



Loops

A loop is a block of code that runs repeatedly until a specified condition is met. Each execution of the loop is called an iteration.

for loop

used when we know exactly how many iterations are needed

- Iteration 1 : prints 0
- Iteration 2 : prints 1
- Iteration 3 : prints 2

Runs before the loop stopping condition increment (Runs after each iteration)

```
for (int i=0; i < 3; i++;) {
    System.out.println(i);
}
```

for-each loop

For each item in a list, execute a block.

- Iteration 1 : prints "hi"
- Iteration 2 : prints "hello"

```
String words = {"hi", "hello"};
for (String s : words) {
    System.out.println(s);
}
```

while loop

While some condition is true, repeat the block.

- Iteration 1 : prints 0
- Iteration 2 : prints 1
- Iteration 3 : prints 2

```
int i = 0;
while (i < 3) {
    System.out.println(i);
    i++;
}
```

do-while loop

similar to the while loop, but runs the first iteration before checking the condition.

- Iteration 1 : prints 3
- Iteration 2 : prints 2
- Iteration 3 : prints 1

```
int i = 3;
do {
    System.out.println(i);
    i--;
} while (i > 0);
```