**Looping statements-**

Loops are used to execute a set of instructions repeatedly when some conditions become true. There are three types of loops in Java.

For loop

While loop

Do while loop

**For loop-**

For loop in java is used to iterate and evaluate a code multiple times.

When to use-

If the number of iteration is fixed, it is recommended to use for loop.

Syntax

For (initialization; condition; increment/decrement) {

Statement 1;

}

Example- Different way to write the loops in java.

Example-1

**public** **class** Looping {

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

**for**(**int** i=1; i<=5;i++) {

System.***out***.println("value of i>>"+i);

}

}

}

Output

value of i>>1

value of i>>2

value of i>>3

value of i>>4

value of i>>5

Example-2

**public** **class** Looping {

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

**for**(**int** i=1; i<5;i++) {

System.***out***.println("value of i>>"+i);

}

}

}

Output

value of i>>1

value of i>>2

value of i>>3

value of i>>4

Example-3

**public** **class** Looping {

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

**int** i = 1;

**for** (; i < 5; i++) {

System.***out***.println("value of i>>" + i);

}

}

}

Output

value of i>>1

value of i>>2

value of i>>3

value of i>>4

Example-4

**public** **class** Looping {

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

**for** (**int** j = 10; j >0; j--) {

System.***out***.println("j>>" + j);

}

}

}

Output

j>>10

j>>9

j>>8

j>>7

j>>6

j>>5

j>>4

j>>3

j>>2

j>>1

**While loop-**

The while loop evaluates a certain condition. If the condition is true, the code is executed. This process is continued until the specified condition becomes false.

Syntax-

Initialization;

While (condition) {

Statements;

Increment/decrement operator;

}

When to use-

If the number of iteration is not fixed, it is recommended to use while loop.

Example-1

**public** **class** Looping {

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

**int** i=1;

**while**(i<=10) {

System.***out***.println("value of i>>" + i);

i++;

}

}

}

Output

value of i>>1

value of i>>2

value of i>>3

value of i>>4

value of i>>5

value of i>>6

value of i>>7

value of i>>8

value of i>>9

value of i>>10

Example-2

**public** **class** Looping {

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

**int** i=10;

**while**(i>0) {

System.***out***.println("value of i>>" + i);

i--;

}

}

}

Output

value of i>>10

value of i>>9

value of i>>8

value of i>>7

value of i>>6

value of i>>5

value of i>>4

value of i>>3

value of i>>2

value of i>>1

**Do while loop-**

The do-while loop is similar to the while loop, the only difference being that the condition in the do-while loop is evaluated after the execution of the loop body. This guarantees that the loop is executed at least once

Syntax-

Initialization;

do {

Statements;

increment or decrement;

} while(condition);

Example-1

**public** **class** Looping {

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

**int** i = 1;

**do** {

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

i++;

} **while** (i <= 10);

}

}

Output-

1

2

3

4

5

6

7

8

9

10

Example-2

**public** **class** Looping {

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

**int** i = 10;

**do** {

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

i--;

} **while** (i >0);

}

}

Output-

10

9

8

7

6

5

4

3

2

1

When to use-

If the number of iteration is not fixed and you must have to execute the loop at least once, it is recommended to use the do-while loop