

Beginners Book: Java Basics

Lesson 10: while Loop In Java

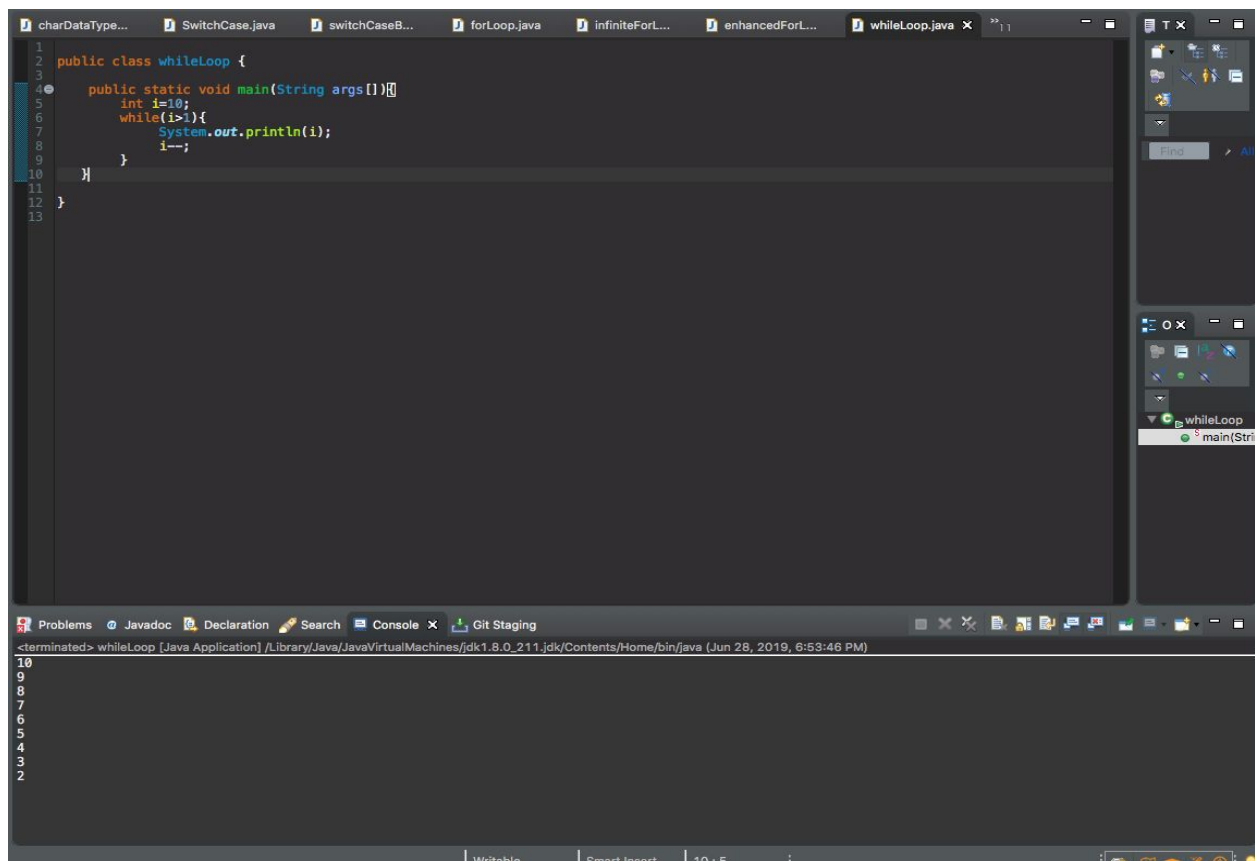
while Loop:

In a while loop, the condition is evaluated first and if it returns true then the statements inside the while loop will execute. When condition returns false, the control comes out of loop and jumps to the next statement after the while loop. When using while loop it is important to use increment or decrement statement inside while loop so that the loop variable gets changed on each iteration and at some point condition returns false. This the execution of while loop will end otherwise the loop would execute indefinitely.

while Loop Syntax:

```
while (condition)  
{  
    statement(s);  
}
```

Example:



The screenshot shows an IDE with a Java file named `whileLoop.java`. The code defines a class `whileLoop` with a `main` method. Inside the `main` method, an integer `i` is initialized to 10. A `while` loop is used with the condition `i > 1`. Inside the loop, `System.out.println(i);` is called to print the current value of `i`, followed by `i--;` to decrement `i` by 1. The IDE output window shows the execution of the program, displaying the numbers 10, 9, 8, 7, 6, 5, 4, 3, and 2 on separate lines. The status bar at the bottom indicates the file is writable and the cursor is at line 10, column 5.

```
1 public class whileLoop {  
2  
3     public static void main(String args[]) {  
4         int i=10;  
5         while(i>1){  
6             System.out.println(i);  
7             i--;  
8         }  
9     }  
10 }  
11  
12  
13
```

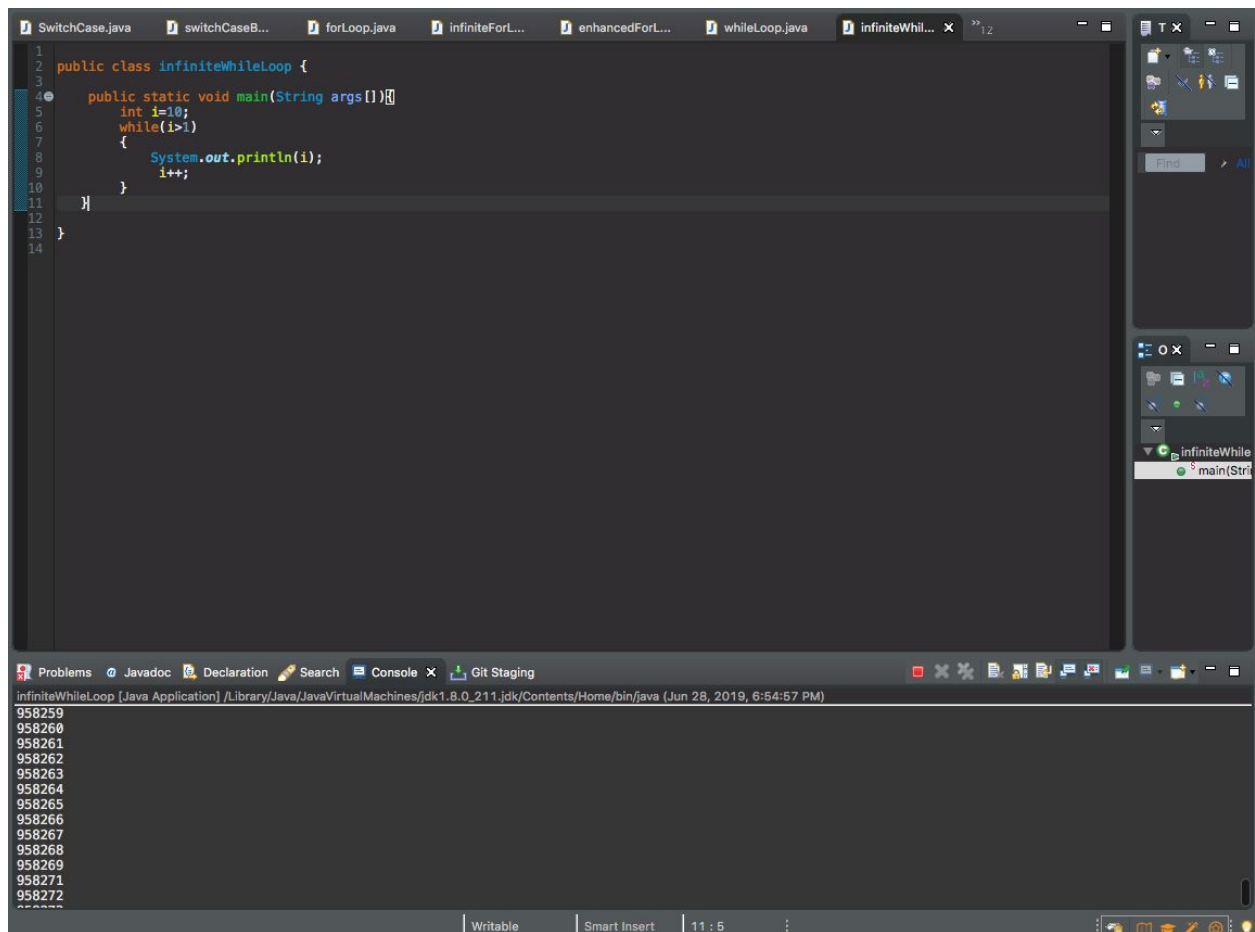
Problems Javadoc Declaration Search Console x Git Staging
<terminated> whileLoop [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_211.jdk/Contents/Home/bin/java (Jun 28, 2019, 6:53:46 PM)
10
9
8
7
6
5
4
3
2

Writable Smart Insert 10 : 5

Infinite while Loop:

In a while loop, the condition is evaluated first and if it returns true then the statements inside the while loop will execute. When condition returns false, the control comes out of loop and jumps to the next statement after the while loop. When using while loop it is important to use increment or decrement statement inside while loop so that the loop variable gets changed on each iteration and at some point condition returns false. This the execution of while loop will end otherwise the loop would execute indefinitely.

Example:



The screenshot shows an IDE with a Java file named `infiniteWhileLoop.java`. The code defines a public class `infiniteWhileLoop` with a `main` method. Inside the `main` method, an integer `i` is initialized to 10, and a `while` loop is entered with the condition `i > 1`. The loop body contains `System.out.println(i);` followed by `i++;`. The IDE's console window at the bottom displays the output of the program, showing a series of memory addresses (958259 to 958272) and the value 10 being printed repeatedly, demonstrating an infinite loop.

```
1 public class infiniteWhileLoop {
2
3
4     public static void main(String args[]) {
5         int i=10;
6         while(i>1)
7         {
8             System.out.println(i);
9             i++;
10        }
11    }
12 }
13
14
```

958259
958260
958261
958262
958263
958264
958265
958266
958267
958268
958269
958271
958272

******The program continues to print the value of the variable `i` to the terminal increasing it by 1 each time because the condition is `i > 1` which would always be true as we are incrementing the value of `i` inside while loop.

