
LOOPS IN JAVA

Loops

Loops can execute a block of code as long as a specified condition is reached.

Loops are handy because they save time, reduce errors, and they make code more readable.

Basically we have the following loops which we use in java.

- For loop
- While loop
- Do while loop
- For each loop

For Loop

When you know exactly how many times you want to loop through a block of code, use the `for` loop instead of a `while` loop:

Syntax of for loop

```
for (statement 1; statement 2; statement 3) {  
    // code block to be executed  
  
}
```

Example:

```
public class Main {  
    public static void main(String[] args) {  
        for (int i = 0; i < 5; i++) {  
            System.out.println(i);  
        }  
    }  
}
```

While Loop

The `while` loop loops through a block of code as long as a specified condition is `true`:

Syntax of While Loop :-

```
while (condition) {  
    // code block to be executed  
}
```

Example:-

```
public class Main {  
    public static void main(String[] args) {  
        int i = 0;  
        while (i < 5) {  
            System.out.println(i);  
            i++;  
        }  
    }  
}
```

Do While Loop

The `do/while` loop is a variant of the `while` loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

Syntax of Do While Loop:-

```
do {  
    // code block to be executed  
}while (condition);
```

Example :-

```
public class Main {  
    public static void main(String[] args) {  
        int i = 0;  
        do {  
            System.out.println(i);  
            i++;  
        }  
        while (i < 5);  
    }  
}
```

For each Loop

There is also a "for-each" loop, which is used exclusively to loop through elements in an [array](#):

Syntax of for each loop :-

```
for (type variableName : arrayName) {  
    // code block to be executed  
}
```

Example:-

```
public class Main {  
    public static void main(String[] args) {  
        String[] cars = {"Volvo", "BMW", "Ford", "Mazda"};  
        for (String i : cars) {  
            System.out.println(i);  
        }  
    }  
}
```

Thank You