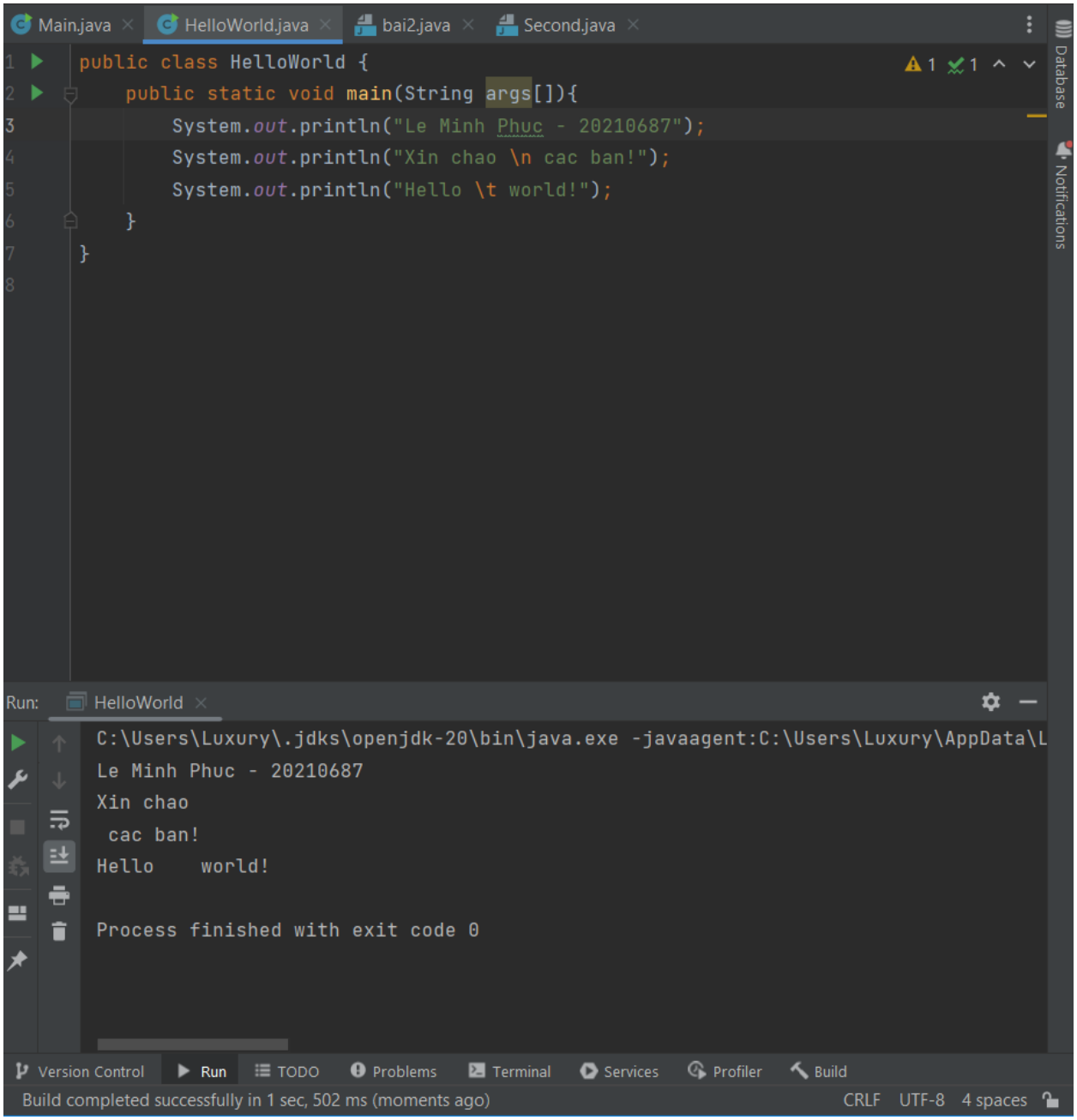
# BÁO CÁO THỰC HÀNH LAB 1
# LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

## The Very First Java Programs

### *2.2.1* Write, compile the first Java application:

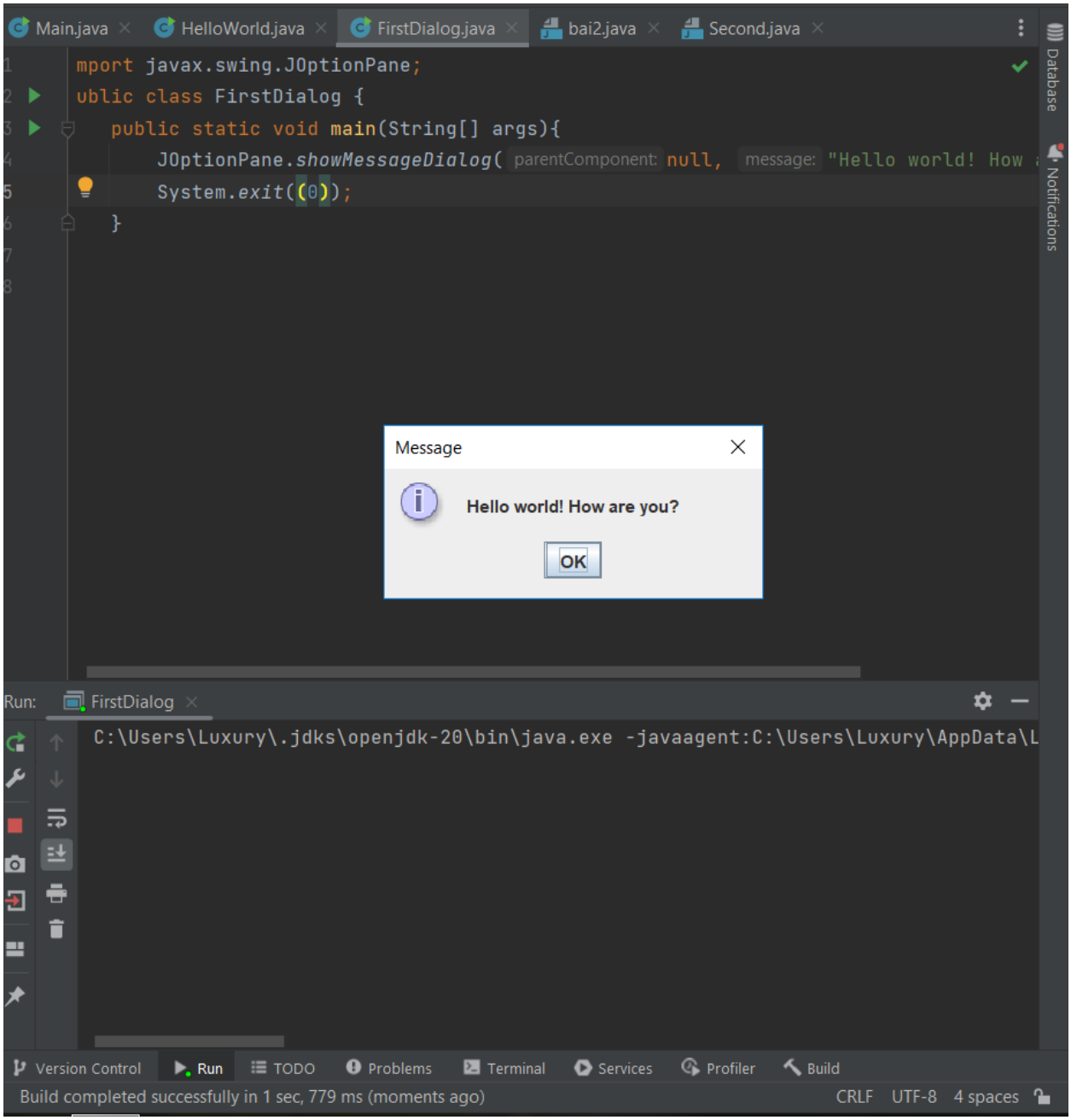
```java
//Example 1: HelloWorld.java
//Text-printing program
public class HelloWorld {

   public static void main(String args[]){
        System.out.println("Xin chao \n cac ban!");
        System.out.println("Hello \t world!");

   } // end of method main
}
```

*Kết quả*



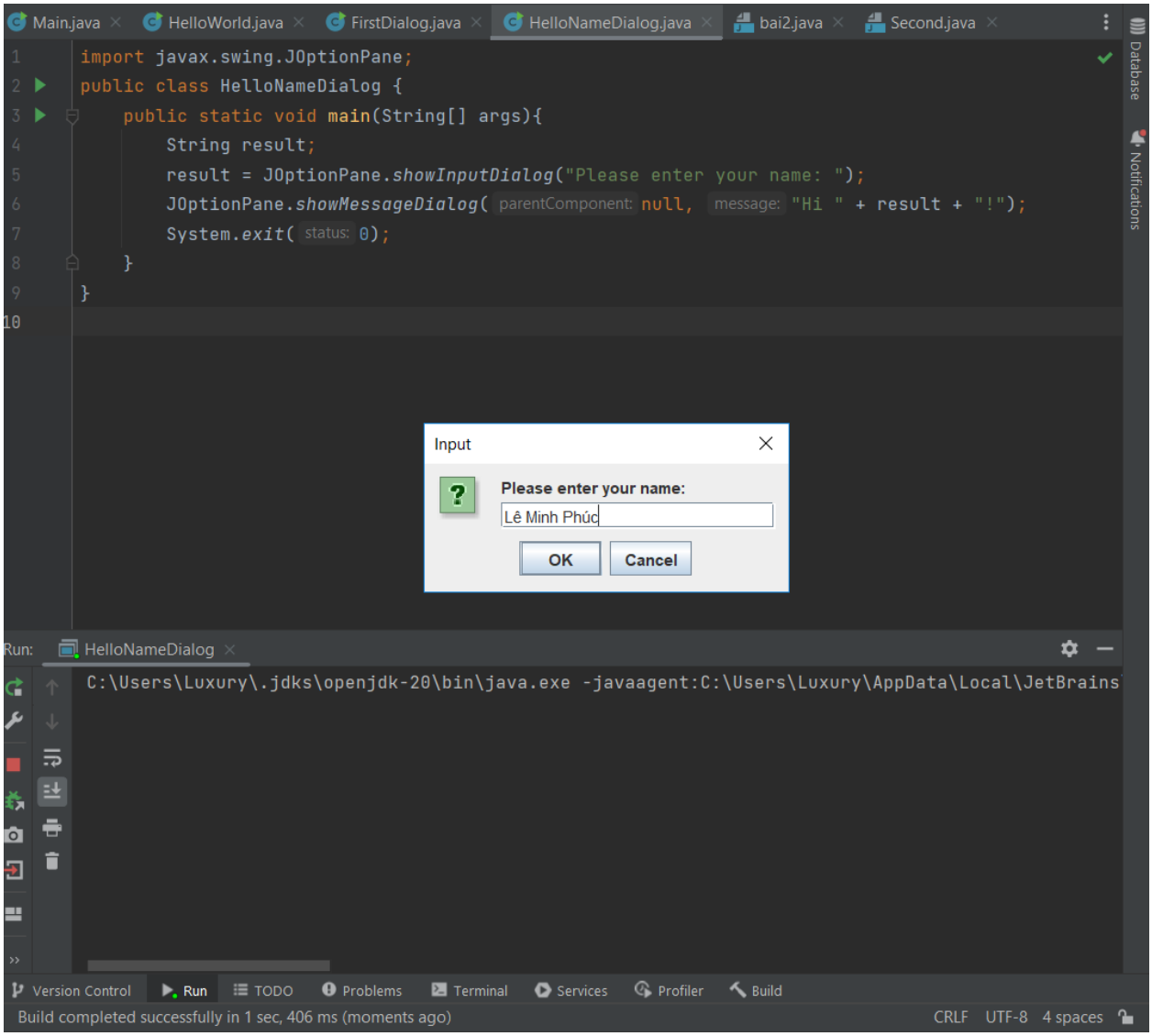

## 2.2.2 Write, compile the first dialog Java program

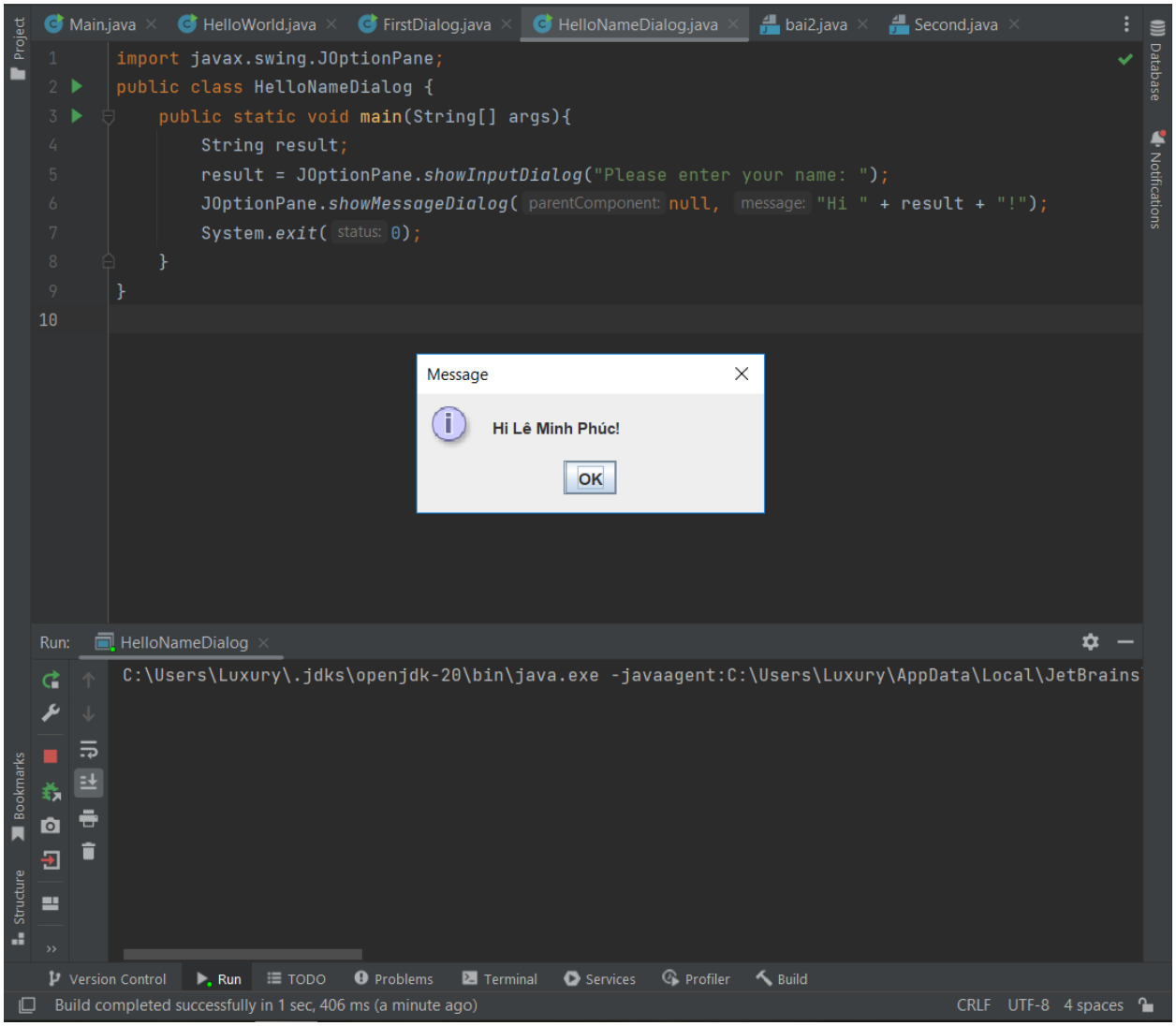
```
1 // Example 2: FirstDialog.java
2 import javax.swing.JOptionPane;
3 public class FirstDialog{
4     public static void main(String[] args){
5         JOptionPane.showMessageDialog(null,"Hello world! How are you?");
6         System.exit(0);
7     }
8 }
```




### 2.2.3 Write, compile the first input dialog Java application

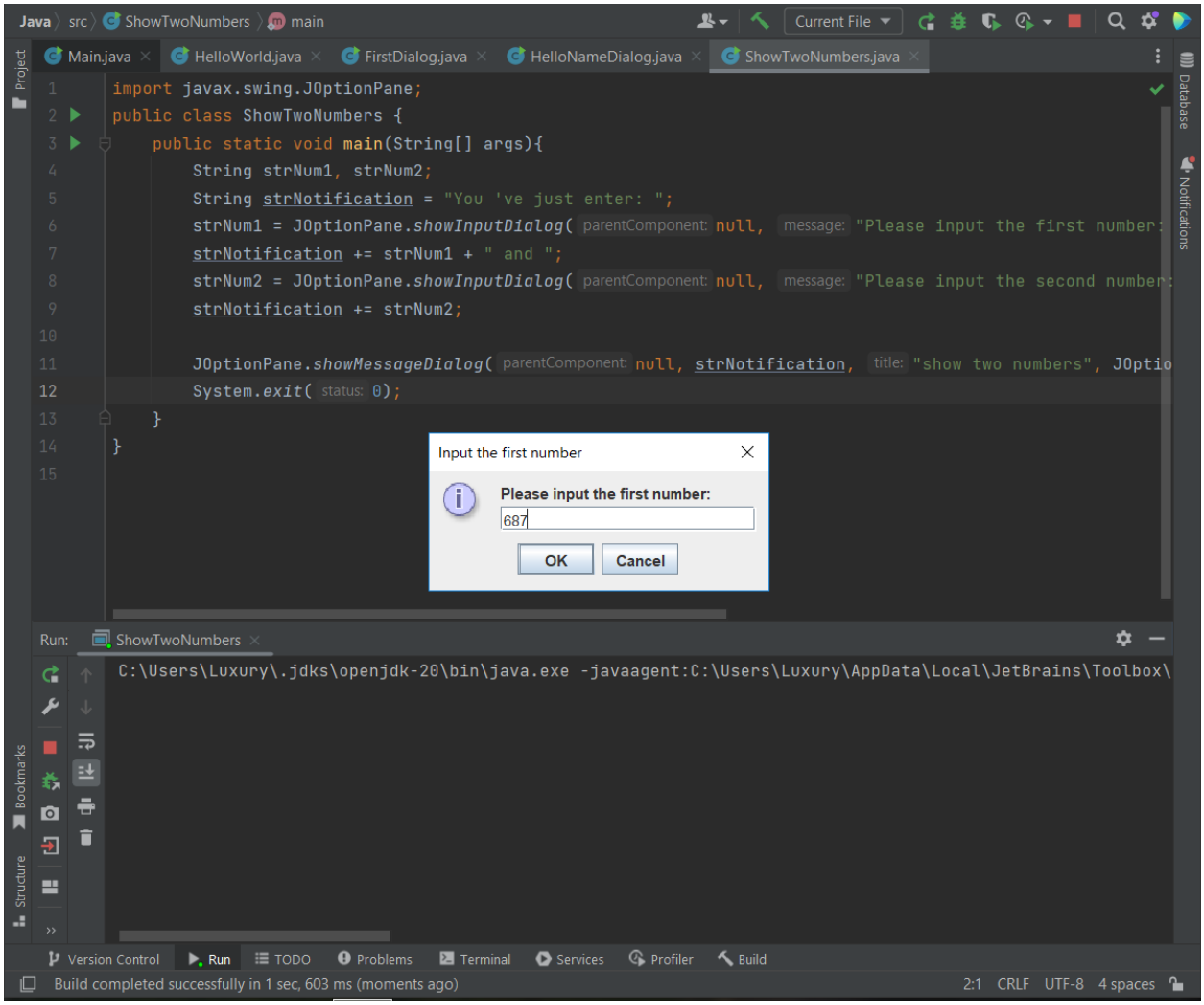
```
1  // Example 3: HelloNameDialog.java
2  import javax.swing.JOptionPane;
3  public class HelloNameDialog{
4    public static void main(String[] args){
5      String result;
6      result = JOptionPane.showInputDialog("Please enter your name:");
7      JOptionPane.showMessageDialog(null, "Hi "+ result + "!");
8      System.exit(0);
9    }
10 }
```

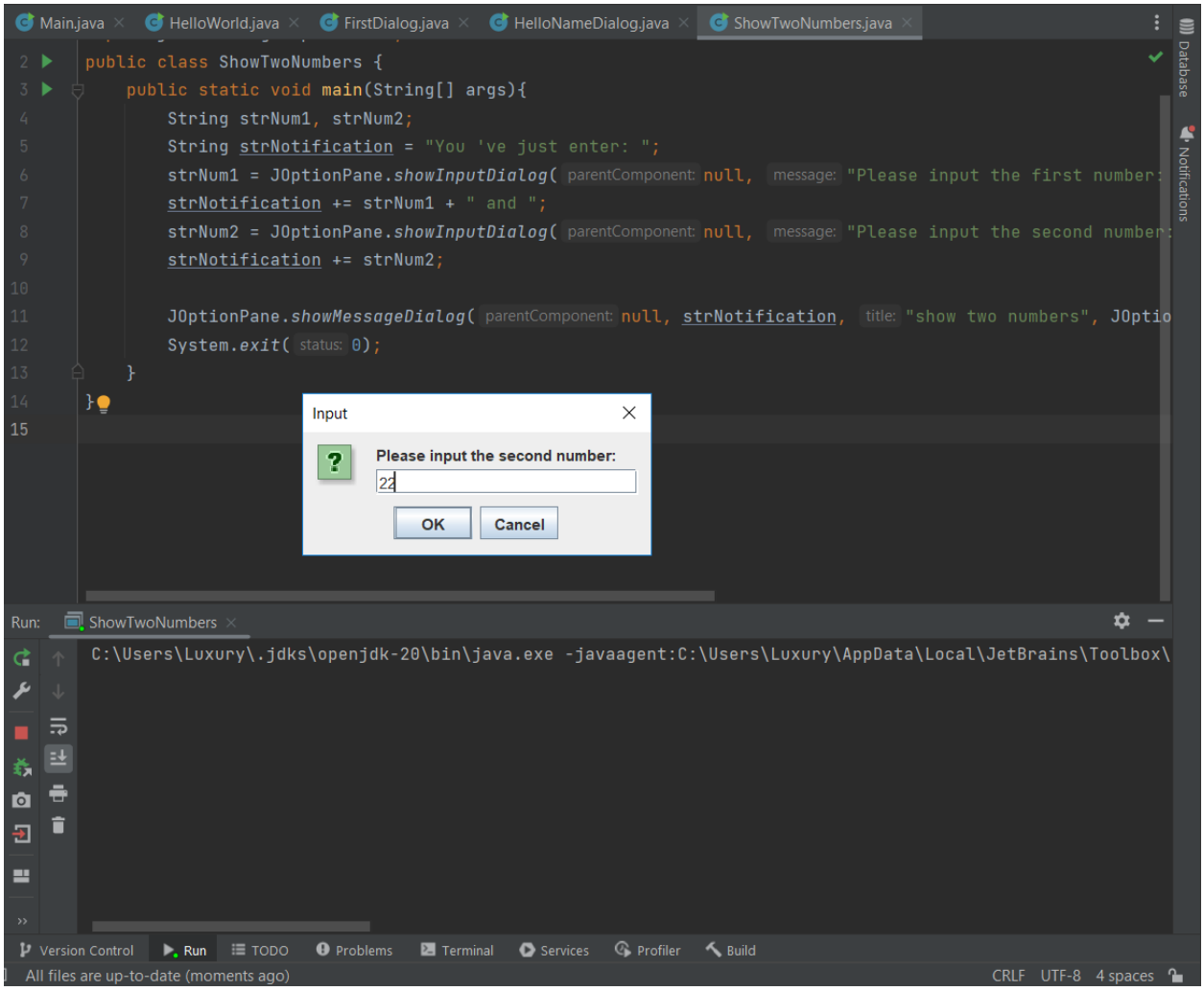

Main.java
HelloWorld.java
FirstDialog.java
HelloNameDialog.java
bai2.java
Second.java
import javax.swing.JOptionPane;
public class HelloNameDialog {
public static void main(String[] args){
String result;
result = JOptionPane.showInputDialog("Please enter your name: ");
JOptionPane.showMessageDialog( parentComponent: null, message: "Hi " + result + "!");
System.exit( status: 0);
}
}
Input
Please enter your name:
Lê Minh Phúc
OK
Cancel
Run:
HelloNameDialog
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains
Version Control
Run
TODO
Problems
Terminal
Services
Profiler
Build
Build completed successfully in 1 sec, 406 ms (moments ago)
CRLF
UTF-8
4 spaces

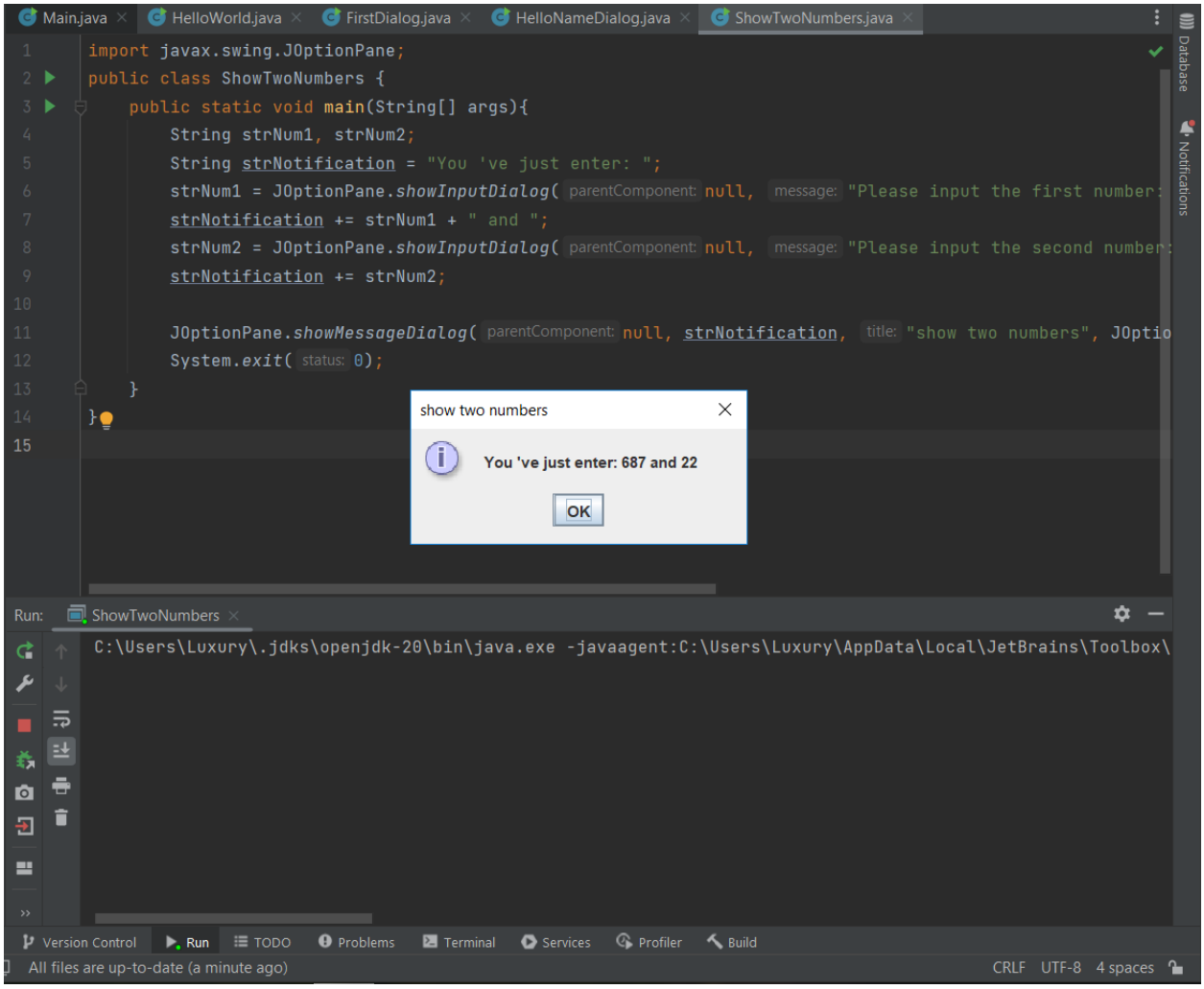

Main.java
HelloWorld.java
FirstDialog.java
HelloNameDialog.java
bai2.java
Second.java
import javax.swing.JOptionPane;
public class HelloNameDialog {
public static void main(String[] args){
String result;
result = JOptionPane.showInputDialog("Please enter your name: ");
JOptionPane.showMessageDialog( parentComponent: null, message: "Hi " + result + "!");
System.exit( status: 0);
}
}
Message
Hi Lê Minh Phúc!
OK
Run: HelloNameDialog
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains
Version Control
Run
TODO
Problems
Terminal
Services
Profiler
Build
Build completed successfully in 1 sec, 406 ms (a minute ago)
CRLF
UTF-8
4 spaces

## 2.2.4 Write, compile, and run the following example:

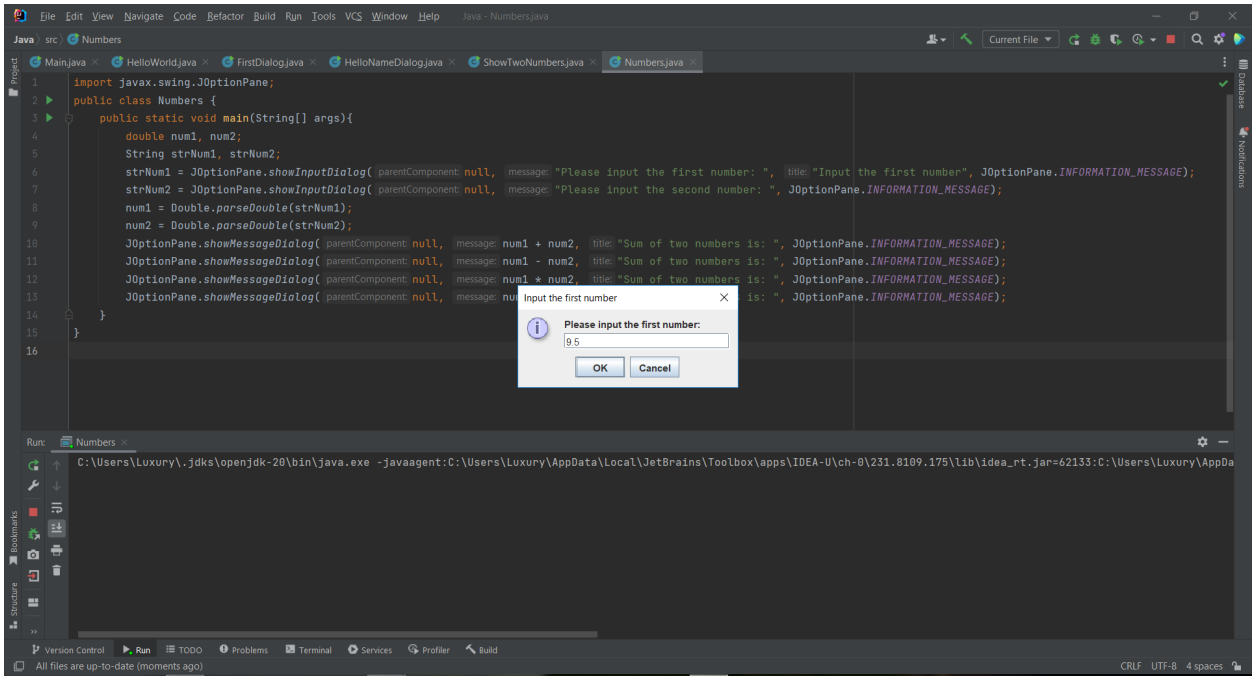
```
1  // Example 5: ShowTwoNumbers.java
2  import javax.swing.JOptionPane;
3  public class ShowTwoNumbers {
4    public static void main(String[] args){
5      String strNum1, strNum2;
6      String strNotification = "You've just entered: ";
7
8      strNum1 = JOptionPane.showInputDialog(null,
9                  "Please input the first number: ","Input the first number",
10                 JOptionPane.INFORMATION_MESSAGE);
11     strNotification += strNum1 + " and ";
12
13     strNum2 = JOptionPane.showInputDialog(null,
14                 "Please input the second number: ","Input the second number",
15                 JOptionPane.INFORMATION_MESSAGE);
16     strNotification += strNum2;
17
18     JOptionPane.showMessageDialog(null,strNotification,
19                 "Show two numbers", JOptionPane.INFORMATION_MESSAGE);
20     System.exit(0);
21   }
22 }
```

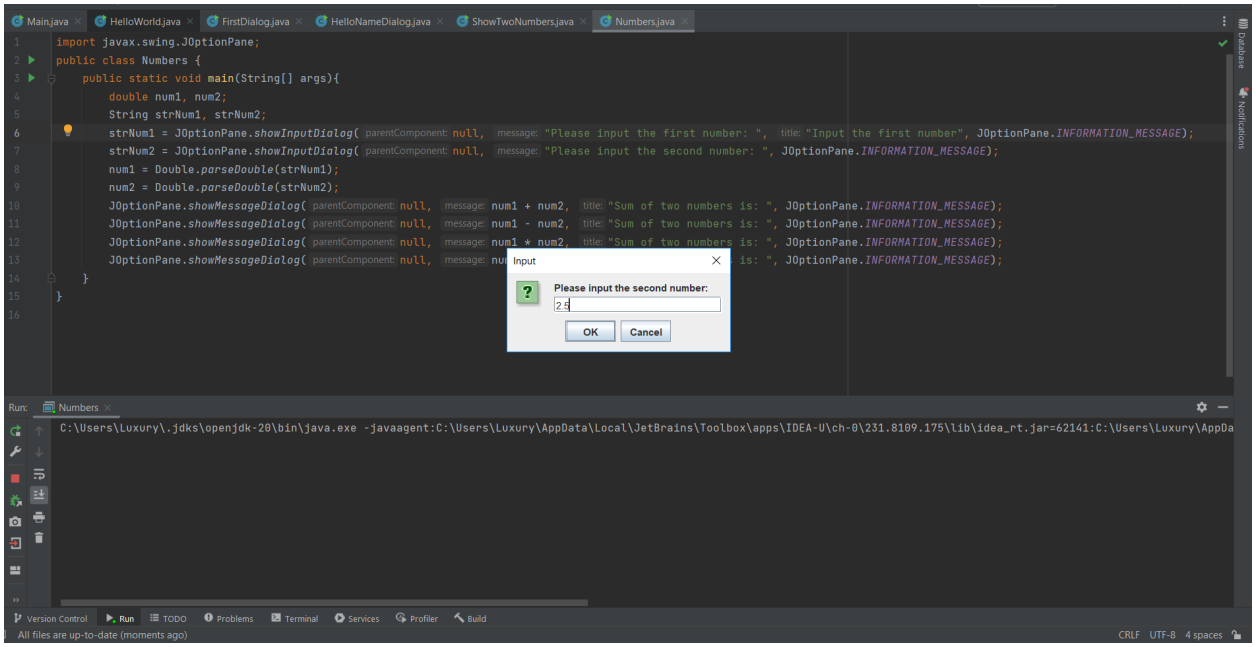

Java src ShowTwoNumbers main
Current File
Main.java HelloWorld.java FirstDialog.java HelloNameDialog.java ShowTwoNumbers.java
import javax.swing.JOptionPane;
public class ShowTwoNumbers {
public static void main(String[] args){
String strNum1, strNum2;
String strNotification = "You 've just enter: ";
strNum1 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the first number:
strNotification += strNum1 + " and ";
strNum2 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the second number:
strNotification += strNum2;
JOptionPane.showMessageDialog( parentComponent: null, strNotification, title: "show two numbers", JOptio
System.exit( status: 0);
}
}
Input the first number
Please input the first number:
687
OK
Cancel
Run: ShowTwoNumbers
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\
Version Control Run TODO Problems Terminal Services Profiler Build
Build completed successfully in 1 sec, 603 ms (moments ago)
2:1 CRLF UTF-8 4 spaces

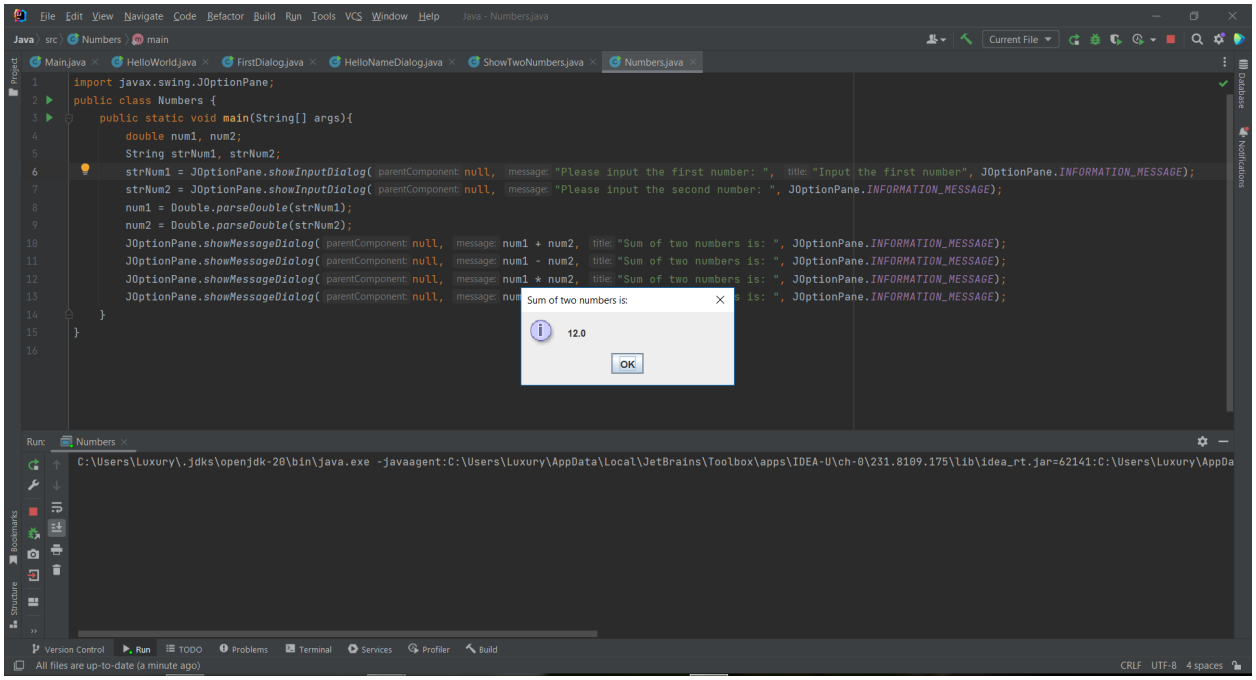

Main.java
HelloWorld.java
FirstDialog.java
HelloNameDialog.java
ShowTwoNumbers.java
public class ShowTwoNumbers {
public static void main(String[] args){
String strNum1, strNum2;
String strNotification = "You 've just enter: ";
strNum1 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the first number:
strNotification += strNum1 + " and ";
strNum2 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the second number:
strNotification += strNum2;
JOptionPane.showMessageDialog( parentComponent: null, strNotification, title: "show two numbers", JOptio
System.exit( status: 0);
}
}
Input
Please input the second number:
22
OK
Cancel
Run:
ShowTwoNumbers
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\
Version Control
Run
TODO
Problems
Terminal
Services
Profiler
Build
All files are up-to-date (moments ago)
CRLF
UTF-8
4 spaces

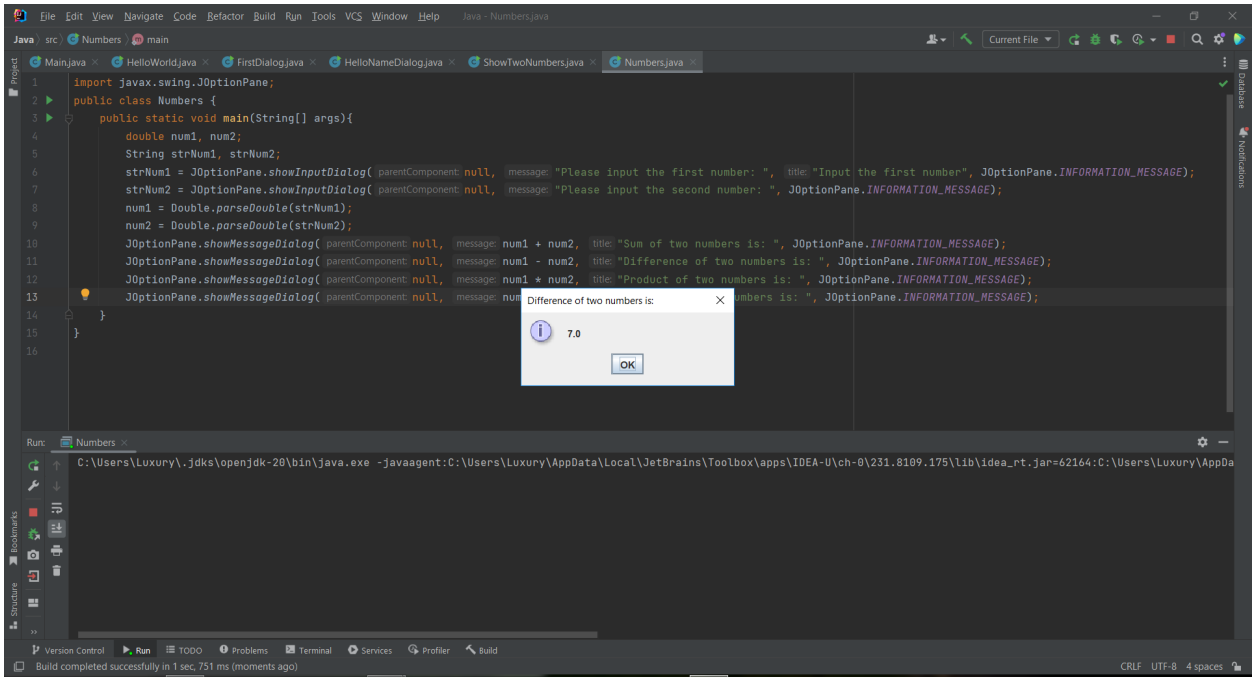


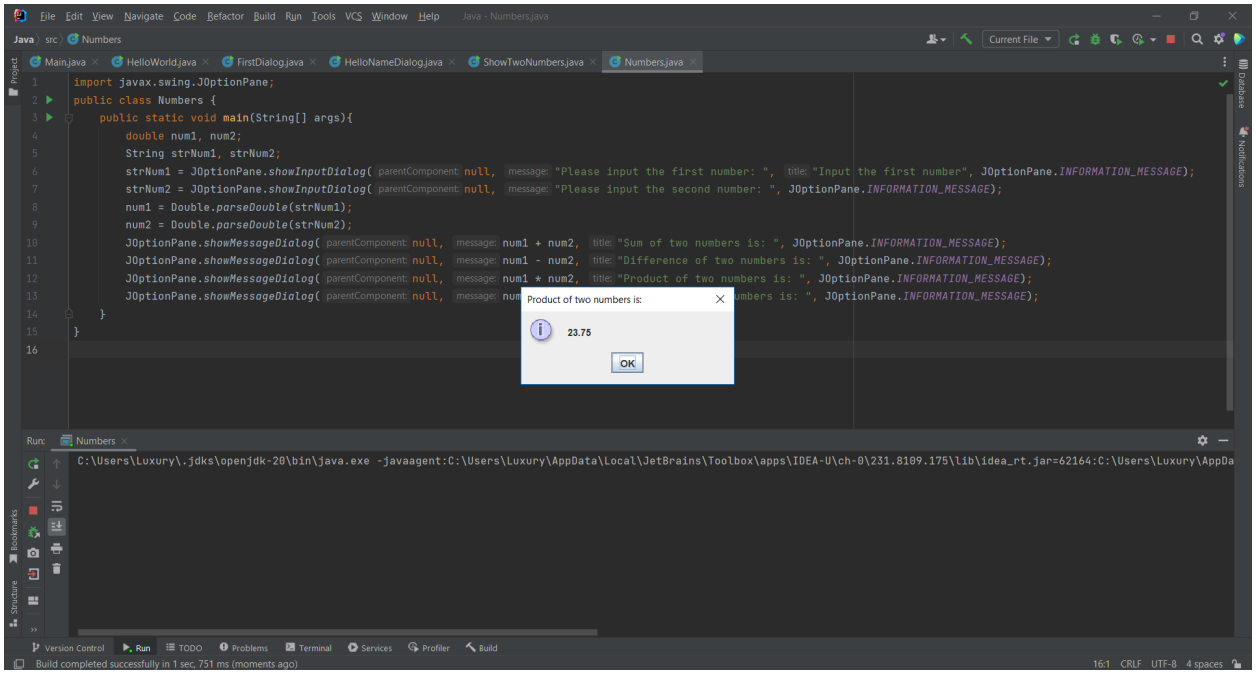

## 2.2.5 Write a program to calculate sum, difference, product, and quotient of 2 double numbers which are entered by users.

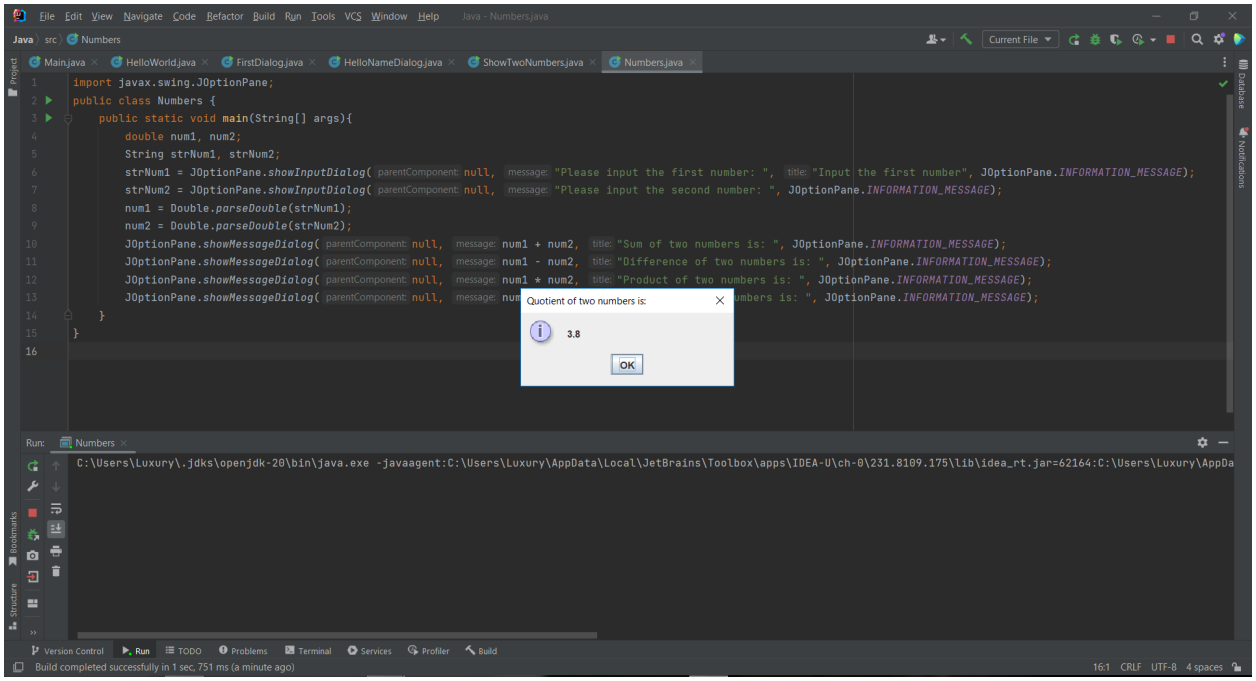

Input the first number
Please input the first number:
9.5
OK
Cancel


Input
Please input the second number:
2.5
OK
Cancel


Sum of two numbers is:
12.0
OK

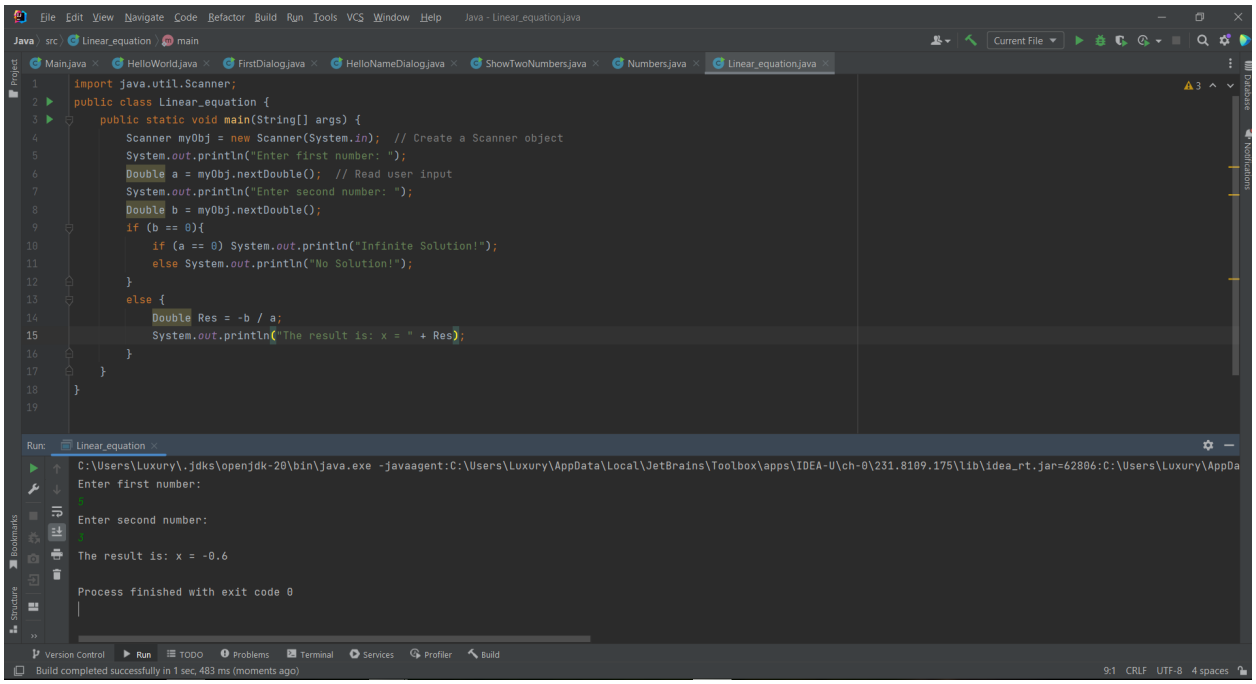

Difference of two numbers is:
7.0
OK




2.2.6:

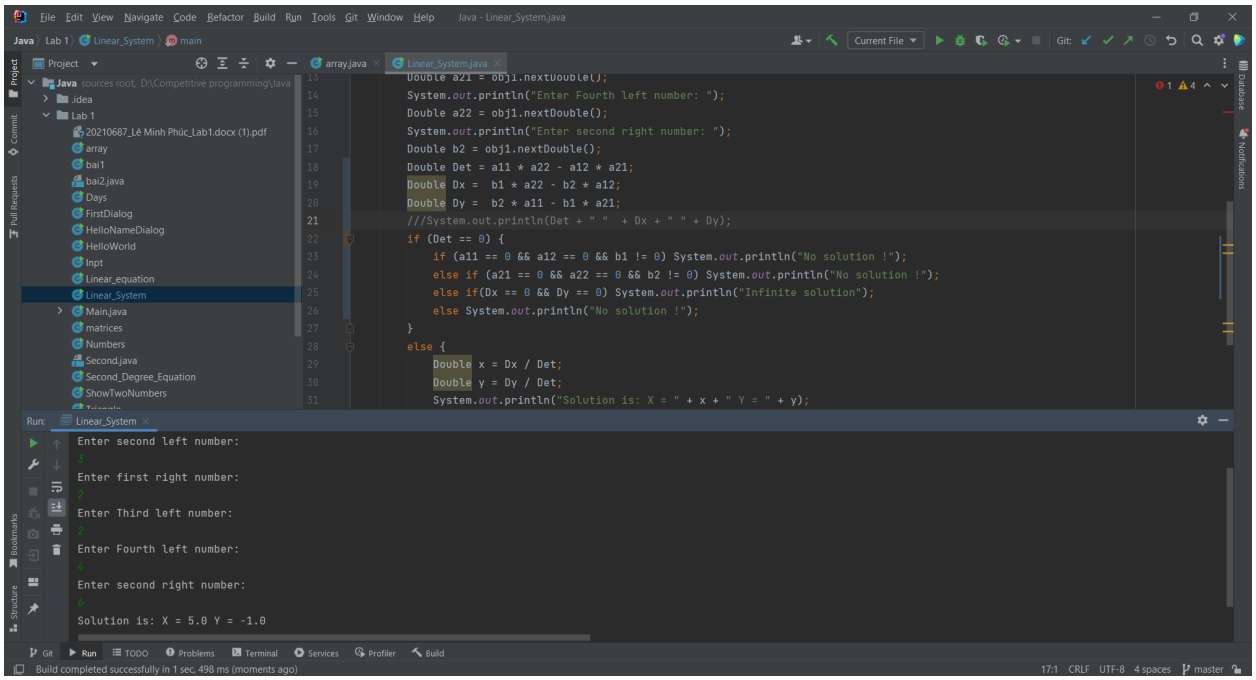
1. Linear equation



```java
import java.util.Scanner;
public class Linear_equation {
    public static void main(String[] args) {
        Scanner myObj = new Scanner(System.in);  // Create a Scanner object
        System.out.println("Enter first number: ");
        Double a = myObj.nextDouble();  // Read user input
        System.out.println("Enter second number: ");
        Double b = myObj.nextDouble();
        if (b == 0){
            if (a == 0) System.out.println("Infinite Solution!");
            else System.out.println("No Solution!");
        }
        else {
            Double Res = -b / a;
            System.out.println("The result is: x = " + Res);
        }
    }
}
```

```
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\lib\idea_rt.jar=62806:C:\Users\Luxury\AppDa
Enter first number:
5
Enter second number:
3
The result is: x = -0.6

Process finished with exit code 0
```

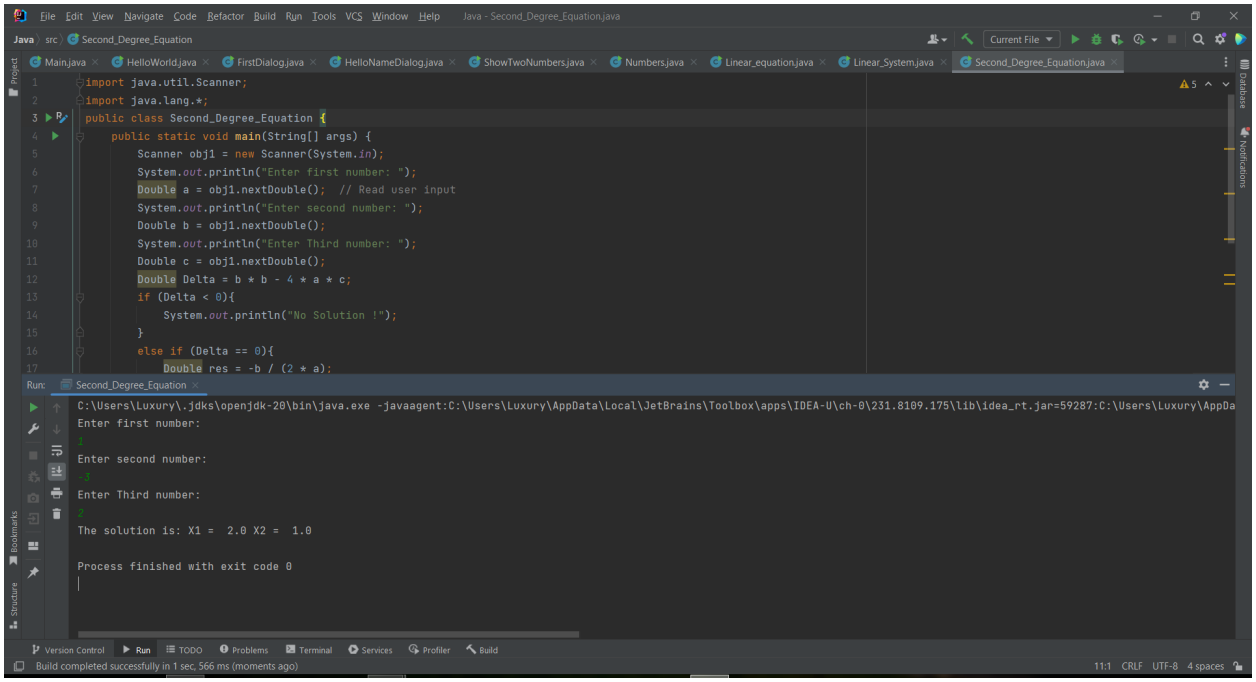
2. Linear system



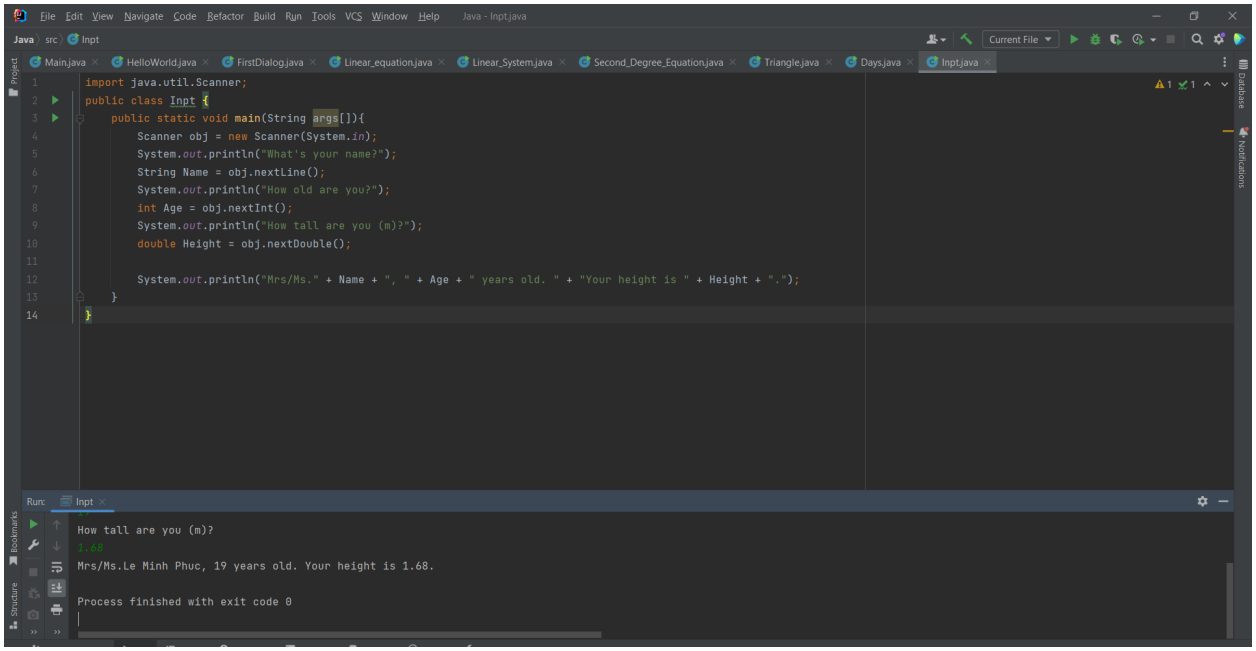
```java
        Double a21 = obj1.nextDouble();
        System.out.println("Enter Fourth left number: ");
        Double a22 = obj1.nextDouble();
        System.out.println("Enter second right number: ");
        Double b2 = obj1.nextDouble();
        Double Det = a11 * a22 - a12 * a21;
        Double Dx =  b1 * a22 - b2 * a12;
        Double Dy =  b2 * a11 - b1 * a21;
        ///System.out.println(Det + " "  + Dx + " " + Dy);
        if (Det == 0) {
            if (a11 == 0 && a12 == 0 && b1 != 0) System.out.println("No solution !");
            else if (a21 == 0 && a22 == 0 && b2 != 0) System.out.println("No solution !");
            else if(Dx == 0 && Dy == 0) System.out.println("Infinite solution");
            else System.out.println("No solution !");
        }
        else {
            Double x = Dx / Det;
            Double y = Dy / Det;
            System.out.println("Solution is: X = " + x + " Y = " + y);
```

```
Enter second left number:
3
Enter first right number:
2
Enter Third left number:
2
Enter Fourth left number:
4
Enter second right number:
6
Solution is: X = 5.0 Y = -1.0
```

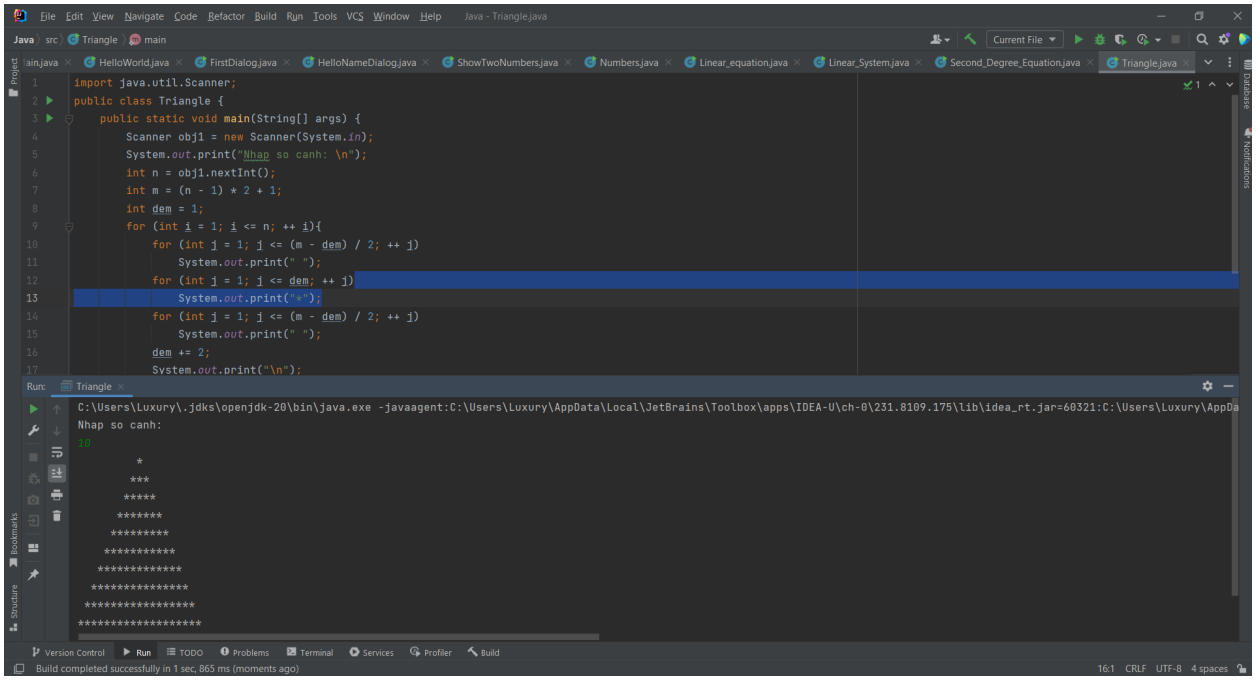
3. The Second Degree Equation




## 6.2: Input from keyboard



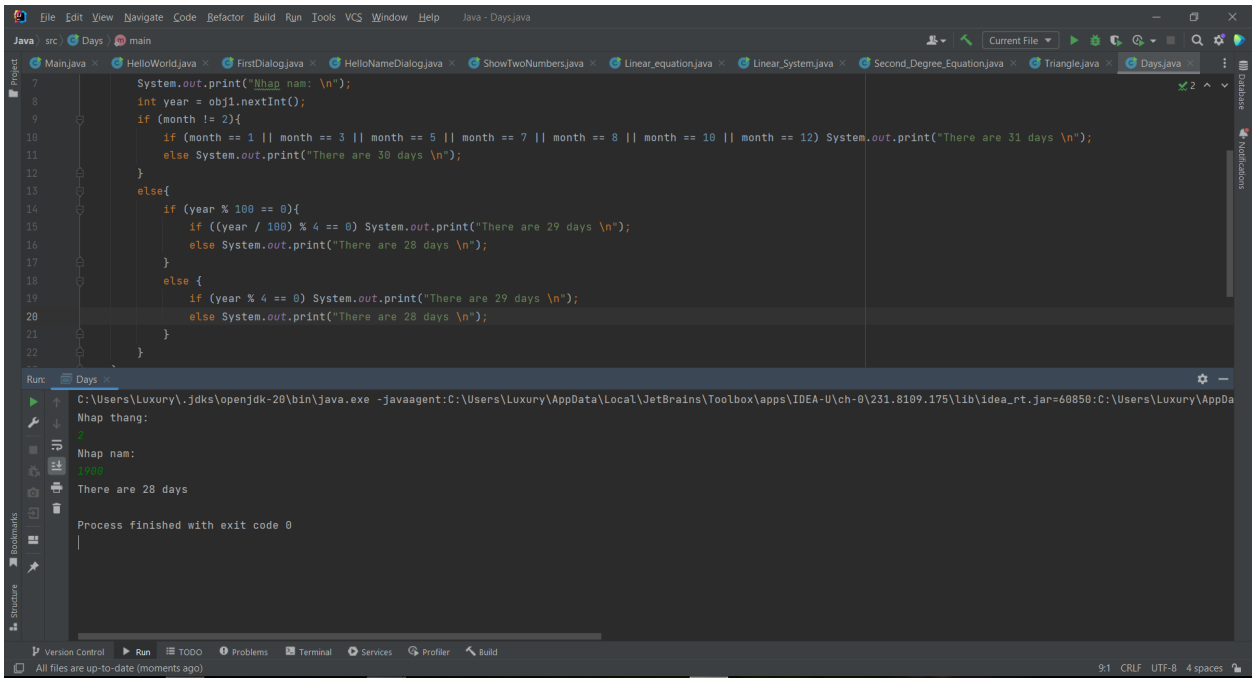

## 6.3: Triangle



```
import java.util.Scanner;
public class Triangle {
    public static void main(String[] args) {
        Scanner obj1 = new Scanner(System.in);
        System.out.print("Nhap so canh: \n");
        int n = obj1.nextInt();
        int m = (n - 1) * 2 + 1;
        int dem = 1;
        for (int i = 1; i <= n; ++ i){
            for (int j = 1; j <= (m - dem) / 2; ++ j)
                System.out.print(" ");
            for (int j = 1; j <= dem; ++ j)
                System.out.print("*");
            for (int j = 1; j <= (m - dem) / 2; ++ j)
                System.out.print(" ");
            dem += 2;
            System.out.print("\n");
```

```
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\lib\idea_rt.jar=60321:C:\Users\Luxury\AppDa
Nhap so canh:
10
         *
        ***
       *****
      *******
     *********
    ***********
   *************
  ***************
 *****************
*******************
```

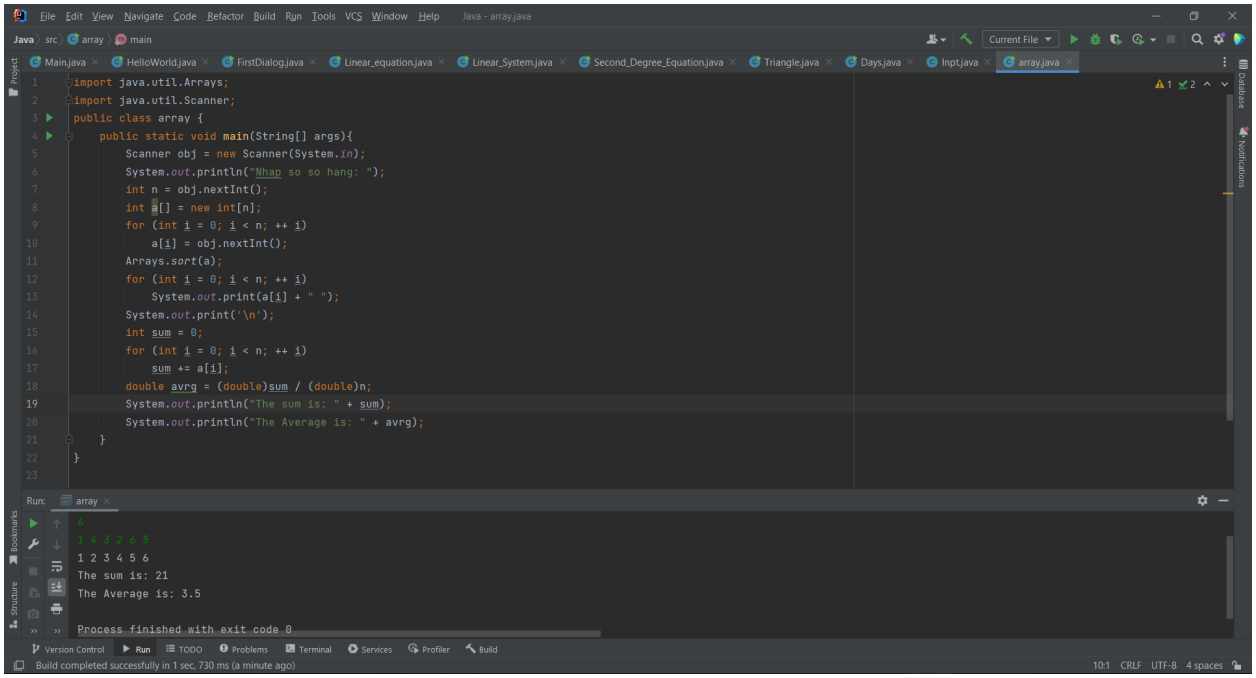
6.4: Write a program to display the number of days of a month



```
        System.out.print("Nhap nam: \n");
        int year = obj1.nextInt();
        if (month != 2){
            if (month == 1 || month == 3 || month == 5 || month == 7 || month == 8 || month == 10 || month == 12) System.out.print("There are 31 days \n");
            else System.out.print("There are 30 days \n");
        }
        else{
            if (year % 100 == 0){
                if ((year / 100) % 4 == 0) System.out.print("There are 29 days \n");
                else System.out.print("There are 28 days \n");
            }
            else {
                if (year % 4 == 0) System.out.print("There are 29 days \n");
                else System.out.print("There are 28 days \n");
            }
        }
```

```
C:\Users\Luxury\.jdks\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\lib\idea_rt.jar=60850:C:\Users\Luxury\AppDa
Nhap thang:
2
Nhap nam:
1900
There are 28 days

Process finished with exit code 0
```

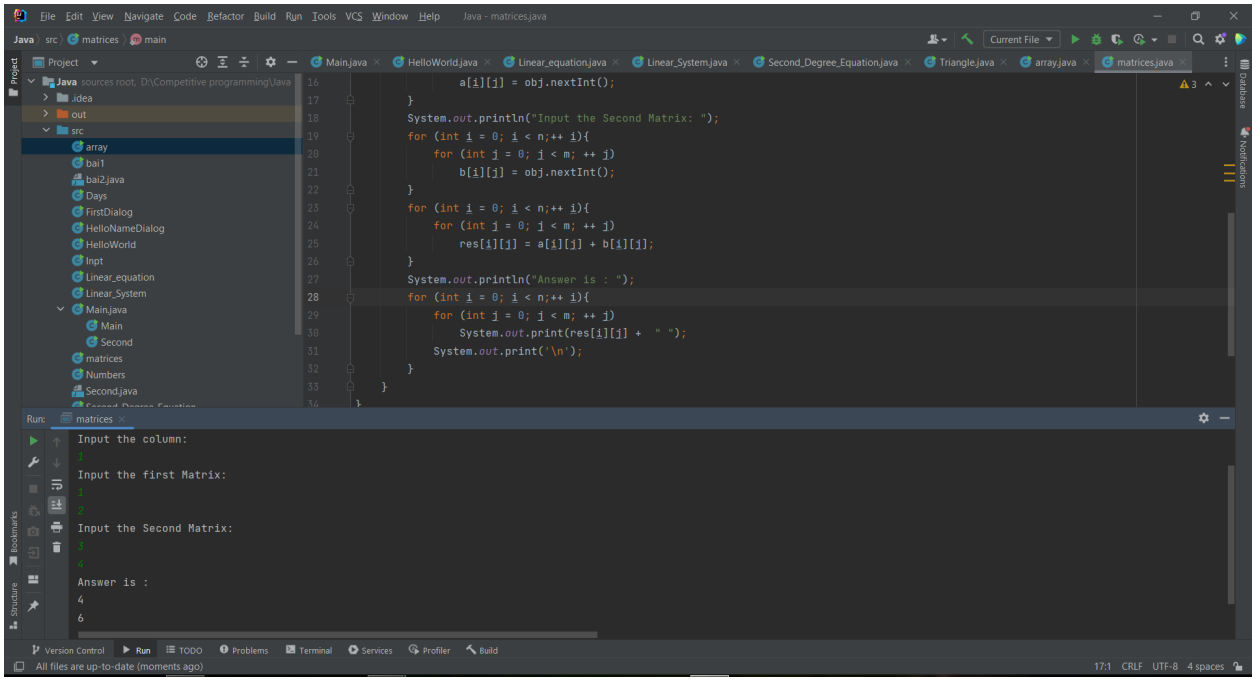
6.5: Arrays



```java
import java.util.Arrays;
import java.util.Scanner;
public class array {
    public static void main(String[] args){
        Scanner obj = new Scanner(System.in);
        System.out.println("Nhap so so hang: ");
        int n = obj.nextInt();
        int a[] = new int[n];
        for (int i = 0; i < n; ++ i)
            a[i] = obj.nextInt();
        Arrays.sort(a);
        for (int i = 0; i < n; ++ i)
            System.out.print(a[i] + " ");
        System.out.print('\n');
        int sum = 0;
        for (int i = 0; i < n; ++ i)
            sum += a[i];
        double avrg = (double)sum / (double)n;
        System.out.println("The sum is: " + sum);
        System.out.println("The Average is: " + avrg);
    }
}
```

```
6
1 4 3 2 6 5
1 2 3 4 5 6
The sum is: 21
The Average is: 3.5

Process finished with exit code 0
```

## 6.6: Matrices



```java
                a[i][j] = obj.nextInt();
        }
        System.out.println("Input the Second Matrix: ");
        for (int i = 0; i < n;++ i){
            for (int j = 0; j < m; ++ j)
                b[i][j] = obj.nextInt();
        }
        for (int i = 0; i < n;++ i){
            for (int j = 0; j < m; ++ j)
                res[i][j] = a[i][j] + b[i][j];
        }
        System.out.println("Answer is : ");
        for (int i = 0; i < n;++ i){
            for (int j = 0; j < m; ++ j)
                System.out.print(res[i][j] +  " ");
            System.out.print('\n');
        }
    }
}
```

```
Input the column:
1
Input the first Matrix:
1
2
Input the Second Matrix:
3
4
Answer is :
4
6
```