

# Logic Building Session

## Day 3: Sep 2022

### Session 3

Kiran Waghmare



import java.util.\*;  
import java.util.Scanner;  
class IfElse1{

public static void main(String args[]){  
 Scanner sc = new Scanner(System.in);  
 System.out.println("Enter any number:");  
 int num;  
 num = sc.nextInt();

```
if(num % 2 == 0 )  
{  
    System.out.println("Even");  
}  
else  
{  
    System.out.println("Odd");  
}
```

Loop

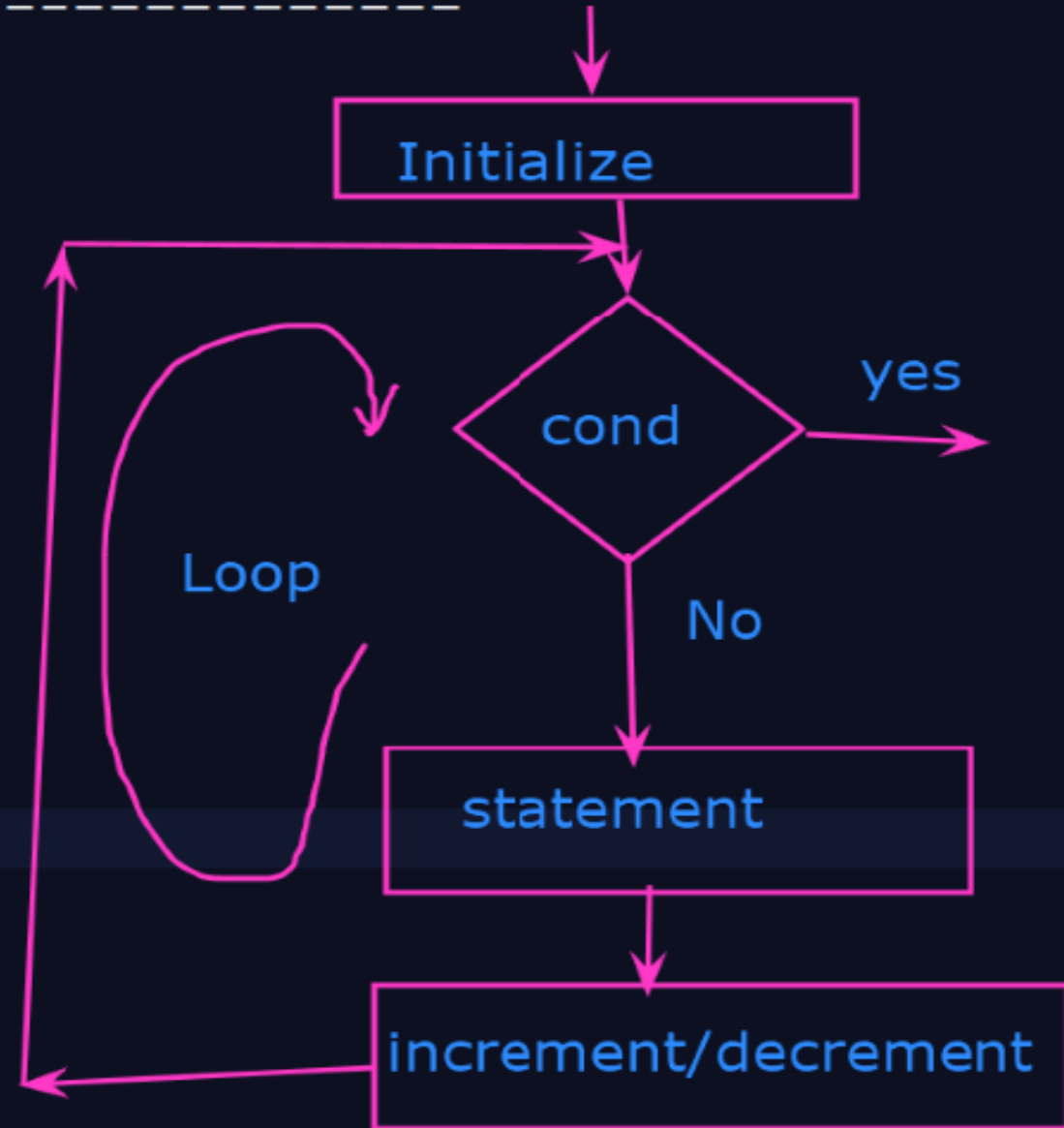
Topic:

Number Pattern Programming

Loops:

- 1. Initialization
- 2. Condition
- 3. increment/decrement

- for Loop
- while Loop
- do while Loop



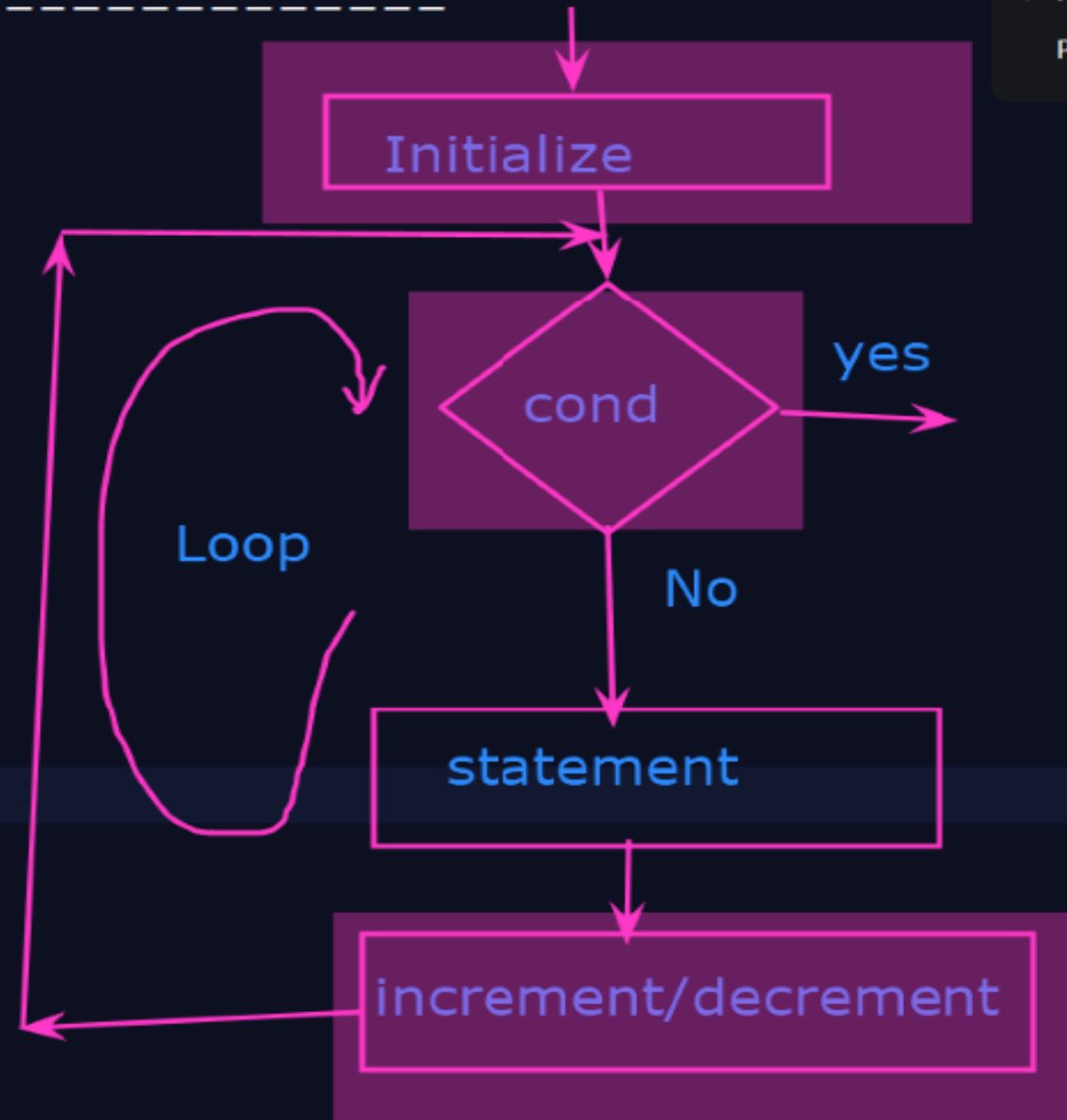
Topic:

Number Pattern Programming

Loops:

- 1. Initialization
- 2. Condition
- 3. increment/decrement

-for Loop  
-while Loop  
-do while Loop



-for Loop

syntax:

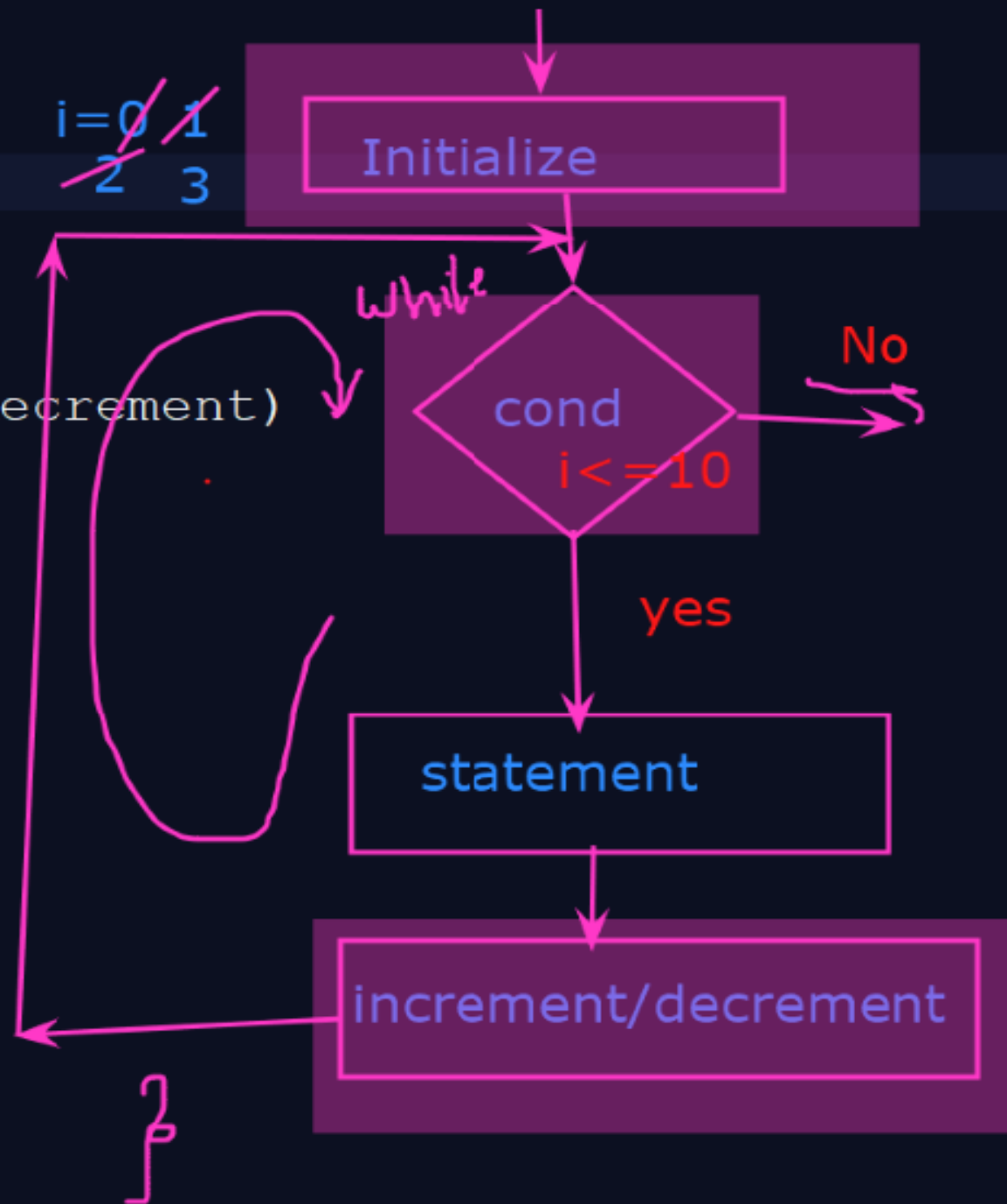
for(initialization;cond;increment/decrement)

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

for(int i=10;i>=0;i--)

-while Loop

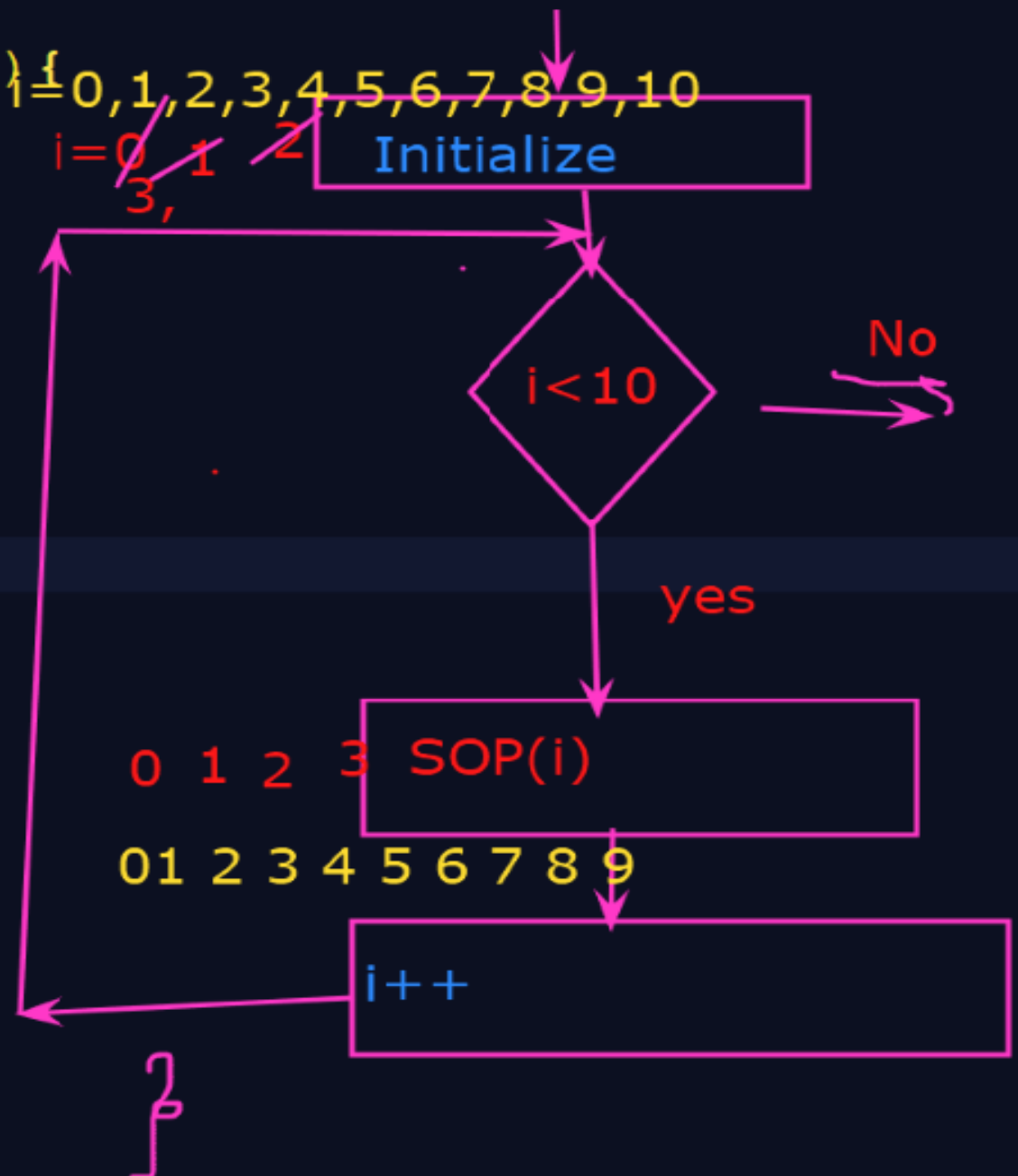
Syntax:



```
class ForLoop{  
public static void main(String args[]){  
    for(int i=5;i<=10;i++)  
    {  
        System.out.println(i);  
        System.out.print(i);  
    }  
}
```

5678910

5  
6  
7  
8  
9  
10



```
class ForLoop1{
```

```
public static void main(String args[]){
```

```
    int num = 25;
```

sum = 1 + 2 + 3 + 4 + ... + 25

```
    int sum = 0;
```

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

```
    {
```

```
        sum = 0;
```

```
        sum = sum + i;
```

```
    }
```

```
    System.out.println(" Sum= " + sum);
```

sum = sum + 1 = 0 + 1 = 1

sum + 2 = 1 + 2 = 3

sum + 3 = 3 + 3 = 6

sum + 4 = 6 + 4 = 10



```
class ForLoop2{
```

```
public static void main(String args[]){
```

```
for(int i=0,j=9;i<10;i++,j--)
```

```
{
```

```
    System.out.println("i= " + i);
```

```
    System.out.println("j=" + j);
```

```
}
```

```
System.out.println("-----")
```

```
}  
}
```

```
C:\> Command Prompt
```

```
C:\Test>javac ForLoop2.java
```

```
C:\Test>java ForLoop2
```

```
i= 0
```

```
j=9
```

```
i= 1 i=0...9 i++
```

```
j=8
```

```
j=9...0 j--
```

```
i= 2
```

```
j=7
```

```
i= 3
```

```
j=6
```

```
i= 4
```

```
j=5
```

```
i= 5
```

```
j=4
```

```
i= 6
```

```
j=3
```

```
i= 7
```

```
j=2
```

```
i= 8
```

```
j=1
```

```
i= 9
```

```
j=0
```

```
C:\Test>
```



```
class ForLoop2{
```

```
public static void main(String args[]){
```

```
    for(int i=0, j=9; j>0; i++, j--)
```

```
    {
```

```
        System.out.println("i= " + i);
```

```
        System.out.println("j=" + j);
```

```
        System.out.println(i+"---"+j);
```

```
        System.out.println(i+j);
```

```
        System.out.println(i+" "+j);
```

```
        System.out.println("-----");
```

```
    }
```

```
}
```

```
}
```

Command Prompt

```
C:\Test>javac ForLoop2.java
```

```
C:\Test>java ForLoop2
```

```
i= 0
```

```
j=9
```

```
0---9
```

```
9
```

```
0 9
```

```
-----
```

```
i= 1 ✓
```

```
j=8 ✓
```

```
1---8
```

```
9 ✓
```

```
1 8
```

```
-----
```

```
i= 2 ✓
```

```
j=7 ✓
```

```
2---7
```

```
9 ✓
```

```
2 7
```

```
-----
```

```
i= 3 ✓
```

```
j=6 ✓
```

```
3---6
```

```
9
```

```
3 6
```

```
-----
```

```
i= 4
```

```
j=5
```

```
4---5
```

```
9
```

```
class ForLoop2{
```

```
public static void main(String args[]){
```

```
    for(int i=0,j=9;j>0;i++,j--)
```

```
    {
```

```
        System.out.println("i= " +i);
```

```
        System.out.println("j=" +j);
```

```
        System.out.println(i+"---"+j);
```

```
        System.out.println(i+j);
```

```
        System.out.println(i+" "+j);
```

```
        System.out.println("-----");
```

```
    }
```

Concatenation

addition

class ForLoop4{

```
public static void main(String args[]) {  
    for(int i=11 3 4 5; i<=5; i++)  
    {  
        System.out.println(i);  
        if(i==3)  
            continue;  
        //System.out.println(i);  
    }  
}
```

//break: it will terminator your loop immdiately.

Who can see what you share here? Recording On

3

C:\Test>javac ForLoop3.java

C:\Test>java ForLoop3

1

2

C:\Test>javac ForLoop4.java

C:\Test>java ForLoop4

1

2

3

4

5

C:\Test>

```
class ForLoop4{
```

```
public static void main(String args[]){
```

```
    for(int i=1; i<=5; i++)
```

```
    {
```

```
        System.out.println(i);
```

```
        if(i==3)
```

```
            continue;
```

```
        System.out.println(i);
```

```
    }
```

Who can see what you share here? Recording On

```
C:\Test>javac ForLoop4.java
```

```
C:\Test>java ForLoop4
```

```
1
```

```
1
```

```
2
```

```
2
```

```
3
```

```
4
```

```
4
```

```
5
```

```
5
```

```
C:\Test>
```

1 1 2 2 ③ 4 4 5 5

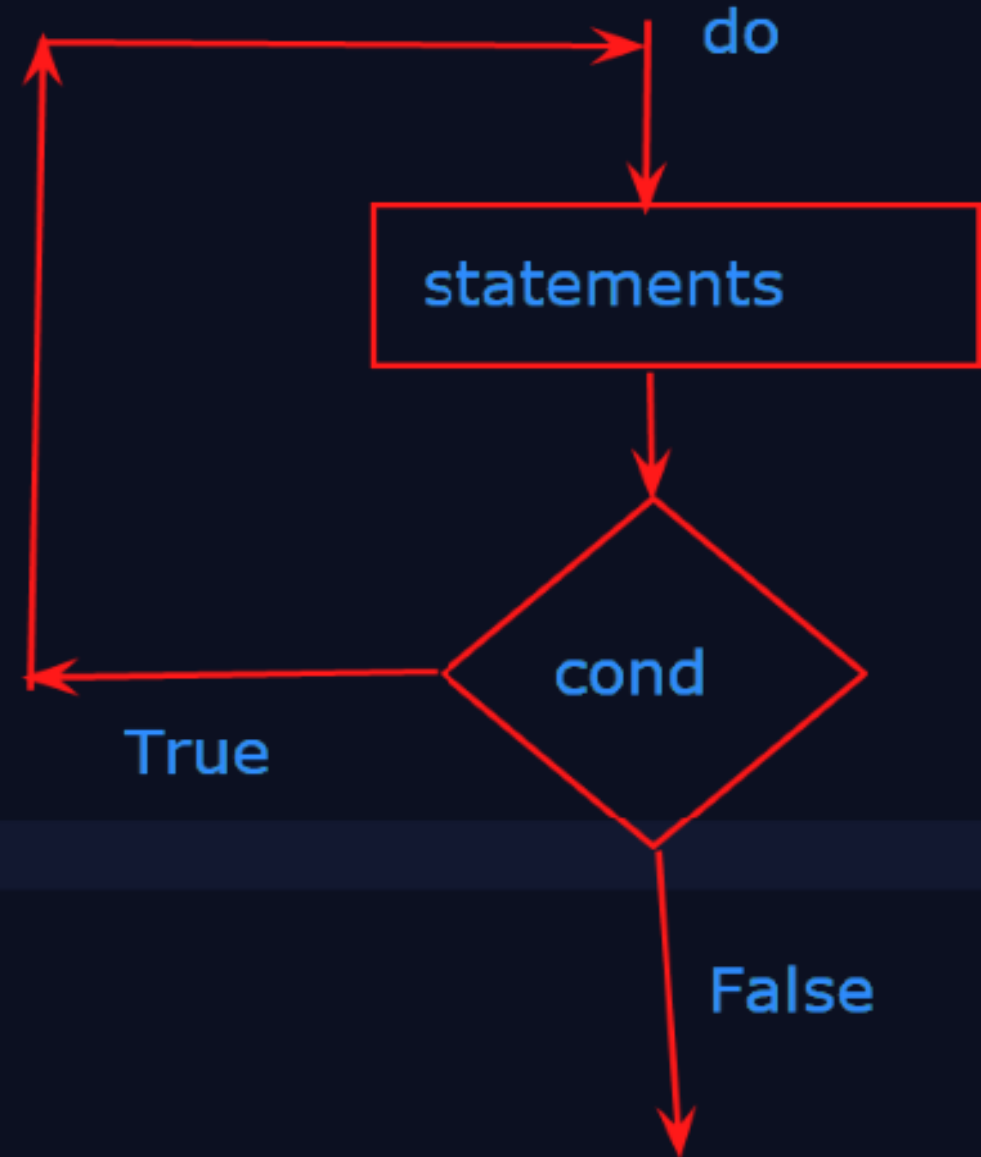
//break: it will terminator your loop immdiately.

//continue: jump to next iteration

## -do while Loop

Syntax:

```
do{  
    .....  
    .....  
}while(cond);
```



```
class P1{  
  
public static void main(String args[]){  
  
    for(int i=1;i<=10;i++)  
    {  
        System.out.println(i);  
    }  
    for(int i=1;i<=10;i++)  
    {  
        System.out.print(i+" ");  
    }  
}
```

C:\Test>javac P1.java

C:\Test>java P1

1  
2  
3  
4  
5  
6  
7  
8  
9  
10

1 2 3 4 5 6 7 8 9 10

C:\Test>



```
class P1{
public static void main(String args[]){
```

```
    for(int i=1;i<=3;i++) → Row
    {
        for(int j=1;j<=3;j++) → Col
        {
            System.out.println(j);
        }
    }
```

✓ C1      ✓ C2      ✓ C3

Row 1 ↗	1,1 i,j	1,2	1,3
Row 2 ✓	2,1	2,2	2,3
Row 3 ✓	3,1	3,2	3,3

Command Prompt

C:\Test>java P1

```
1 ✓
2 ✓
3 ✓
1 ✓
2 ✓
3 ✓
1 ✓
2 ✓
3 ✓
```

R1

R2

R3

C:\Test>

3X3

Row X Col

```
class P1{  
  
public static void main(String args[]){  
  
    for(int i=1;i<=5;i++)  
    {  
        for(int j=1;j<=i;j++)  
        {  
            System.out.print(j+" ");  
        }  
        System.out.println();  
    }  
}
```

Command Prompt

C:\Test&gt;java P1

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

C:\Test&gt;

