

do-while loop

1. Reverse loop

Java has another kind of while loop — the do-while loop. It's very similar to the ordinary while loop and also consists of only two parts: a "condition" and a "loop body". The loop body is executed over and over again as long as the condition is true. In general, a **do-while** loop looks like this:

```
do
    statement;
while (condition);
```

or

```
do
{
    BLOCK OF STATEMENTS
}
while (condition);
```

For a while loop, the sequence of execution is: *condition*, *loop body*, *condition*, *loop body*, *condition*, *loop body*, ...

But for a do-while loop, it is slightly different: *loop body*, *condition*, *loop body*, *condition*, *loop body*, ...

In fact, the only difference between a while loop and do-while loop is the fact that the *loop body* is executed at least once for a do-while loop.

2. Benefits of using a do-while loop

Basically, the only difference between a do-while loop and a while loop is that the *body* of a do-while loop is executed at least once.

Generally, a do-while loop is used when it makes no sense to check the loop condition if the loop body has not been executed. For example, if certain calculations are performed in the *loop body* and then used in the *condition*.

Example:

The program reads lines from the keyboard until the word **exit** is entered

while	do while
<pre>String s; while (true) { s = console.nextLine(); if (s.equals("exit")) break; }</pre>	<pre>String s; do { s = console.nextLine(); } while (!s.equals("exit"));</pre>

3. Comparing do-while loops: Java vs Pascal

Once again, Pascal has an analogue of the do-while loop, but it is called a repeat-until loop. Also, it is slightly different from the *do-while* loop. In a *repeat-until* loop, the condition indicates when to exit the loop rather than when to continue it.

Examples:

Pascal	Java
<pre>Repeat ReadLn(s); Until s = 'exit';</pre>	<pre>String s; do { s = console.nextLine(); } while (!s.equals("exit"));</pre>

Compared to Java, the way Pascal represents this is downright beautiful. We have to start with examples from Pascal, otherwise you'll laugh.