

# JAVA PROGRAMMING COURSE

## EXERCISE

# CALCULATOR APPLICATION AND SCANNER CLASS

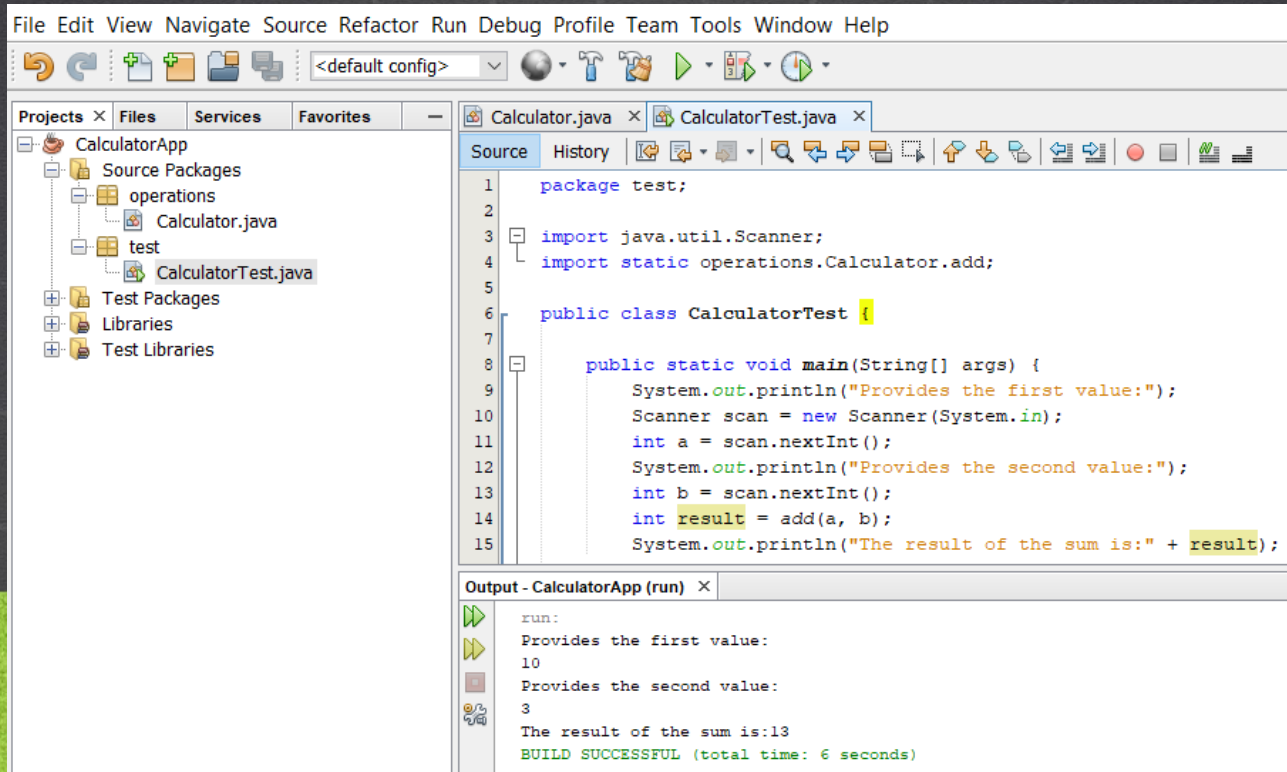


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# EXERCISE OBJECTIVE

Implement the data entry concept by creating a calculator. At the end we should observe the following:



```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
CalculatorApp
├── Source Packages
│   ├── operations
│   └── Calculator.java
└── test
    └── CalculatorTest.java
Test Packages
Libraries
Test Libraries

Source
1 package test;
2
3 import java.util.Scanner;
4 import static operations.Calculator.add;
5
6 public class CalculatorTest {
7
8     public static void main(String[] args) {
9         System.out.println("Provides the first value:");
10        Scanner scan = new Scanner(System.in);
11        int a = scan.nextInt();
12        System.out.println("Provides the second value:");
13        int b = scan.nextInt();
14        int result = add(a, b);
15        System.out.println("The result of the sum is:" + result);
16    }
17 }

Output - CalculatorApp (run) x
run:
Provides the first value:
10
Provides the second value:
3
The result of the sum is:13
BUILD SUCCESSFUL (total time: 6 seconds)
```

# 1. CREATE A NEW PROJECT

Create a new 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

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## 2. CREATE A NEW CLASS

Create a new class:

**New Java Class**

**Steps**

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

**Name and Location**

Class Name: Calculator

Project: CalculatorApp

Location: Source Packages

Package: operations

Created File: C:\Courses\JavaProgramming\Lesson21\CalculatorApp\src\operations\Calculator.java

< Back Next > **Finish** Cancel Help

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### 3. MODIFY THE CODE

#### Calculator.java:

```
package operations;

public class Calculator {

    public static int add(int a ,int b){
        return a + b;
    }
}
```

## 4. CREATE A NEW CLASS

Create a new class:

**New Java Class**

**Steps**

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

**Name and Location**

Class Name:

Project:

Location:

Package:

Created File:

< Back   Next >   **Finish**   Cancel   Help

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# 5. MODIFY THE CODE

## CalculatorTest.java:

```
package test;

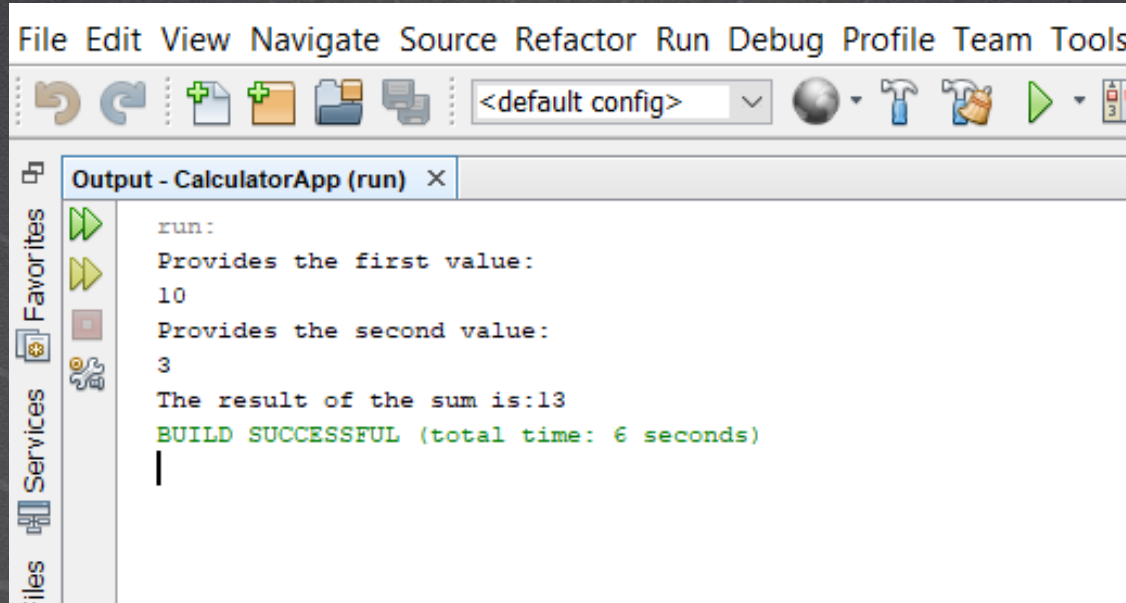
import java.util.Scanner;
import static operations.Calculator.add;

public class CalculatorTest {

    public static void main(String[] args) {
        System.out.println("Provides the first value:");
        Scanner scan = new Scanner(System.in);
        int a = scan.nextInt();
        System.out.println("Provides the second value:");
        int b = scan.nextInt();
        int result = add(a, b);
        System.out.println("The result of the sum is: " + result);
    }
}
```

## 6. EXECUTE THE PROJECT

The result is as follows:



The screenshot shows an IDE's output window titled "Output - CalculatorApp (run)". The window displays the following text:

```
run:
Provides the first value:
10
Provides the second value:
3
The result of the sum is:13
BUILD SUCCESSFUL (total time: 6 seconds)
```

The IDE interface includes a menu bar with options: File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools. Below the menu bar is a toolbar with icons for undo, redo, new file, save, copy, paste, and a dropdown menu showing "<default config>". On the left side, there is a sidebar with icons for Files, Favorites, and Services.

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# EXTRA TASKS

- Add the remaining methods of subtraction, division and multiplication to complete the Calculator application and test each of the operations requesting the data from the console.



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# EXERCISE CONCLUSION

- With this exercise we have implemented a calculator exercise, but now the input values are dynamically provided. With this we implemented the data entry with the Scanner class, using the `nextInt ()` method. There are more methods that we can start exploring in this class.
- For more information about the scanner class consult:
- <https://docs.oracle.com/javase/tutorial/essential/io/scanning.html>



**ONLINE COURSE**

# **JAVA PROGRAMMING**

By: Eng. Ubaldo Acosta



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