Beginners Book: Java Basics

Lesson 9: for Loop In Java

for Loop:

A for loop is a control flow statement that iterates a part of the programs multiple times.

There are four steps to a for loop:

In the first step initialization happens first and only one time, which means that the initialization part of the for loop only executes once.

In the second step the condition in for loop is evaluated on each iteration, if the condition is true then the statements inside for loop body gets executed. Once the condition returns false, the statements in for loop does not execute and the control gets transferred to the next statement in the program after for loop.

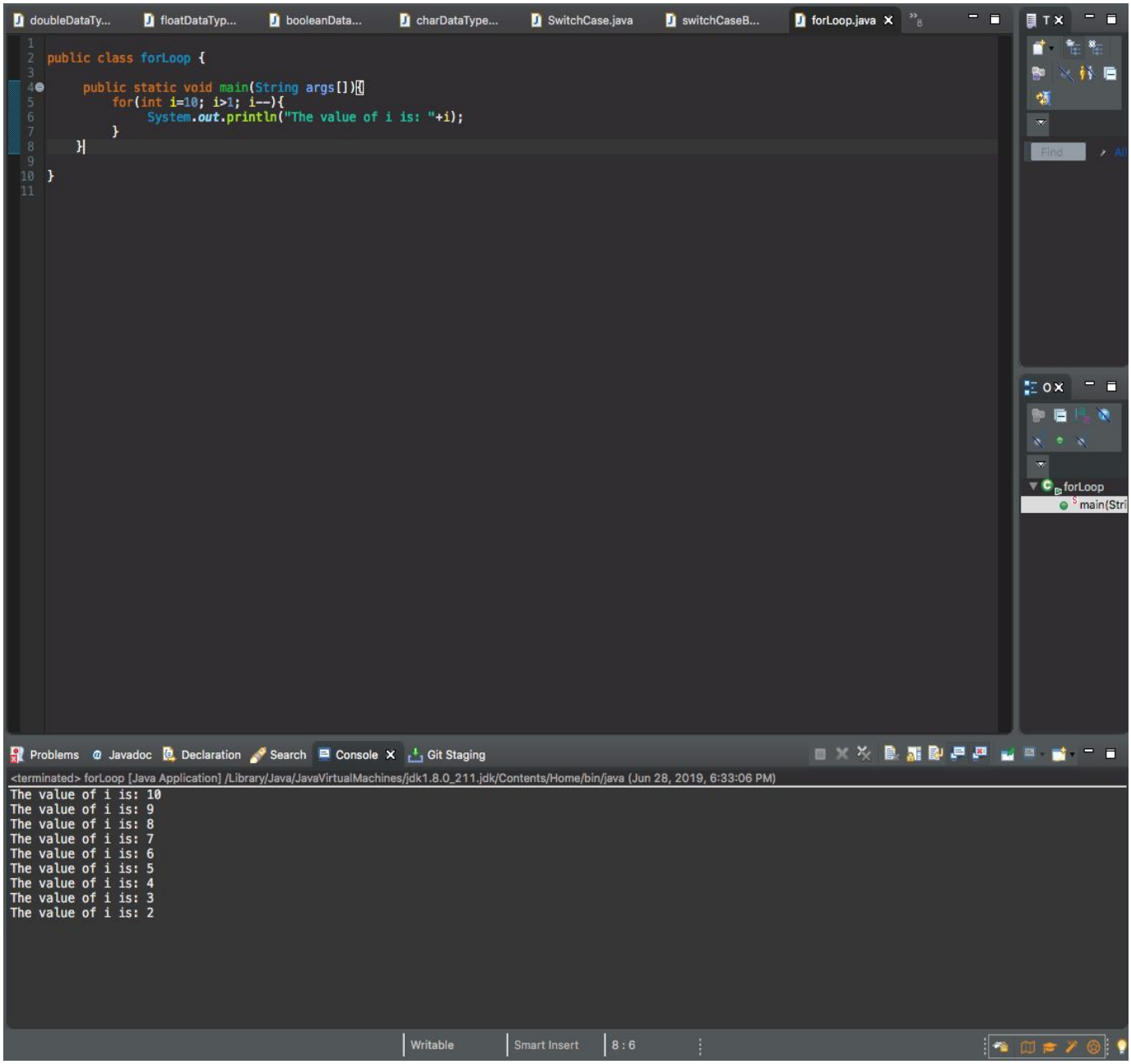
In the third step, after every execution of for loop's body, the increment/decrement part of for loop executes that updates the loop counter.

In the fourth step the control jumps to the second step and condition is re-evaluated.

for Loop Syntax:

```
for(initialization; condition ; increment/decrement)
{
   statement(s);
}
```

Example:


doubleDataTy...
floatDataTyp...
booleanData...
charDataType...
SwitchCase.java
switchCaseB...
forLoop.java
1 public class forLoop {
2
3 public static void main(String args[]){
4 for(int i=10; i>1; i--){
5 System.out.println("The value of i is: "+i);
6 }
7 }
8
9 }
10
11
Problems
Javadoc
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Git Staging
<terminated> forLoop [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_211.jdk/Contents/Home/bin/java (Jun 28, 2019, 6:33:06 PM)
The value of i is: 10
The value of i is: 9
The value of i is: 8
The value of i is: 7
The value of i is: 6
The value of i is: 5
The value of i is: 4
The value of i is: 3
The value of i is: 2
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forLoop
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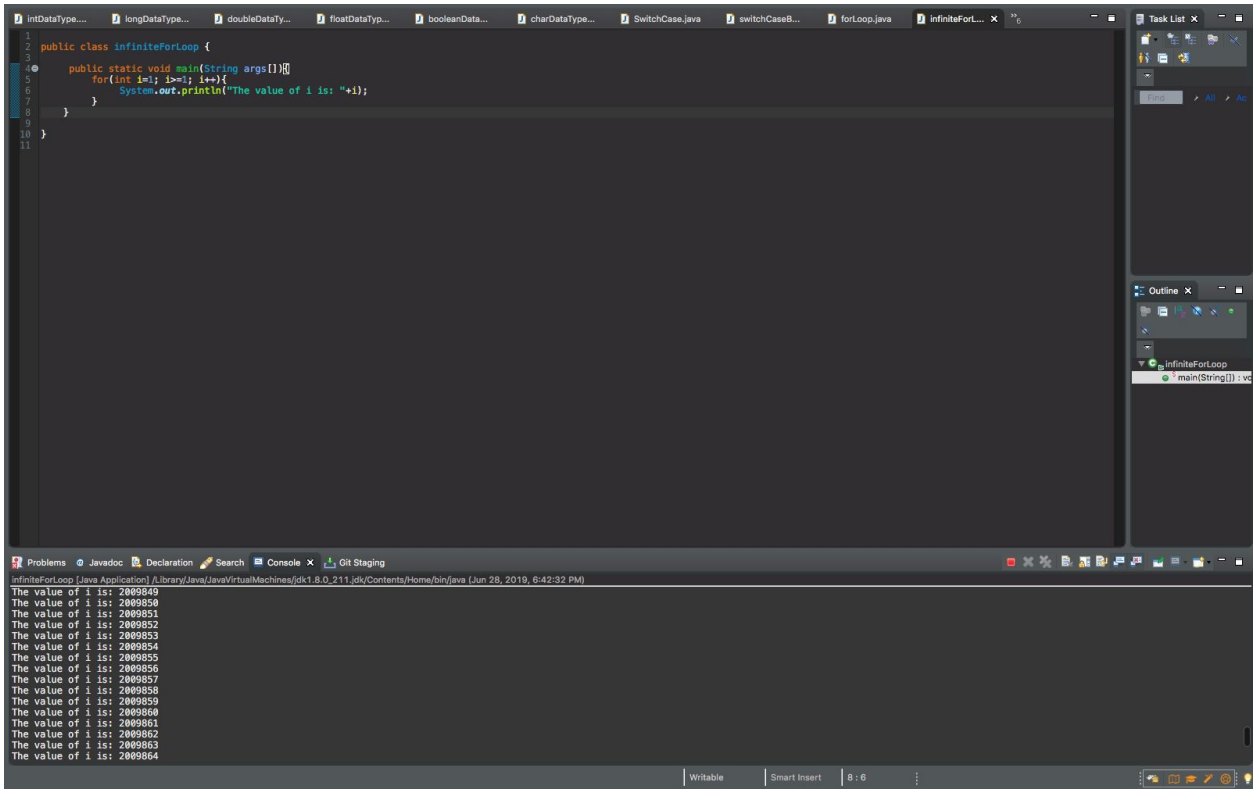
Infinite for Loop:

In an infinite for loop the condition would never return false. The initialization step is setting up the value of variable i to 1, since we are incrementing the value of i, it would always be greater than 1 (the Boolean expression: i>1) so it would never return false. This would eventually lead to the infinite loop condition. Thus it is important to see the coordination between Boolean expression and increment/decrement operation to determine whether the loop would terminate at some point of time or not.
In the first step initialization happens first and only one time, which means that the initialization part of the for loop only executes once.

Example:



**The program continues to print the value of the variable i because the condition will never return the boolean value false.

Enhanced for Loop:

An enhanced for loop is useful when you want to iterate Array/Collections, it is easy to write and understand.

Example: