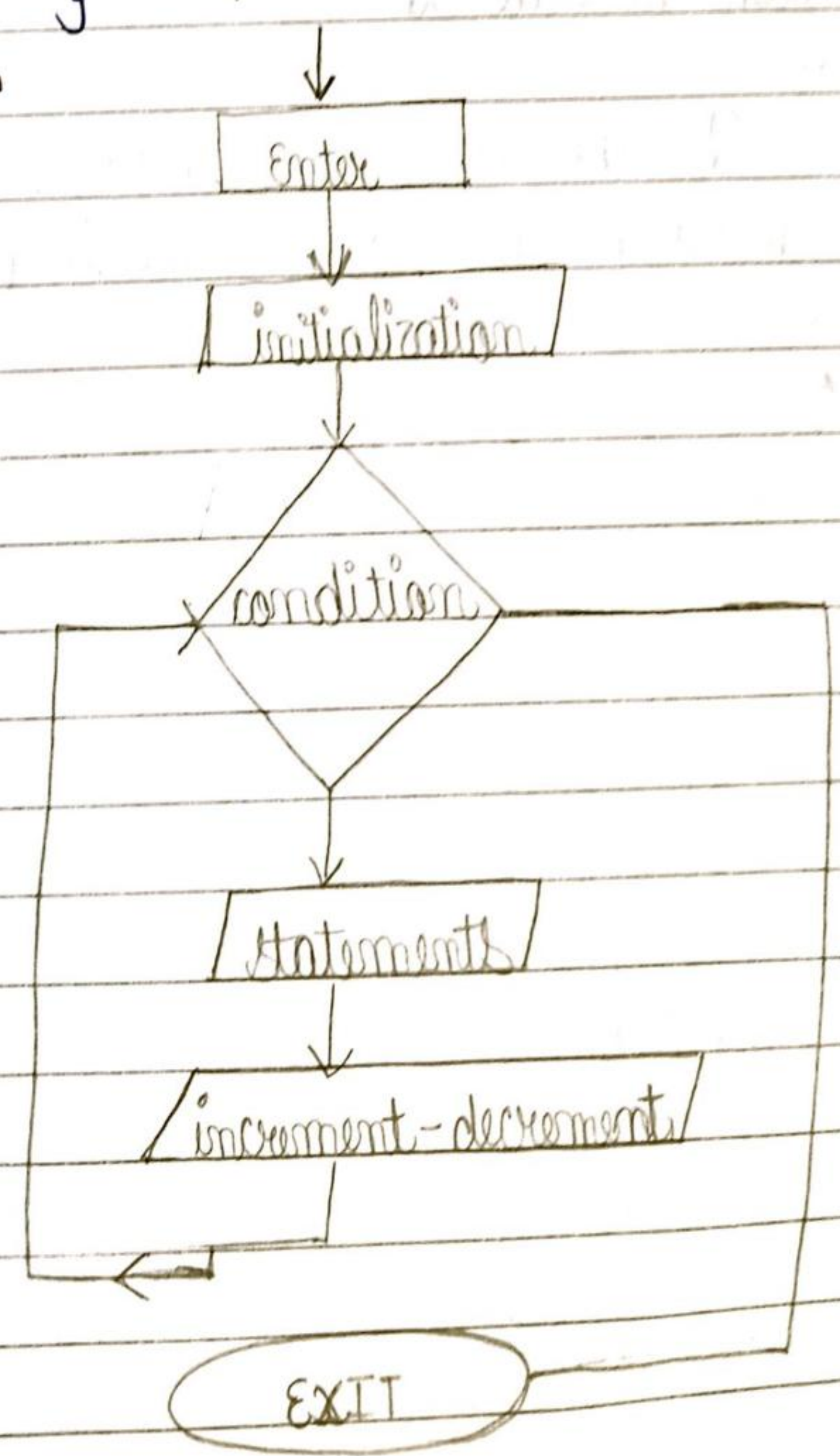
```
}
```

Q) For loop For loop is used to execute a set of statements repeatedly until a particular condition is true.  
or The name for loop comes from the english word for which is used as the keyword in most programming language.

The advantages of for loop is that it contains all the three phases of the loop in one step.

- ⇒ initialization
  - ⇒ condition
  - ⇒ increment - decrement phase
- are contained in a single statement.
- Syntax For (initialization; condition; increment - decrement)  
{  
statement;  
}

flowchart



Program WAP to print numbers 1 to 5.

```

int num;
clrscr();
for (num=1; num <= 5; num++)
{
printf("%d", num);
}
getch()
}

```

③ Do-while loop Do-while statement execute the body of the loop first, and then the condition is checked using while loop.

If the condition is true the code with in the block is executed again.

This repeats until the condition becomes false.

It is also known as posttested loop or exist control loop.

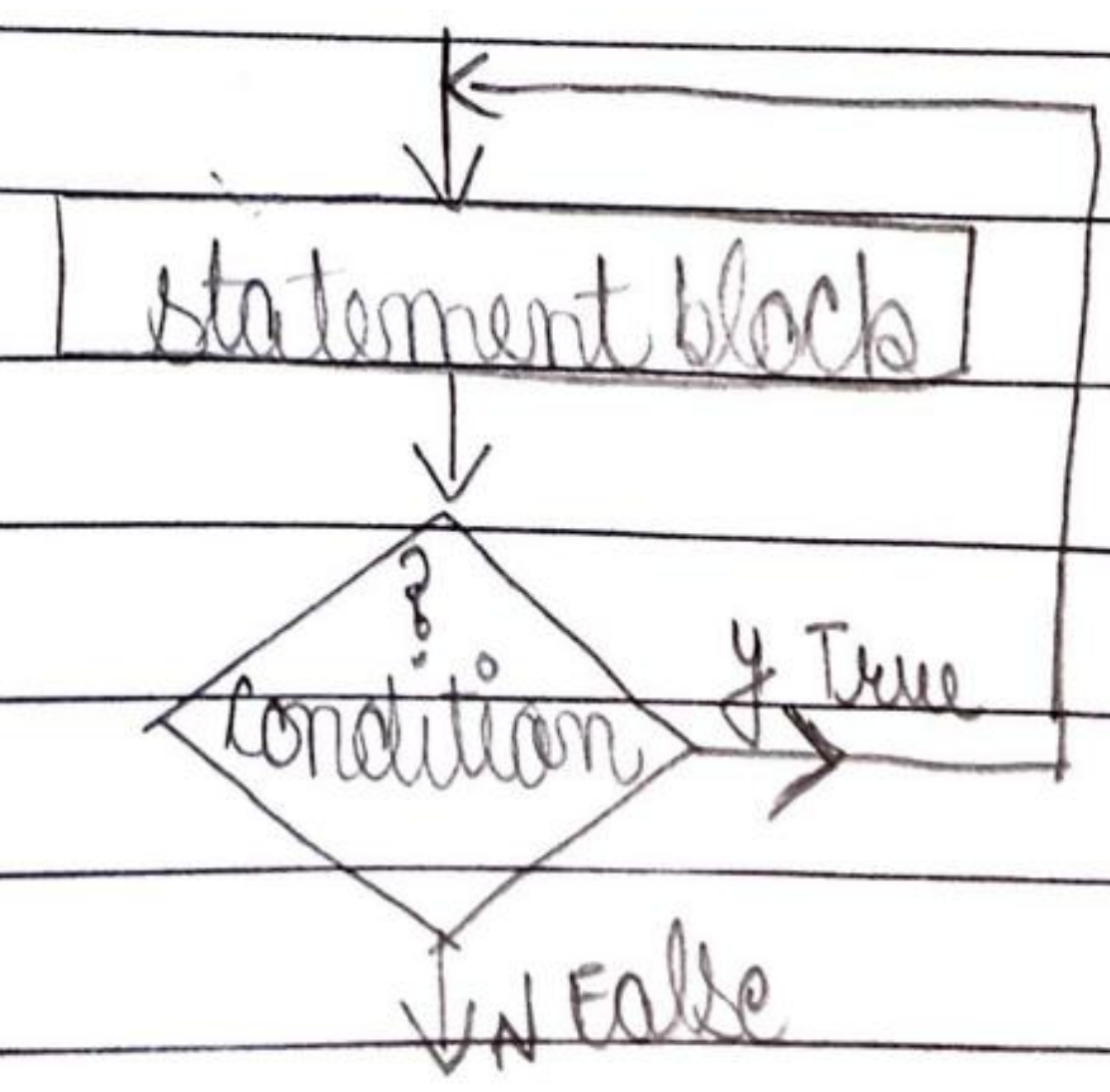
Syntax of do

```

{
statements;
}
while (condition);

```

Flowchart



# program 8

```
int a=1;  
do  
{  
    printf("%d", a);  
    a = a+1;  
}  
while (a < 5);  
getch();
```