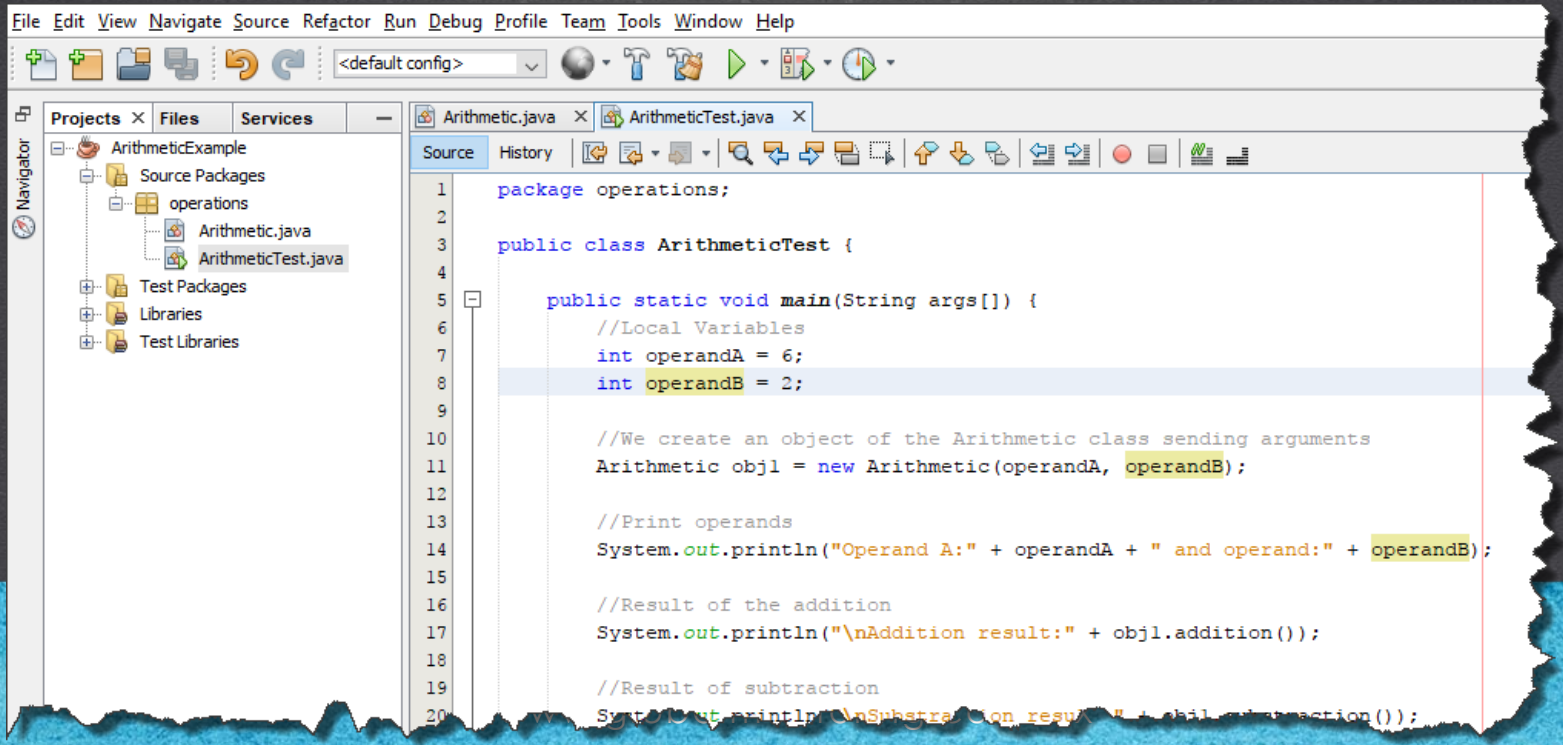
JAVA FUNDAMENTALS COURSE

EXERCISE

ARITHMETIC PROJECT V3

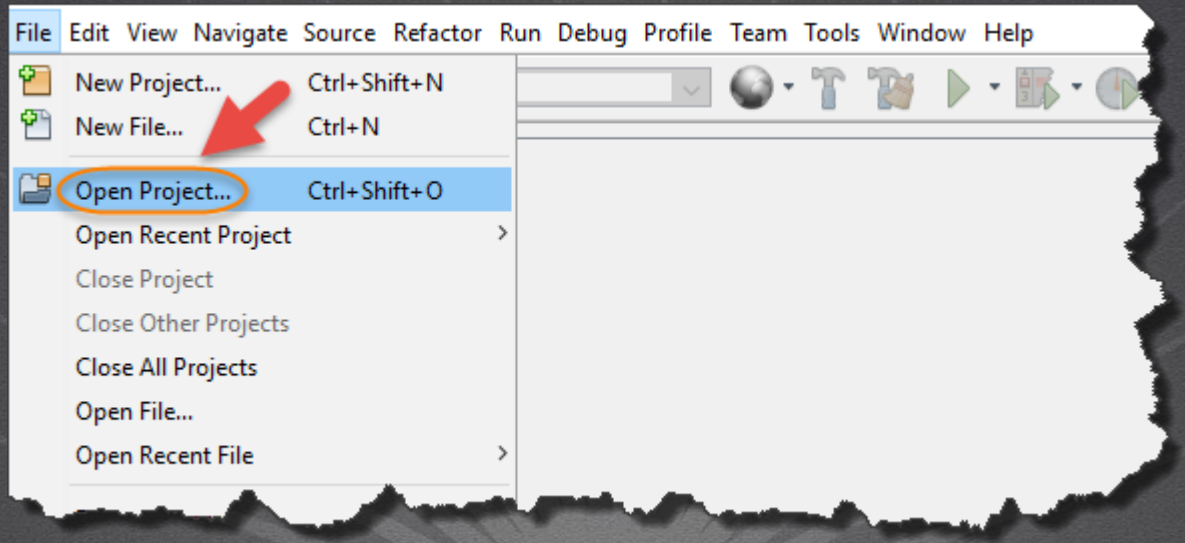
EXERCISE OBJECTIVE

Create the Arithmetic exercise. At the end we should observe the following:



1. OPEN THE PROJECT

Open the Arithmetic project if necessary:



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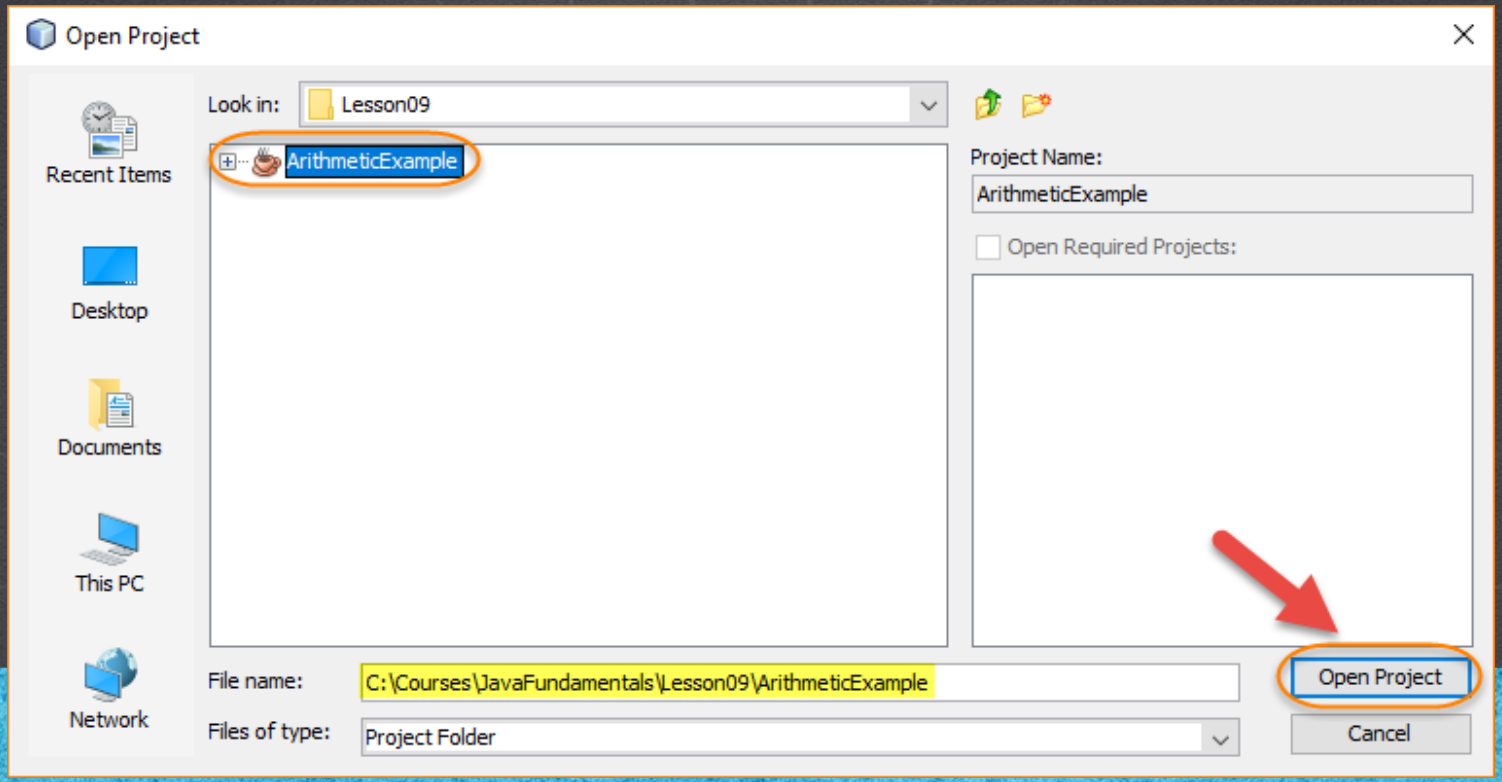
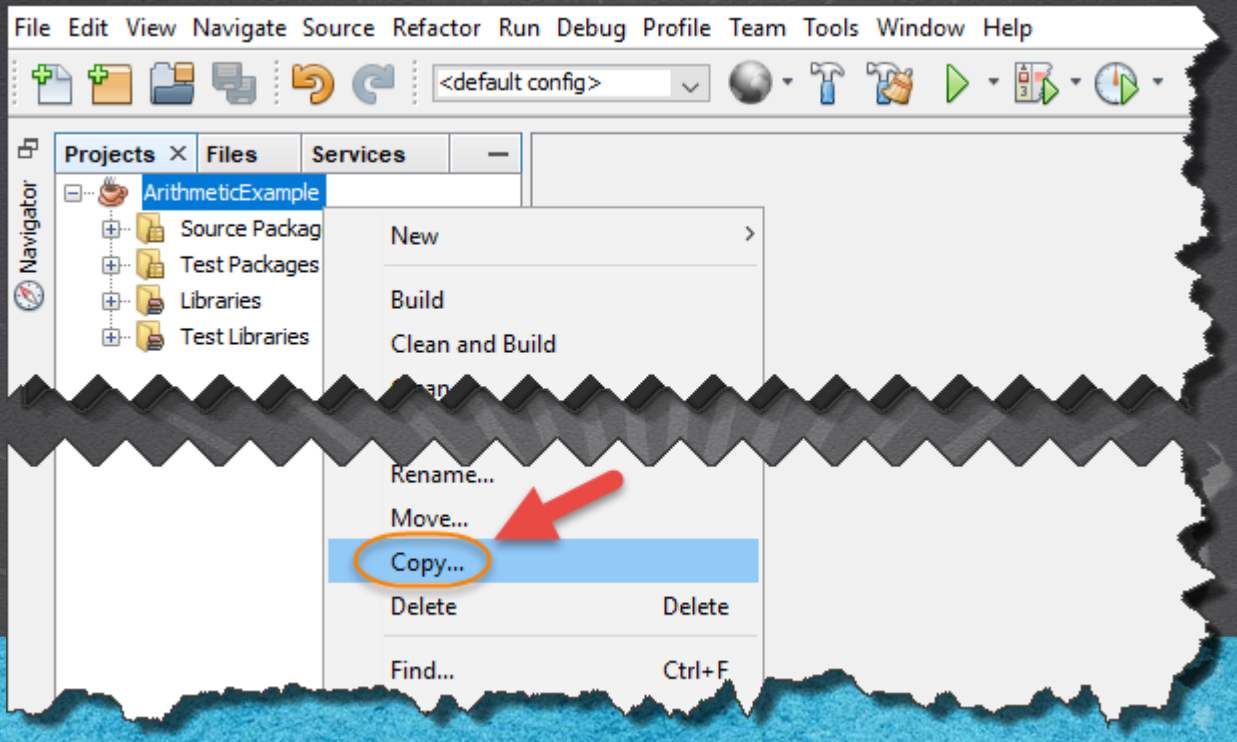


2. PROJECT CLONING

We are going to copy the Arithmetic project:



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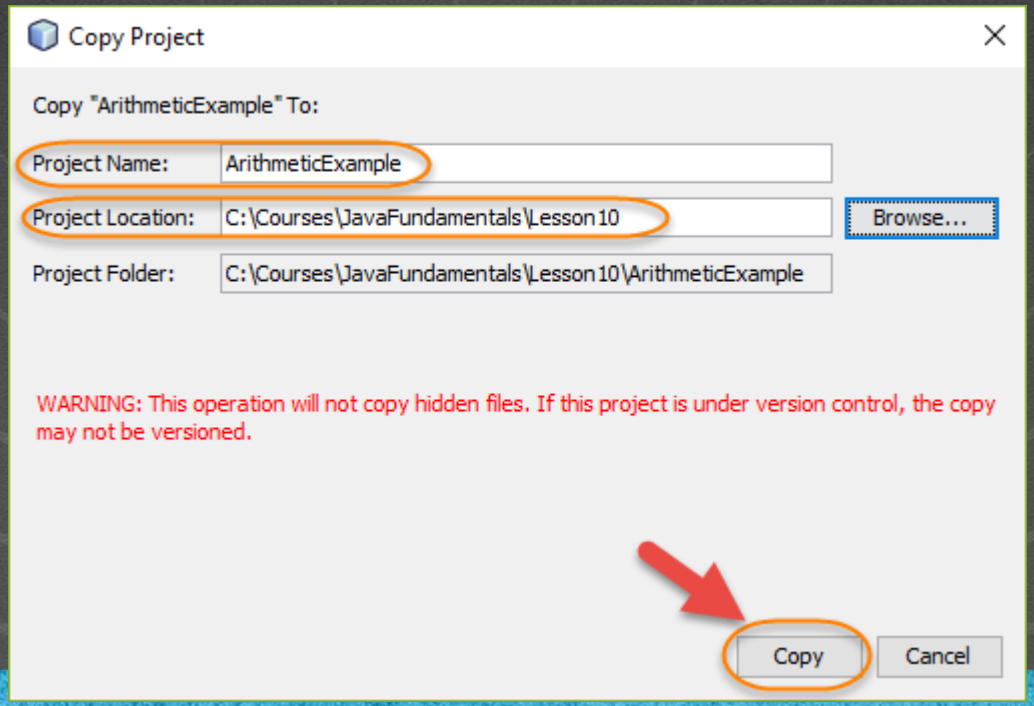
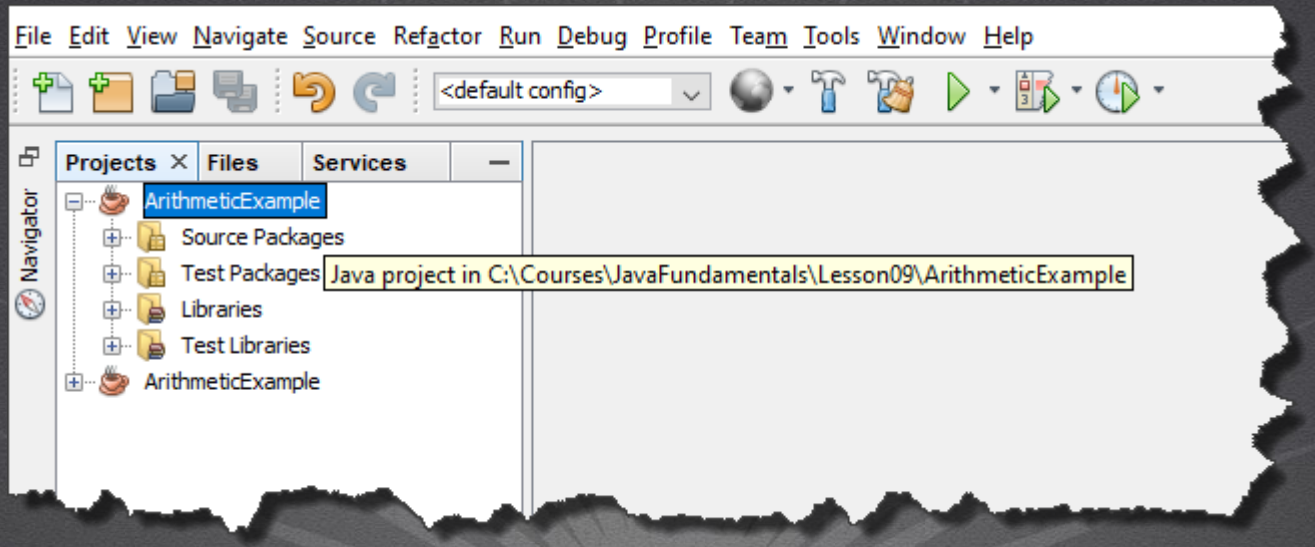


3. CLOSE PROJECT

We are going to close the Arithmetic project of the previous lesson:



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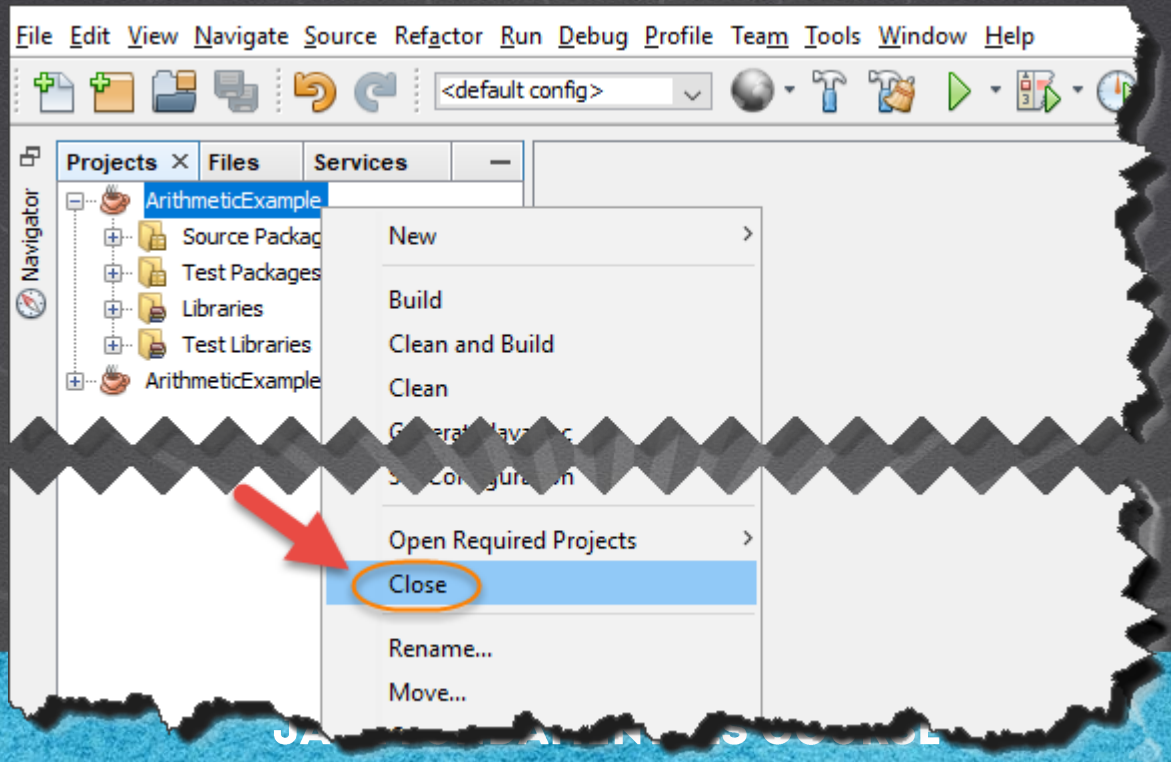


4. MODIFY THE CODE

Modify the Arithmetic class to add more methods:

Arithmetic.java:

```
package operations;

public class Arithmetic {

    //Attributes of the class
    int a;
    int b;

    //Empty Constructor
    //Remember that if we add a different constructor to the empty one
    //this constructor is not created anymore and we must create it if we need it
    Arithmetic() {
    }

    //Constructor with 2 arguments
    Arithmetic(int a, int b) {
        //Use of this operator
        this.a = a;
        this.b = b;
    }
```

4. MODIFY THE CODE

Modify the Arithmetic class to add more methods:

Arithmetic.java:

```
    //This method takes the attributes of the class to do the addition
    int addition() {
        return a + b;
    }

    //Substraction method
    int substraction() {
        return a - b;
    }

    //Multiplication method
    int multiplication() {
        return a * b;
    }

    //Division method
    int division() {
        return a / b;
    }
}
```

5. MODIFY THE CODE

Modify the ArithmeticTest.java:

```
package operations;

public class ArithmeticTest {

    public static void main(String args[]) {
        //Local Variables
        int operandA = 6;
        int operandB = 2;

        //We create an object of the Arithmetic class sending arguments
        Arithmetic obj1 = new Arithmetic(operandA, operandB);

        //Print operands
        System.out.println("Operand A:" + operandA + " and operand B:" + operandB);

        //Result of the addition
        System.out.println("\nAddition result:" + obj1.addition());

        //Result of subtraction
        System.out.println("\nSubstraction result:" + obj1.substraction());
```

5. MODIFY THE CODE

Modify the ArithmeticTest.java:

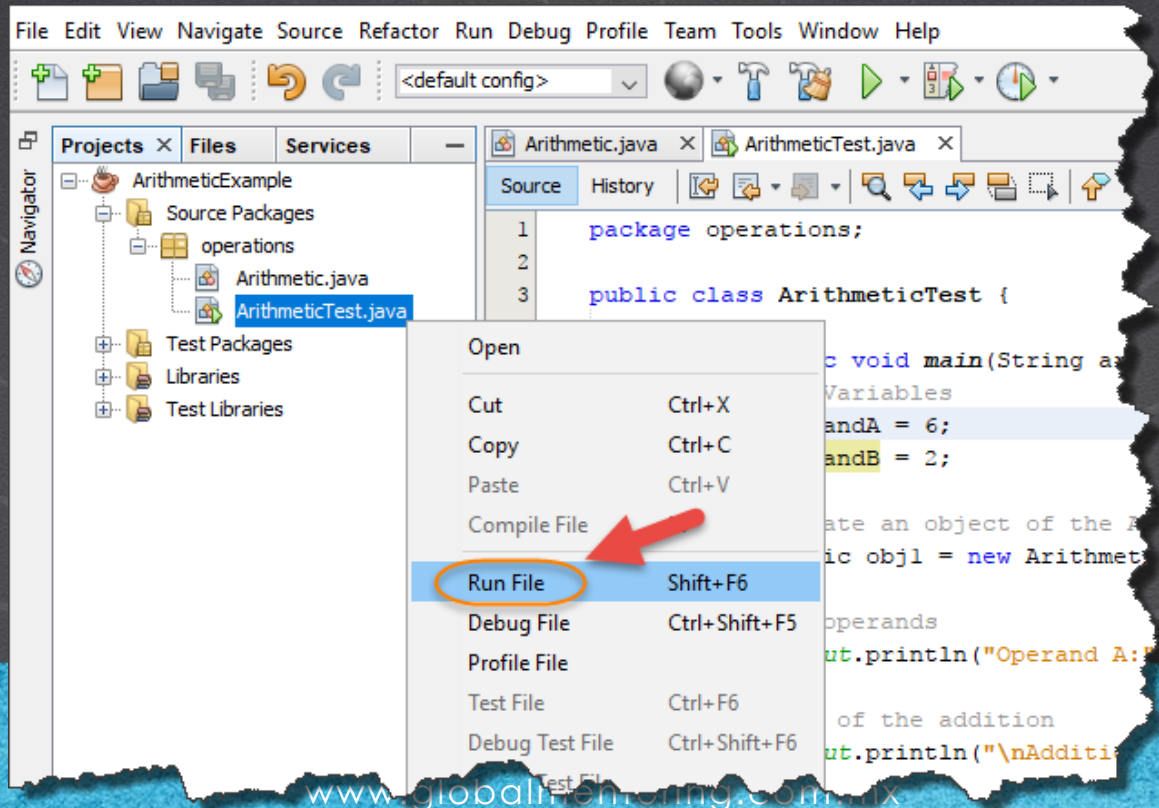
```
        //Result of multiplication
        System.out.println("\nMultiplication result:" + obj1.multiplication());

        //Result of division
        System.out.println("\nDivision result:" + obj1.division());
    }

//    void anotherMethod(){
//        //Cannot access a local variable declared in another method
//        System.out.println("Operand A" + operandA);
//    }
}
```

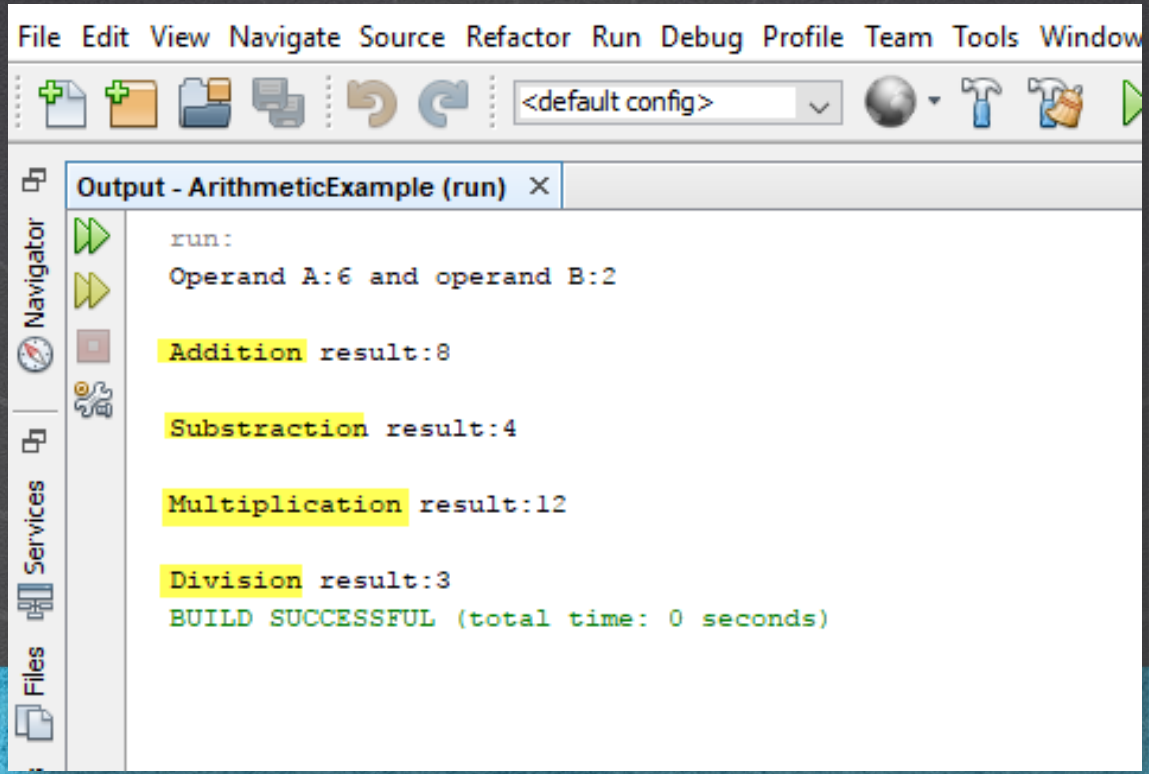
6. EXECUTE THE PROJECT

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



6. EXECUTE THE PROJECT

The result is as follows:



EXERCISE CONCLUSION

- With this exercise we have put into practice some topics such as the creation of methods, the use of this operator, as well as the issue of scope of variables.

- With these concepts we have added some improvements to our Arithmetic class, as well as some methods that complement the functionality of the class.

- In later topics we will continue working on more concepts about this same project.

ONLINE COURSE

JAVA FUNDAMENTALS

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