Loops

There are three types of loop in java.

- **FOR**

Syntax:

```
for (initialization condition; testing condition; increment/decrement)
{
    statement(s)
}
```

We can initialize the variable, check condition and increment/decrement value. It consists of four parts:

➢ **Initialization**: It is the initial condition which is executed once when the loop starts. Here, we can initialize the variable

➢ **Condition**: It is the second condition which is executed each time to test the condition of the loop. It continues execution until the condition is false.

➢ **Increment/Decrement**: It increments or decrements the variable value.

➢ **Statement**: The statement of the loop is executed each time until the second condition is false.

Nested For Loops

If there isa for loop inside the another loop, it is known as nested for loop. The inner loop executes completely whenever outer loop executes.

Syntax:

```
for (initialization condition; testing condition; increment/decrement)
{
    for (initialization condition; testing condition; increment/decrement)
    {
        statement(s)
    }

}
```

- **WHILE**

Syntax:

```
while (condition)
{
//Execute a set of statements
//increment
}
```

We use while loop when we do not know the exact number of iterations that is to be performed

- **DO WHILE**

Syntax

```
do
{
//statements to be iterated
}
while(conditions);
```

Do while is as same as the while loop, the only difference is that the condition is check after the execution of code block. Therefore , no matter what do while will atleast execute the code block once .

Infinite Loops

It is a kind of loop which may never exit. It happens when a condition never fails.

```
for ( ;   ; ) {
          // statement
          }
while (true)
     {
       // statement
     }
```