

Iteration Statements:

1. If we want to execute group of statements **repeatedly** or more number of times then we should go for iteration statements..

Three types of iteration statements present in Java.

They are

1)for

2)while

3)do while

for loop:

1. The **for loop** contains four parts **initialization**, **condition**, **increment/decrement** part and **statement**.

Syntax:

```
for(initialization; condition; incr/decr){  
//statement or code to be executed  
}
```

Initialization:

1. Each and every part is separated by **Semicolon** and It is **Mandatory**.
2. **Initialization part is optional**.
3. **Multiple Statements** at initialization but separate it by comma
4. Can Take only **single Initialization** **int i = 0, j =0**; **not multiple constants** **int i = 0, int j =0**

Conditional Part:

1. **conditional** part is optional.
2. If we are not taking any **condition** then compiler will place the **true** value.
3. condition must be **Boolean(true or false)**
4. cannot take **statement inside the conditional part**

```
for(initialization; condition; increment/decrement){  
//statement or code to be executed  
}
```

Increment/Decrement

1. Inside the **for loop increment/decrement** is optional.
2. In case of **increment, decrement** it is possible to take any number of **statements** and also each and every **statement** is separated by comma

```
package com.dl.iterationstatements;
```

```
//for loop loop increment/decrement
```

```
public class Eg1 {
```

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

```
        for (int i = 0; i <= 5; i++) {
```

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

```
        }
```

```
        for (int i = 5; i >= 0; i--) {
```

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

```
        }
```

```
    }
```

```
}
```

0

1

2

3

4

5

5

4

3

2

1

0

While

1. A **while loop statement repeatedly executes** a target statement as long as a given condition is **true**.

Syntax:

```
while(condition) {  
    // Statements  
}
```

```
package com.dl.iterationstatements;
```

```
//while loop increment/decrement
```

```
public class Eg2 {
```

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

```
int i = 0;
```

```
while (i <= 5) {
```

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

```
i += 1;
```

```
}
```

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

```
int j = 5;
```

```
while (j >= 0) {
```

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

```
j -= 1;
```

```
}
```

```
}
```

```
}
```

0

1

2

3

4

5

5

4

3

2

1

0

Do While

1. If we want to execute the loop body **at least one time** then we should go for **do while** statement.

Syntax:

```
do{  
    //body  
}while(condition);
```

1. In the **do while** first body will be executed, then only the **condition** will be checked.
2. In **do while** the **while** must ends with **semicolon**; other wise we will get compilation error.
3. **do is taking the body** and **while is taking the condition** and the condition must be **boolean condition**
4. **In case of while loop current iterations will be performed** and **in do while loop next iteration is performed**

```
package com.dl.iterationstatements;

//do while
public class Eg3 {

    public static void main(String[] args) {

        int i = 0;
        do {
            //body
            System.out.println("Do block " + i);
            i++;
        } while (i<=5);

        do {
            System.out.println("Do Block Execution One Time");
        }while(false);

    }
}
```

```
Do block 0
Do block 1
Do block 2
Do block 3
Do block 4
Do block 5
Do Block Execution One Time
```