

# JAVA FUNDAMENTALS COURSE

## EXERCISE

## FOR LOOP

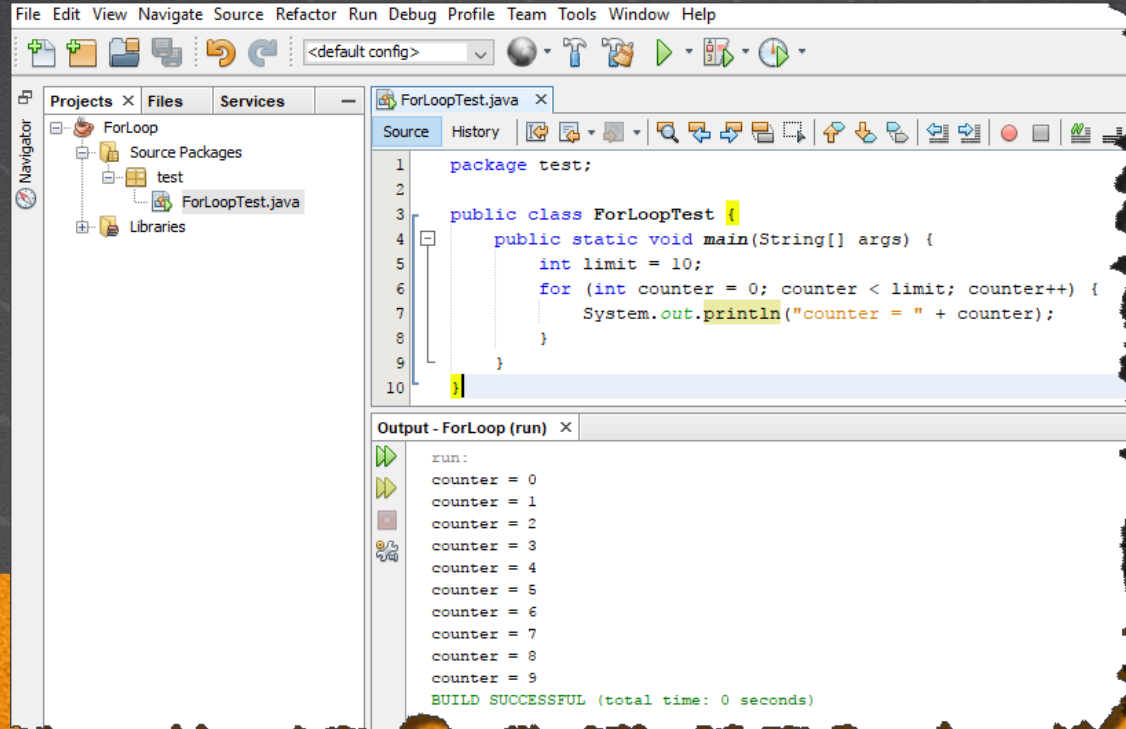


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# EXERCISE OBJECTIVE

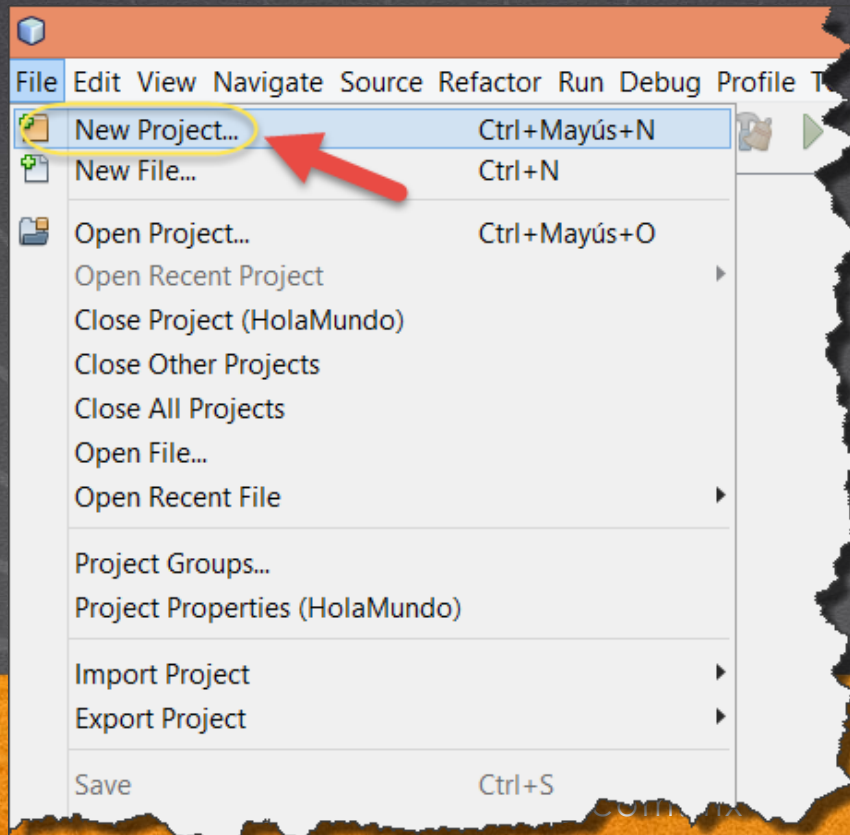
Create an exercise of the for loop. At the end we should observe the following:



```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
Projects Files Services
ForLoopTest.java
Source History
1 package test;
2
3 public class ForLoopTest {
4     public static void main(String[] args) {
5         int limit = 10;
6         for (int counter = 0; counter < limit; counter++) {
7             System.out.println("counter = " + counter);
8         }
9     }
10 }
Output - ForLoop (run)
run:
counter = 0
counter = 1
counter = 2
counter = 3
counter = 4
counter = 5
counter = 6
counter = 7
counter = 8
counter = 9
BUILD SUCCESSFUL (total time: 0 seconds)
```

# 1. CREATE A NEW PROJECT

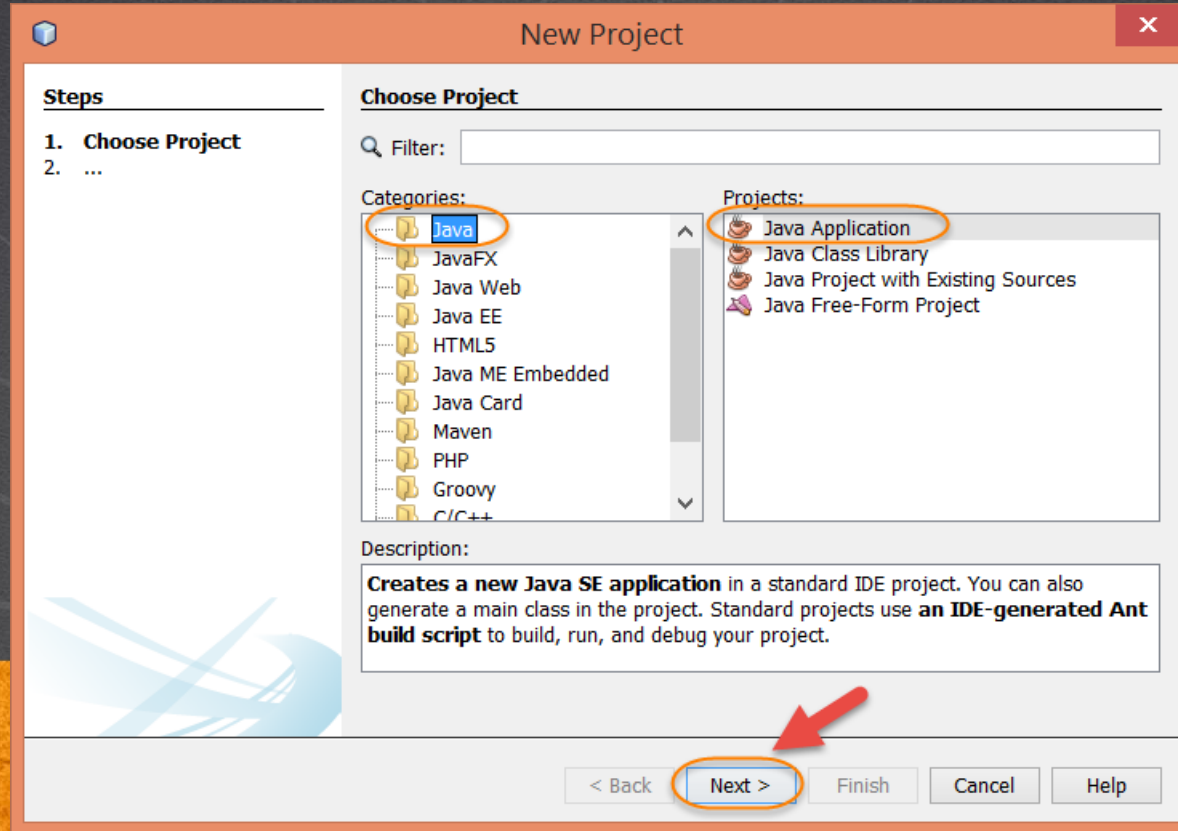
We are going to create the ForLoop project:





# 1. CREATE A NEW PROJECT (CONT)

Select Java -> Java Application:



# 1. CREATE A NEW PROJECT (CONT)

We are going to create the ForLoop project:

**New Java Application**

**Steps**

1. Choose Project
2. **Name and Location**

**Name and Location**

Project Name:

Project Location:

Project Folder:

☐ Use Dedicated Folder for Storing Libraries

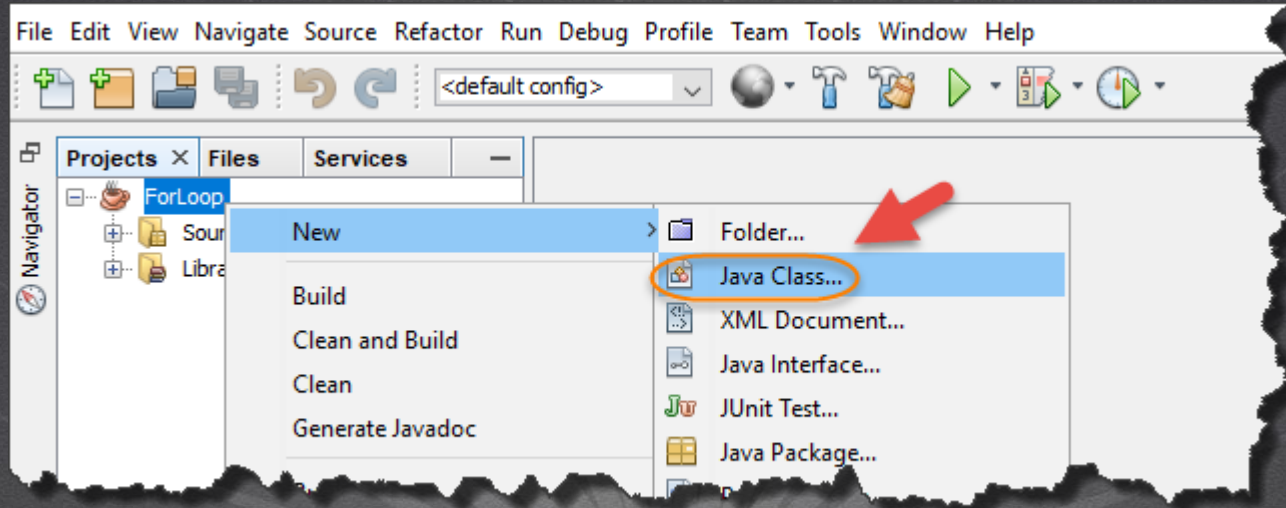
Libraries Folder:

Different users and projects can share the same compilation libraries (see Help for details).

☐ Create Main Class

## 2. CREATE A NEW CLASS

We'll create the ForLoopTest.java class:





## 2. CREATE A NEW CLASS

We'll create the ForLoopTest.java class:

**New Java Class**

**Steps**

1. Choose File Type
2. **Name and Location**

**Name and Location**

Class Name: ForLoopTest

Project: ForLoop

Location: Source Packages

Package: test

Created File: C:\Courses\JavaFundamentals\Lesson05\ForLoop\src\test\ForLoopTest.java

< Back   Next >   **Finish**   Cancel   Help

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### 3. MODIFY THE CODE

#### ForLoopTest.java:

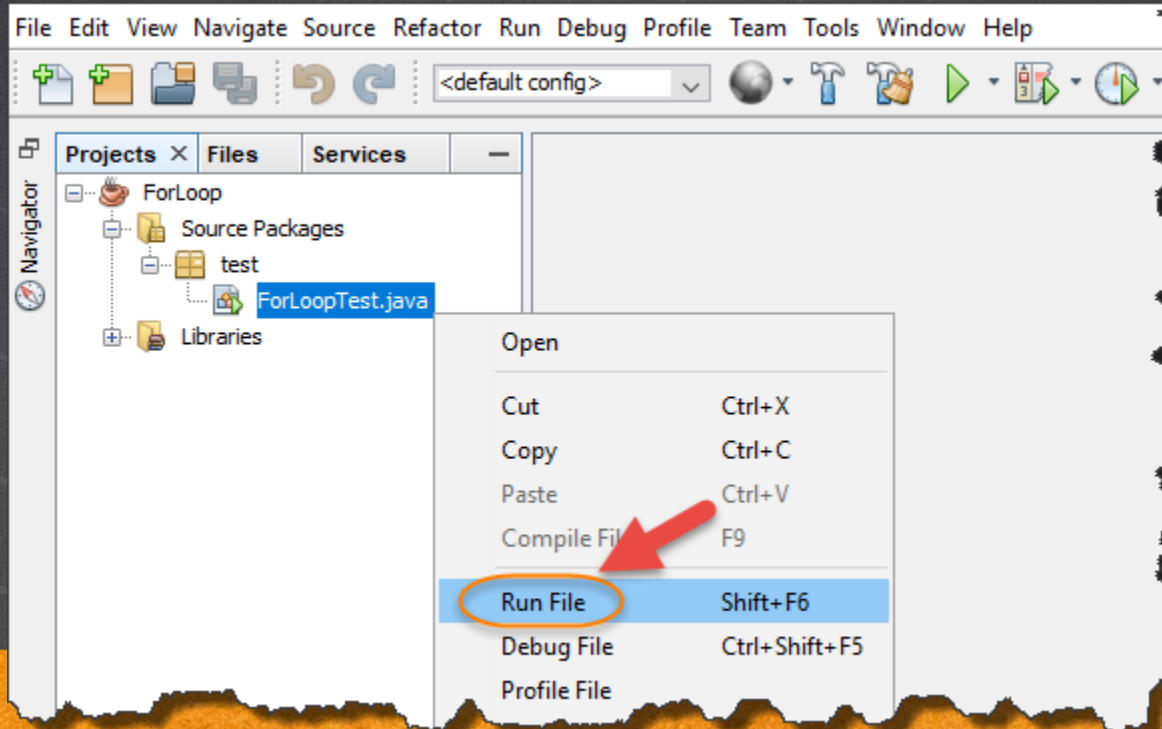
```
package test;

public class ForLoopTest {
    public static void main(String[] args) {
        int limit = 10;
        for (int counter = 0; counter < limit; counter++) {
            System.out.println("counter = " + counter);
        }
    }
}
```



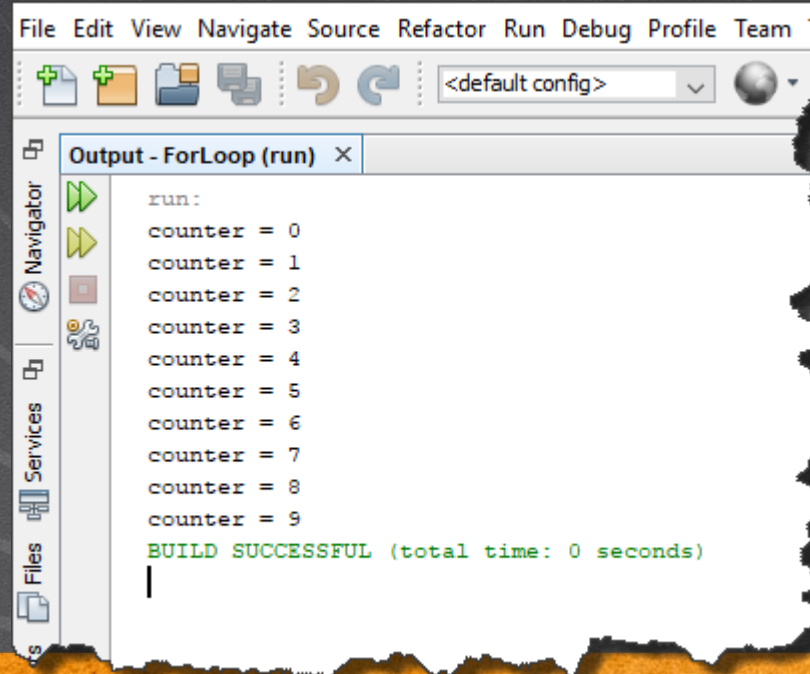
## 4. EXECUTE THE PROJECT

We execute our project. We give right click -> Run:



## 4. EXECUTE THE PROJECT (CONT)

The result is as follows:



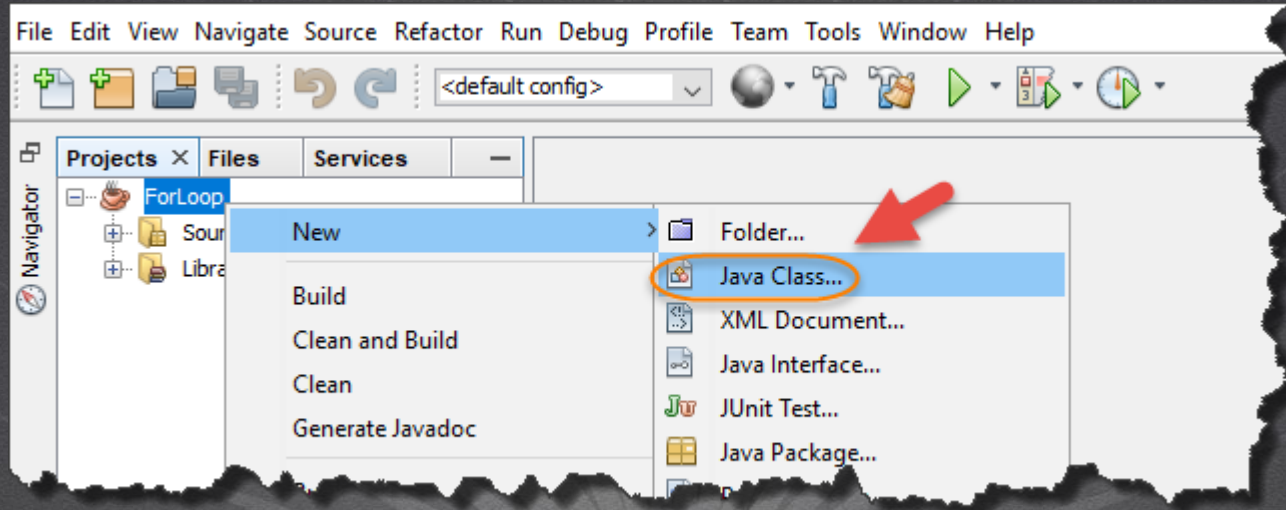
```
File Edit View Navigate Source Refactor Run Debug Profile Team
+ + + + + <default config>
Output - ForLoop (run) x
run:
counter = 0
counter = 1
counter = 2
counter = 3
counter = 4
counter = 5
counter = 6
counter = 7
counter = 8
counter = 9
BUILD SUCCESSFUL (total time: 0 seconds)
```

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## 5. FOR LOOP VERSION 2

We now create a second version of the exercise. Add a new class:





## 5. FOR LOOP VERSION 2

The class name is: ForLoopTestV2.java:

**New Java Class**

**Steps**

1. Choose File Type
2. **Name and Location**

**Name and Location**

Class Name: ForLoopTestV2

Project: ForLoop

Location: Source Packages

Package: test

Created File: C:\Courses\JavaFundamentals\Lesson05\ForLoop\src\test\ForLoopTestV2.java

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# PASO 6. MODIFICAMOS EL CÓDIGO

## ForLoopTestV2.java:

```
package test;

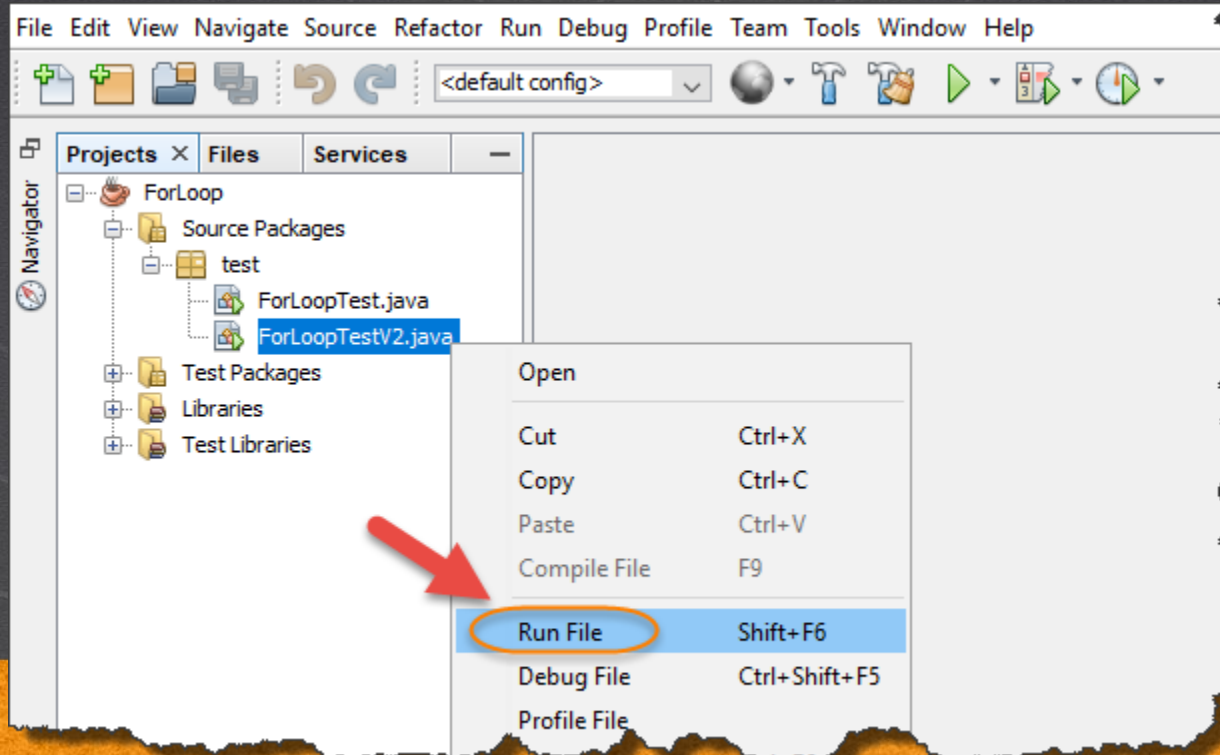
import java.util.Scanner;

public class ForLoopTestV2 {

    public static void main(String[] args) {
        System.out.println("Enter the number of elements to iterate:");
        int maxElements;
        Scanner scanner = new Scanner(System.in); //Creation of the Scanner object to read data
        maxElements = scanner.nextInt(); //We read the value provided by the user
        for (int counter = 0; counter < maxElements; counter++) {
            System.out.println("counter = " + counter);
        }
    }
}
```

# 7. EXECUTE THE PROJECT

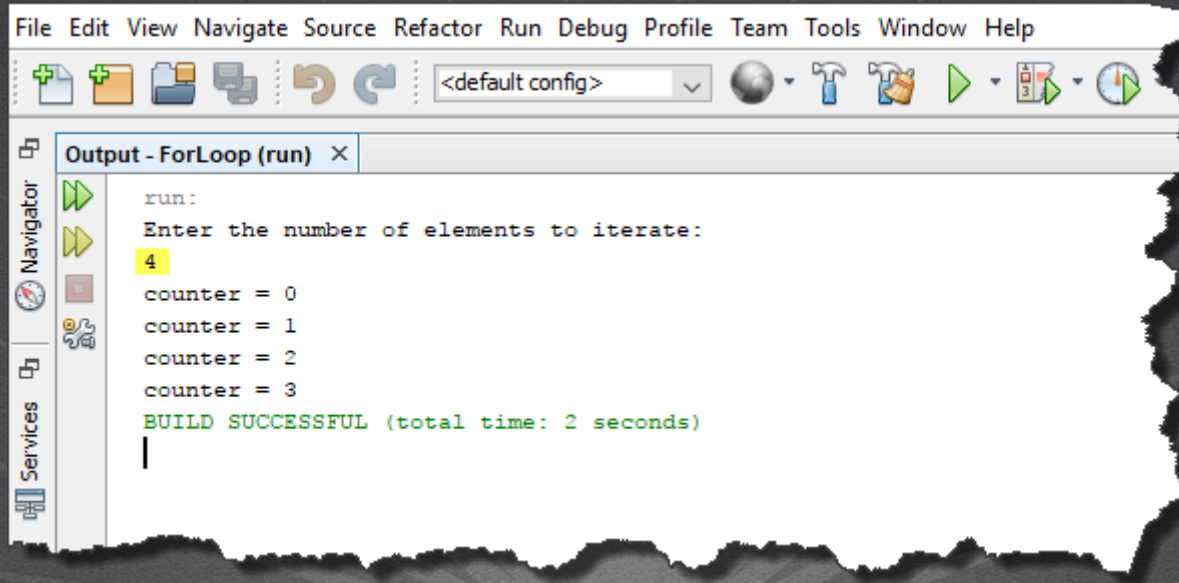
We execute our project. We give right click -> Run:





## 7. EXECUTE THE PROJECT (CONT)

The result is as follows:



```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
Output - ForLoop (run) X
run:
Enter the number of elements to iterate:
4
counter = 0
counter = 1
counter = 2
counter = 3
BUILD SUCCESSFUL (total time: 2 seconds)
```

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# IN CASE OF PROBLEMS

- Remember to code every line of code, DO NOT copy and paste from the eBooks.
- Only in case of problems you can always use the documentation (PDF) or the resolved projects (.zip file) that we give you in each exercise to check any problems in your code.



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# EXERCISE CONCLUSION

- With this exercise we have implemented the handling of the for loop.
- The for loop, unlike the while loop, we can see that it has already defined sections to facilitate the initialization and the increase for the counter and thus facilitate the progress of the for loop.
- In this way, if we need a more compact code, we can prefer a for loop instead of the while loop, because the while loop requires more control to avoid infinite loops.



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# **JAVA FUNDAMENTALS**

By: Eng. Ubaldo Acosta



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