

## Java loops

Java provides different types of loops those are while, do-while, for, and for-each. If the number of iterations is fixed, **for** loop should be used. If the number of iterations is not fixed, **while** loop should be used. If the number of iterations is not fixed and the loop must be executed at least once, **do-while** loop should be used. Finally, **for-each** loop was introduced in java 5 and used to iterate arrays or collections.

Syntax of for loop is ***for(initialization; condition; increment/decrement){ //statements}***. The loop execution starts from the initialization part by initializing the control variable. Then check the condition. If the condition is true, execute the body, go to the increment/decrement, and check the condition again. Doing the same thing until the condition becomes false. Example of for loop is ***for(int i=10; i>0; i--){ System.out.print(i + " "); }***. Syntax of while loop is ***while(condition){ // statements //update statement}***. The loop execution starts by checking the condition. If the condition is true, execute the body and check the condition again. Do the same thing until the condition becomes false. Example of while loop is ***int i=10; while(i>0){ System.out.print(i + " "); i--; }***. Syntax of do-while loop is ***do{ // statements // update statement }while(condition);***. Loop execution starts from loop body statement(s) and then checks the condition. If the condition is true, execute the body and check the condition again. Do the same thing until the condition becomes false. Example of do-while loop is ***int i=10; do{ System.out.print(i + " "); i--; }while(i>0);***. Last but not the list is for-each loop. The syntax is ***for(data-type variable : array/collection) { // statement using variable}***. Iterating and using every array/collection value to the variable until the last element. Java loops are my favorite topic I've learned this week.

**Note:** for, while, and do-while loop examples are printing the same output (**10 9 8 7 6 5 4 3 2 1**).

### Reference:

Oracle Documentation, <https://docs.oracle.com/javase/tutorial/java/nutsandbolts/for.html>  
, <https://docs.oracle.com/javase/tutorial/java/nutsandbolts/while.html>

w3schools, [https://www.w3schools.com/java/java\\_for\\_loop.asp](https://www.w3schools.com/java/java_for_loop.asp)

scaler, <https://www.scaler.com/topics/java/loops-in-java/>

codecademy, <https://www.codecademy.com/resources/docs/java/loops>