

BÁO CÁO THỰC HÀNH LAB 1

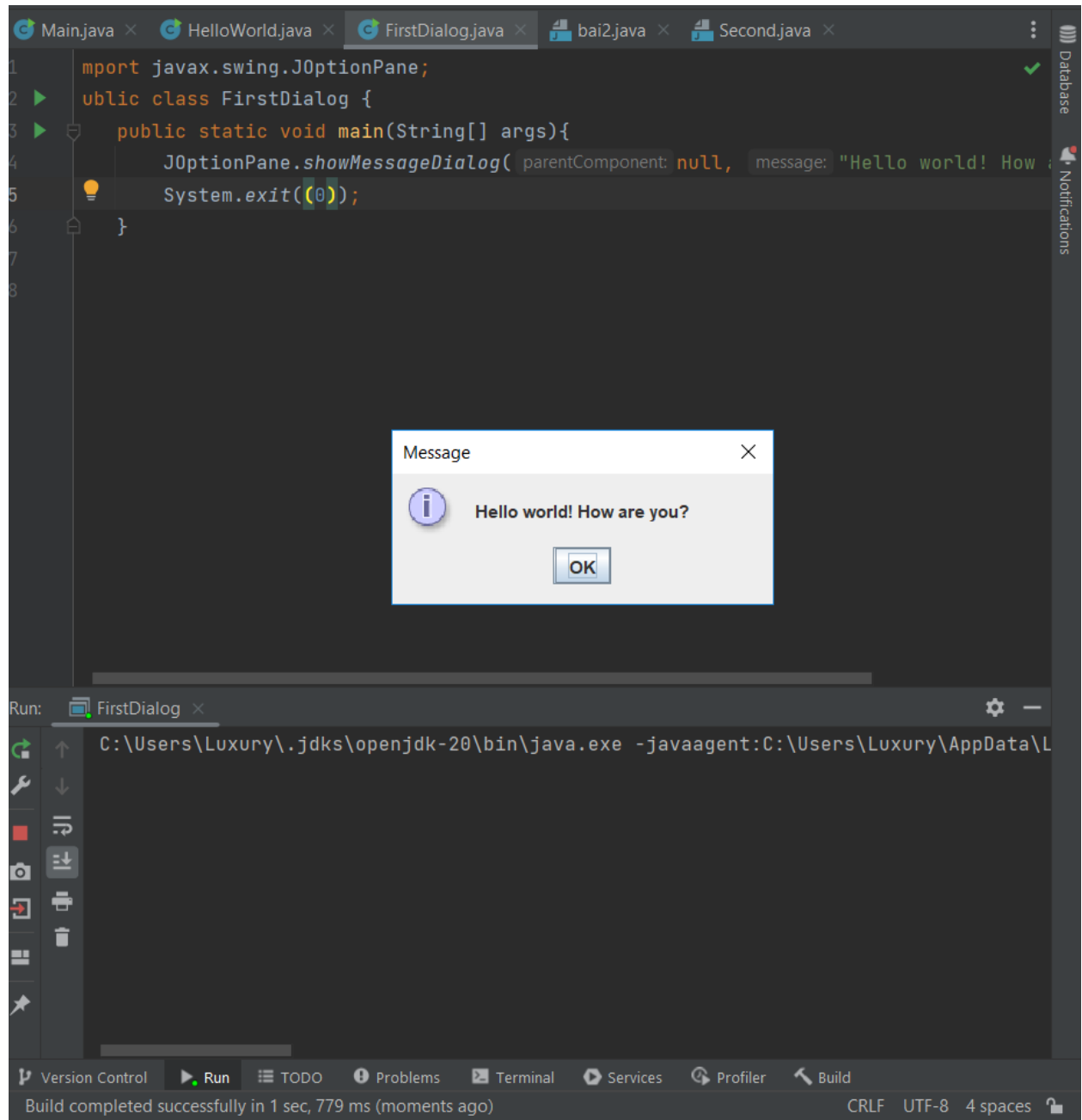
LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

The Very First Java Programs

2.2.1 Write, compile the first Java application:

```
1 //Example 1: HelloWorld.java
2 //Text-printing program
3 public class HelloWorld {
4
5     public static void main(String args[]){
6         System.out.println("Xin chao \n cac ban!");
7         System.out.println("Hello \t world!");
8
9     } // end of method main
10 }
```

Kết quả

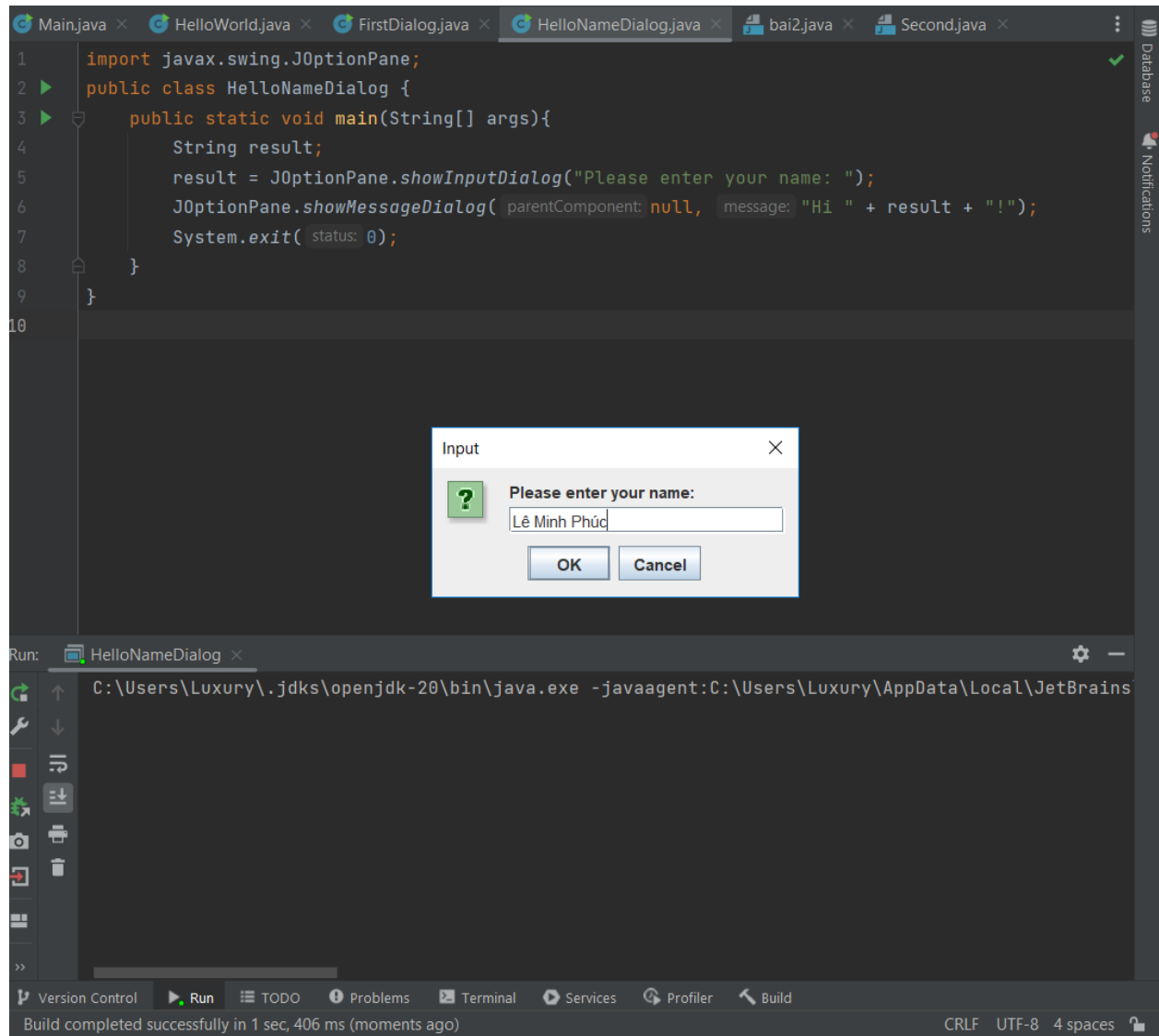


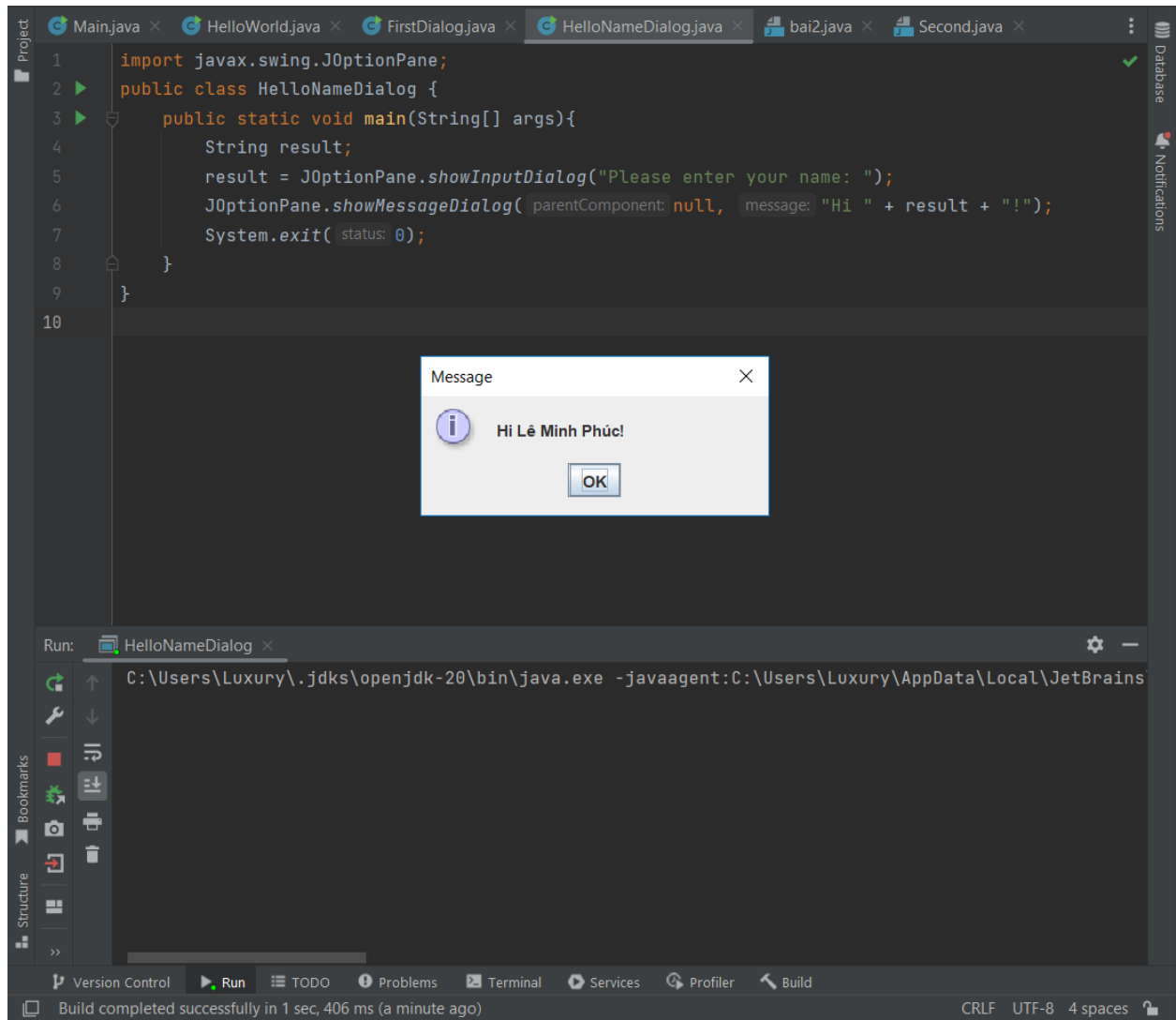
2.2.3 Write, compile the first input dialog Java application

```

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 }

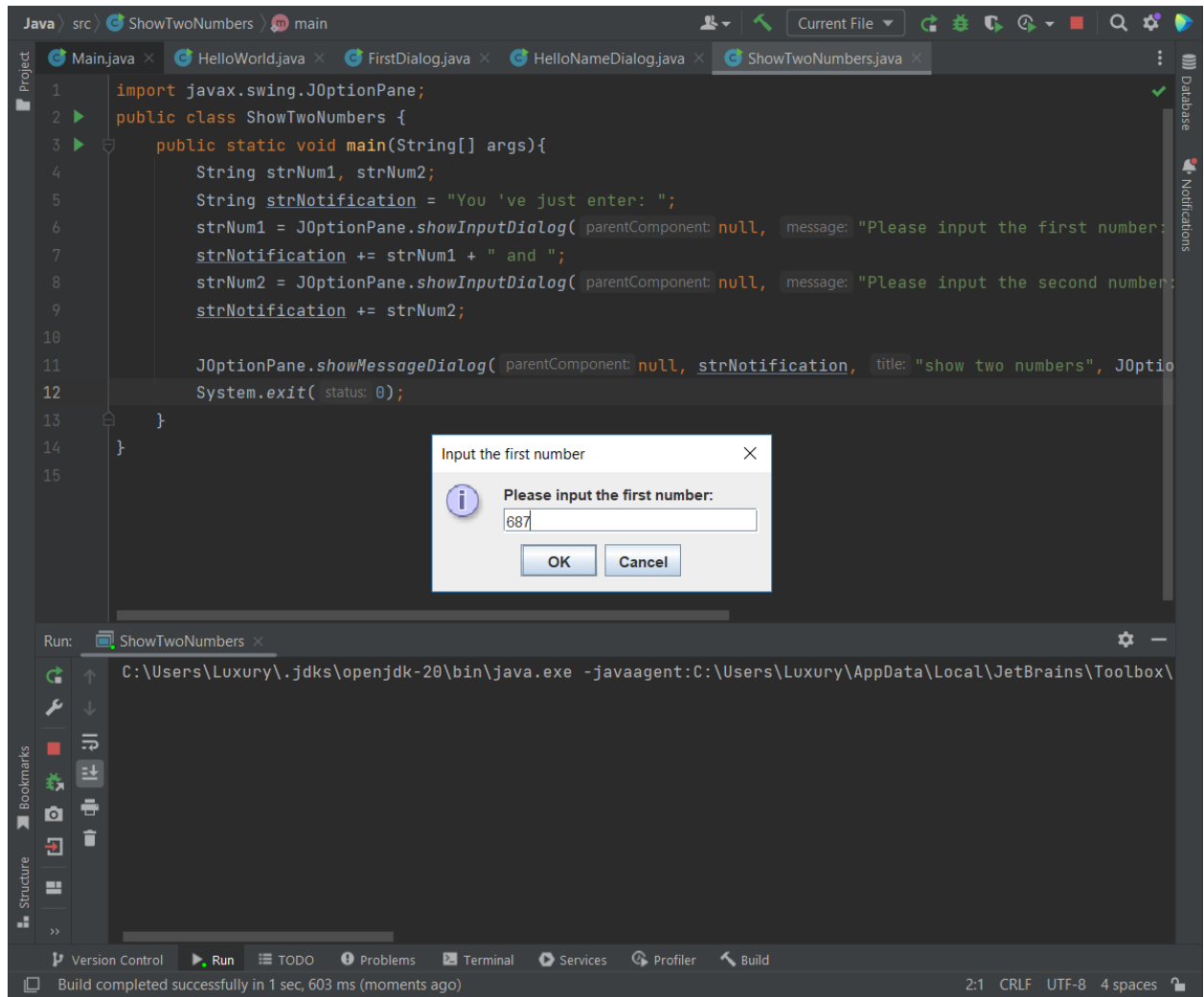
```

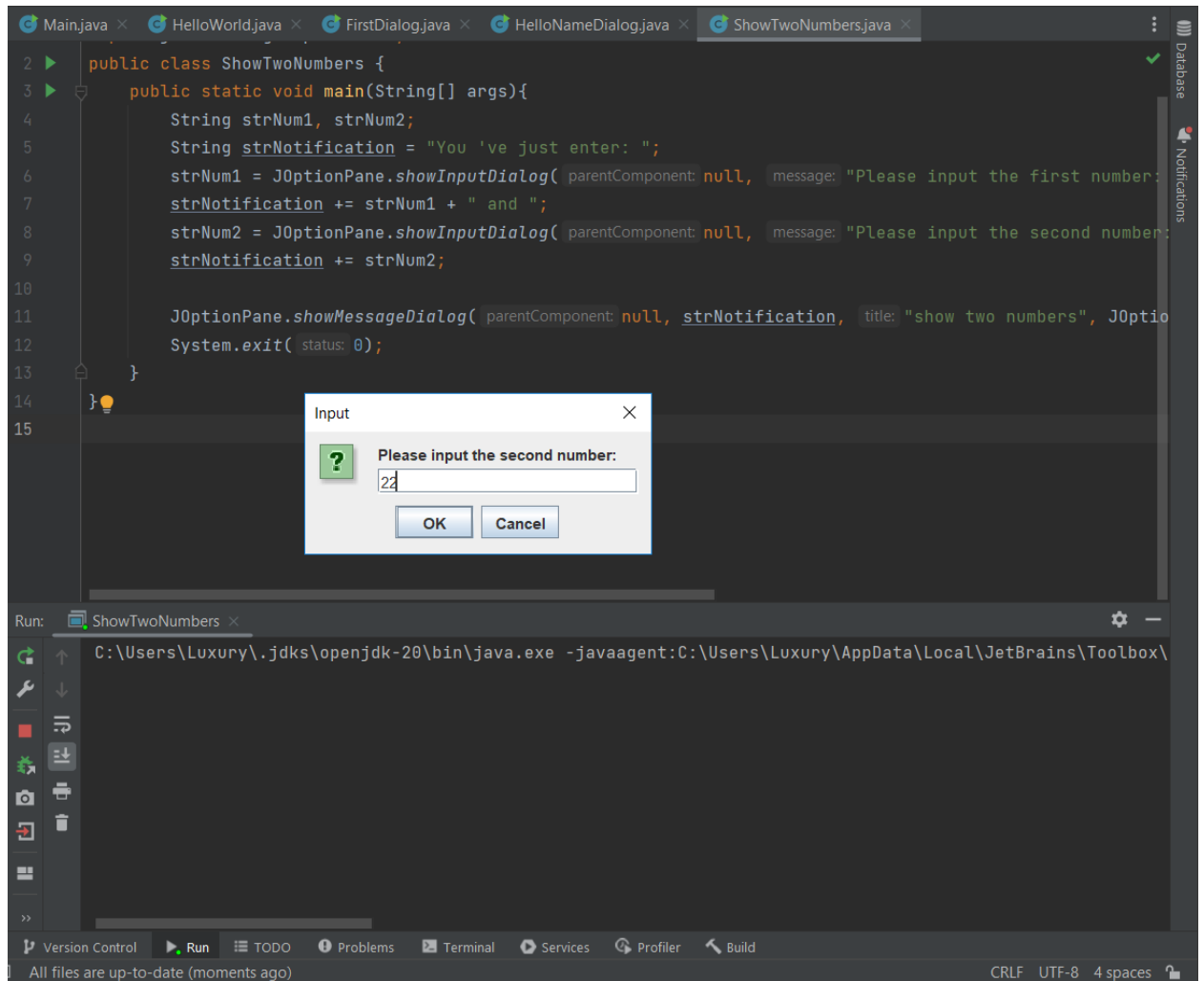


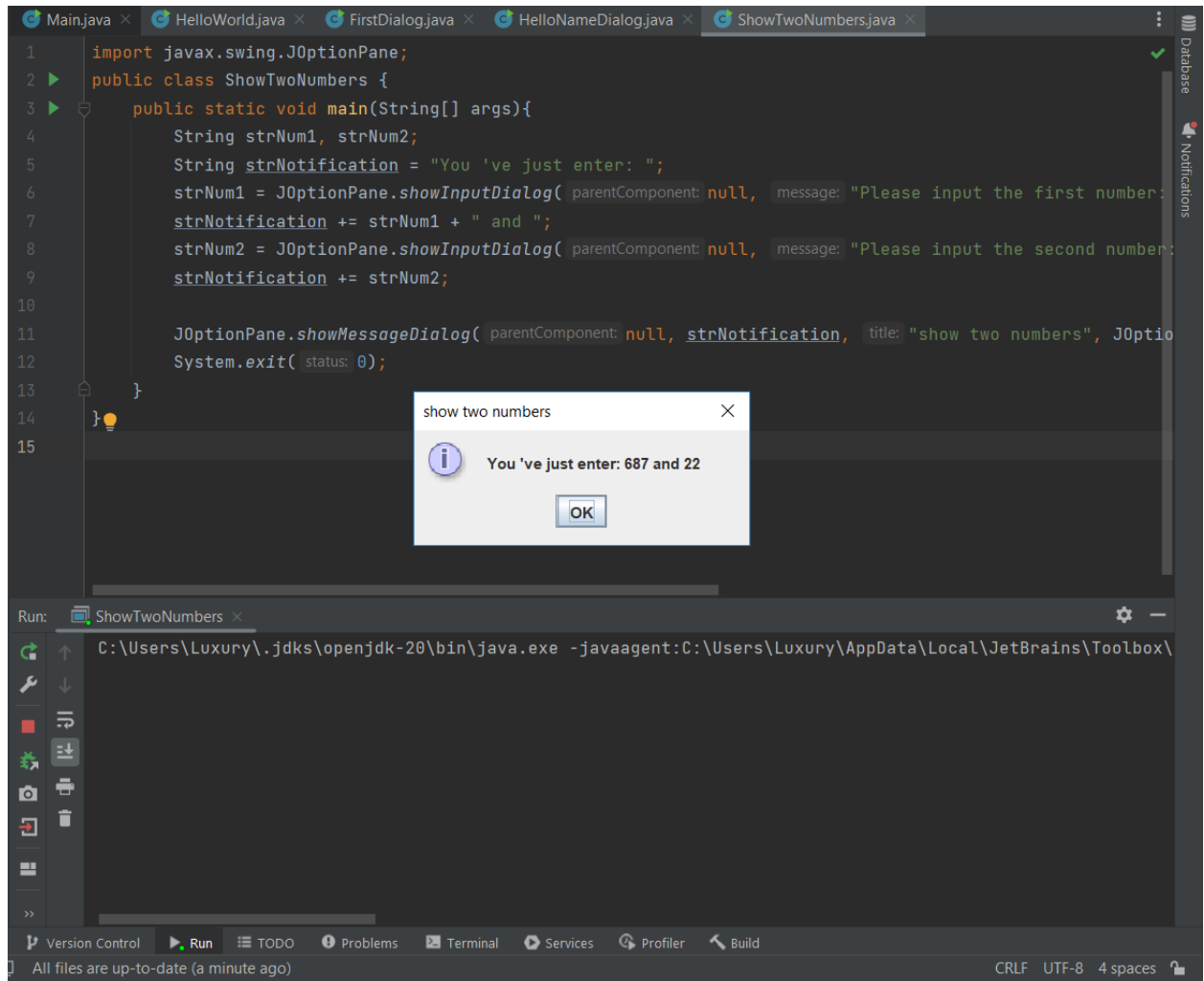


2.2.4 Write, compile, and run the following example:

```
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 }
```



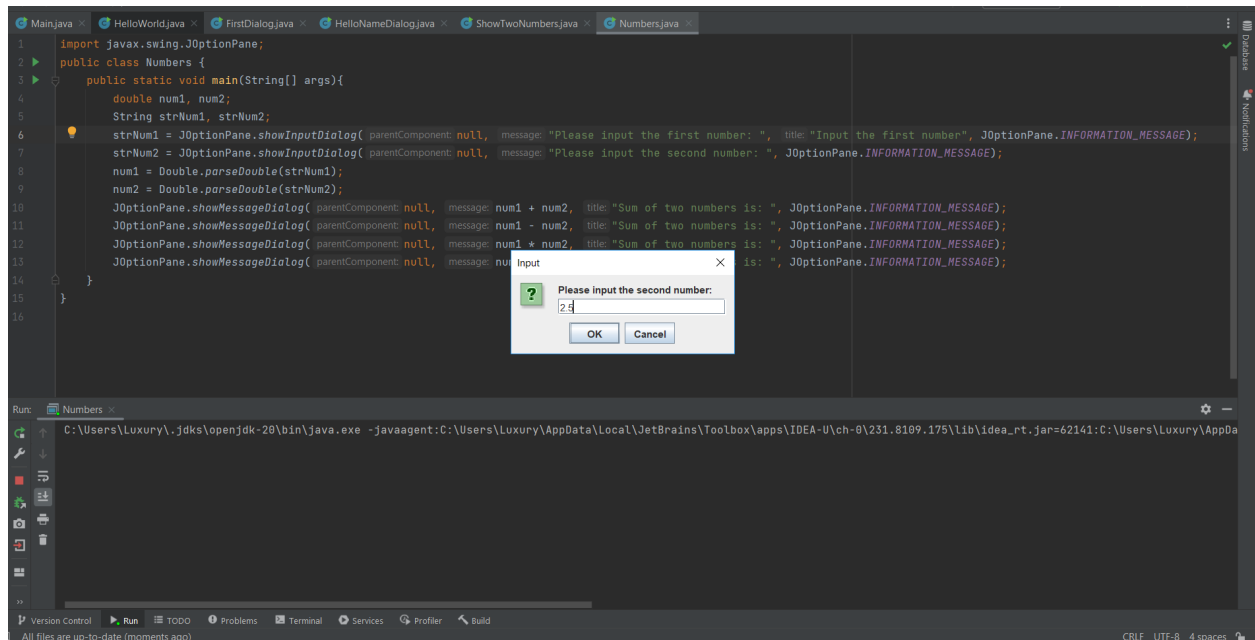
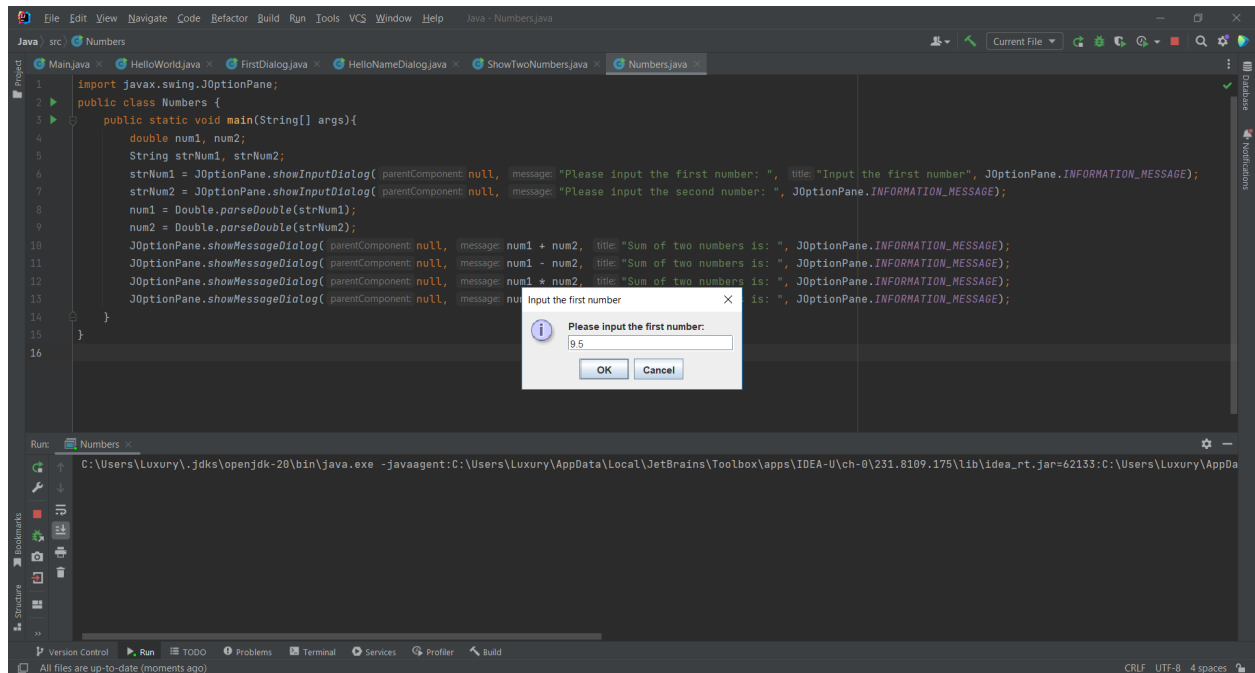


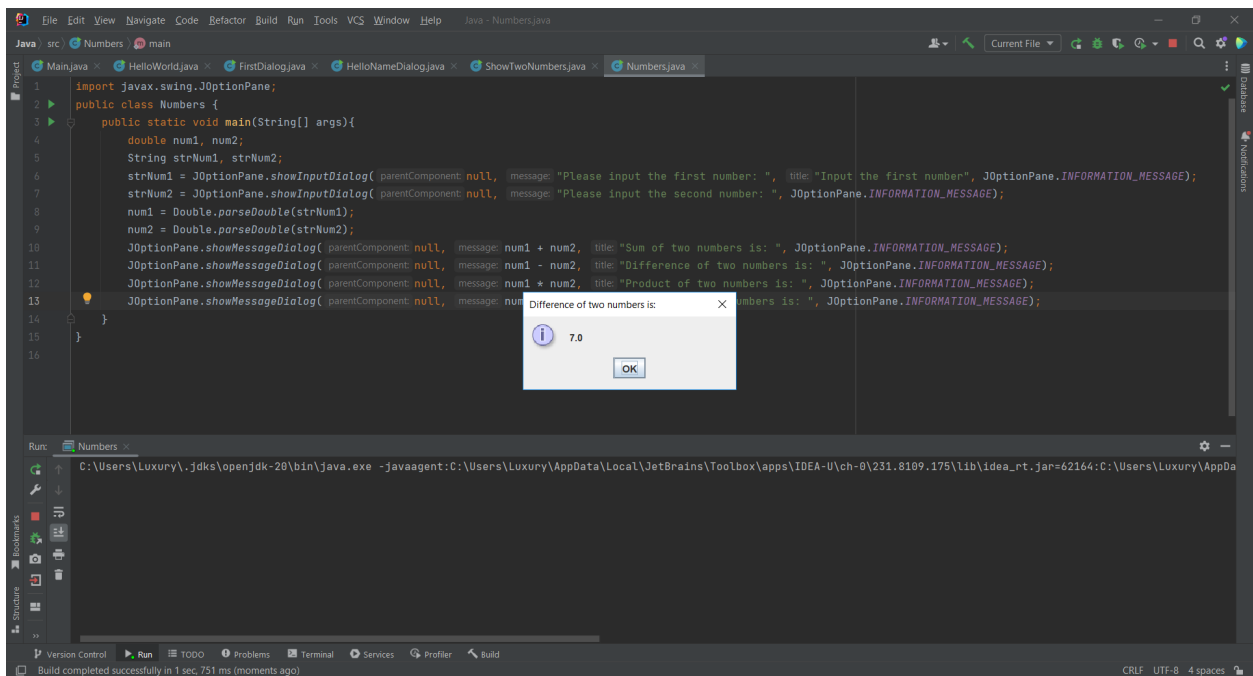
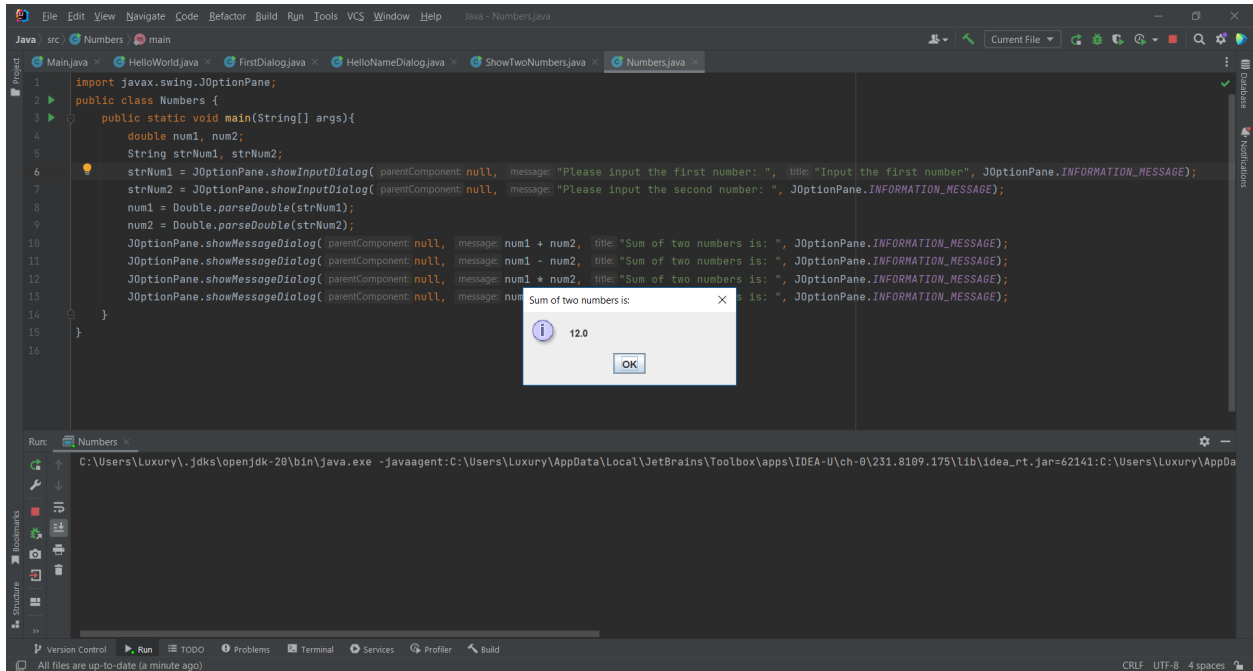


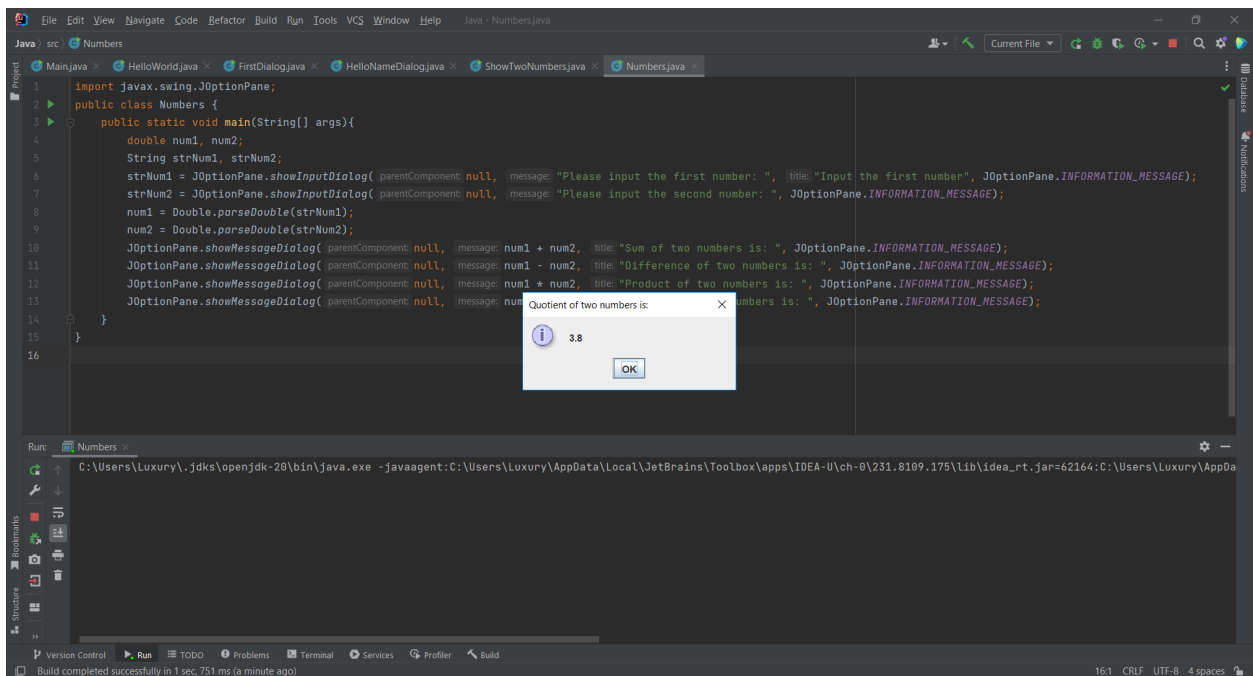
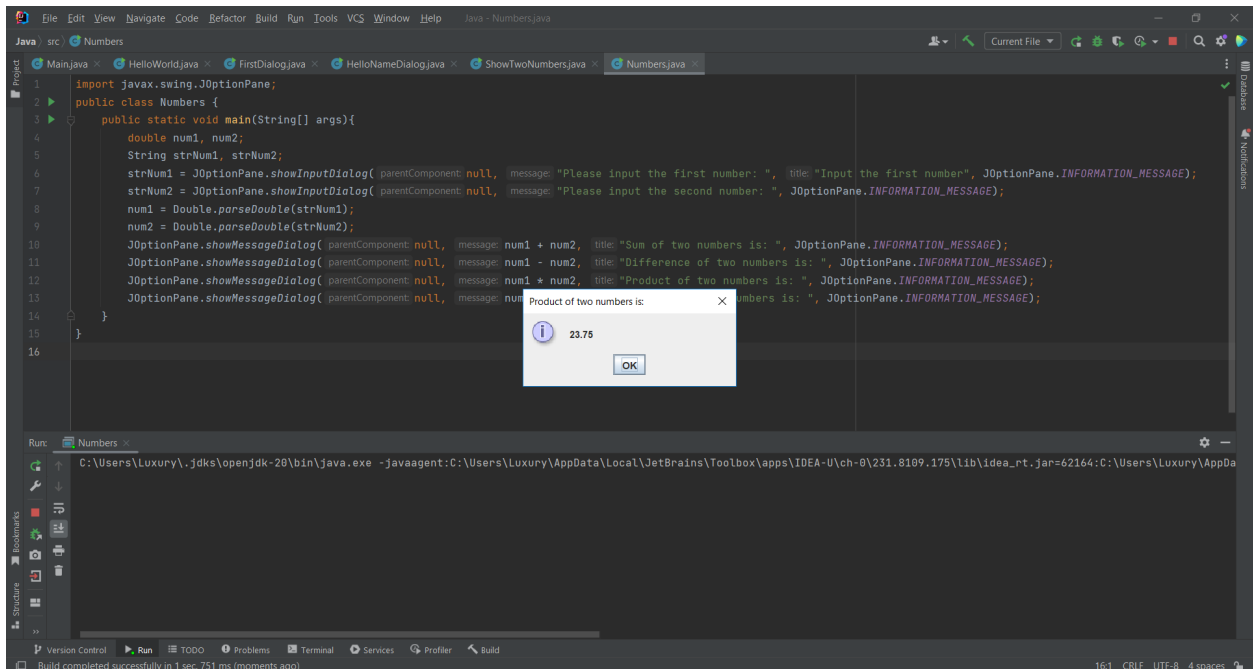
```
1  import javax.swing.JOptionPane;
2  public class ShowTwoNumbers {
3      public static void main(String[] args){
4          String strNum1, strNum2;
5          String strNotification = "You 've just enter: ";
6          strNum1 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the first number: ");
7          strNotification += strNum1 + " and ";
8          strNum2 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input the second number: ");
9          strNotification += strNum2;
10
11          JOptionPane.showMessageDialog( parentComponent: null, strNotification, title: "show two numbers", JOptionPane.INFORMATION_MESSAGE);
12          System.exit( status: 0);
13      }
14  }
15
```

The screenshot shows an IDE with a Java file named `ShowTwoNumbers.java`. The code prompts the user for two numbers using `JOptionPane.showInputDialog` and then displays a message box titled "show two numbers" with the text "You 've just enter: 687 and 22". The message box has an "OK" button. The IDE's Run window shows the command: `C:\Users\Luxury\.jdk\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\`. The status bar at the bottom indicates "All files are up-to-date (a minute ago)" and "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.







2.2.6:

1. Linear equation

```

1  import java.util.Scanner;
2  public class Linear_equation {
3      public static void main(String[] args) {
4          Scanner myObj = new Scanner(System.in); // Create a Scanner object
5          System.out.println("Enter first number: ");
6          Double a = myObj.nextDouble(); // Read user input
7          System.out.println("Enter second number: ");
8          Double b = myObj.nextDouble();
9          if (b == 0) {
10             if (a == 0) System.out.println("Infinite Solution!");
11             else System.out.println("No Solution!");
12         }
13         else {
14             Double Res = -b / a;
15             System.out.println("The result is: x = " + Res);
16         }
17     }
18 }
19
Run: Linear_equation x
C:\Users\Luxury\jdk\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=62886:C:\Users\Luxury\AppData
Enter first number:
Enter second number:
The result is: x = -0.6
Process finished with exit code 0

```

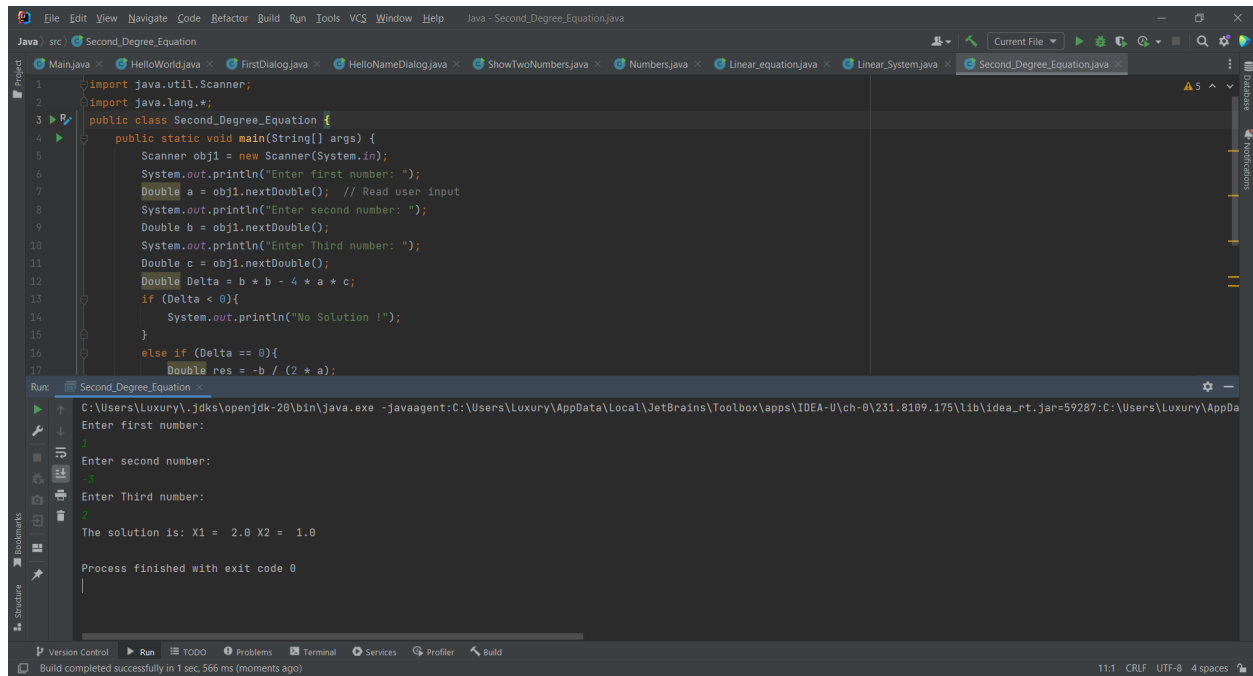
2. Linear system

```

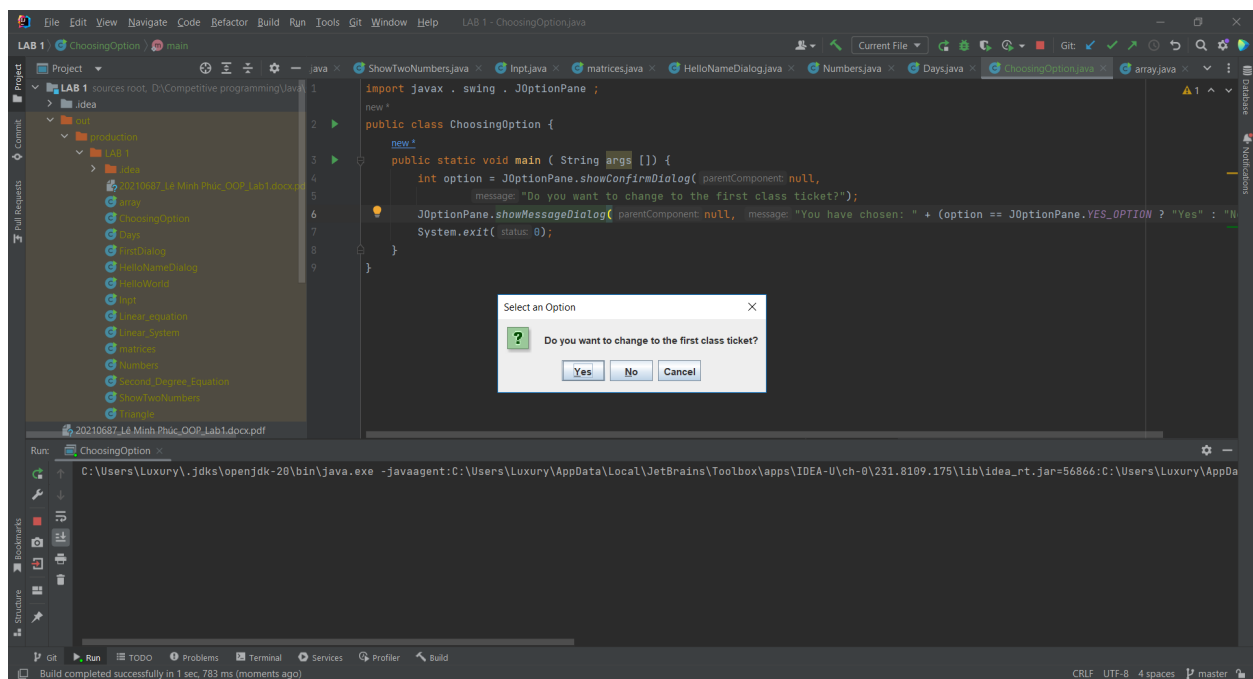
13 Double a21 = obj1.nextDouble();
14 System.out.println("Enter Fourth left number: ");
15 Double a22 = obj1.nextDouble();
16 System.out.println("Enter second right number: ");
17 Double b2 = obj1.nextDouble();
18 Double Det = a11 * a22 - b2 * a21;
19 Double Dx = b1 * a22 - b2 * a12;
20 Double Dy = b2 * a11 - b1 * a21;
21 //System.out.println(Det + " " + Dx + " " + Dy);
22 if (Det == 0) {
23     if (a11 == 0 && a12 == 0 && b1 != 0) System.out.println("No solution !");
24     else if (a21 == 0 && a22 == 0 && b2 != 0) System.out.println("No solution !");
25     else if (Dx == 0 && Dy == 0) System.out.println("Infinite solution");
26     else System.out.println("No solution !");
27 }
28 else {
29     Double x = Dx / Det;
30     Double y = Dy / Det;
31     System.out.println("Solution is: X = " + x + " Y = " + y);

```

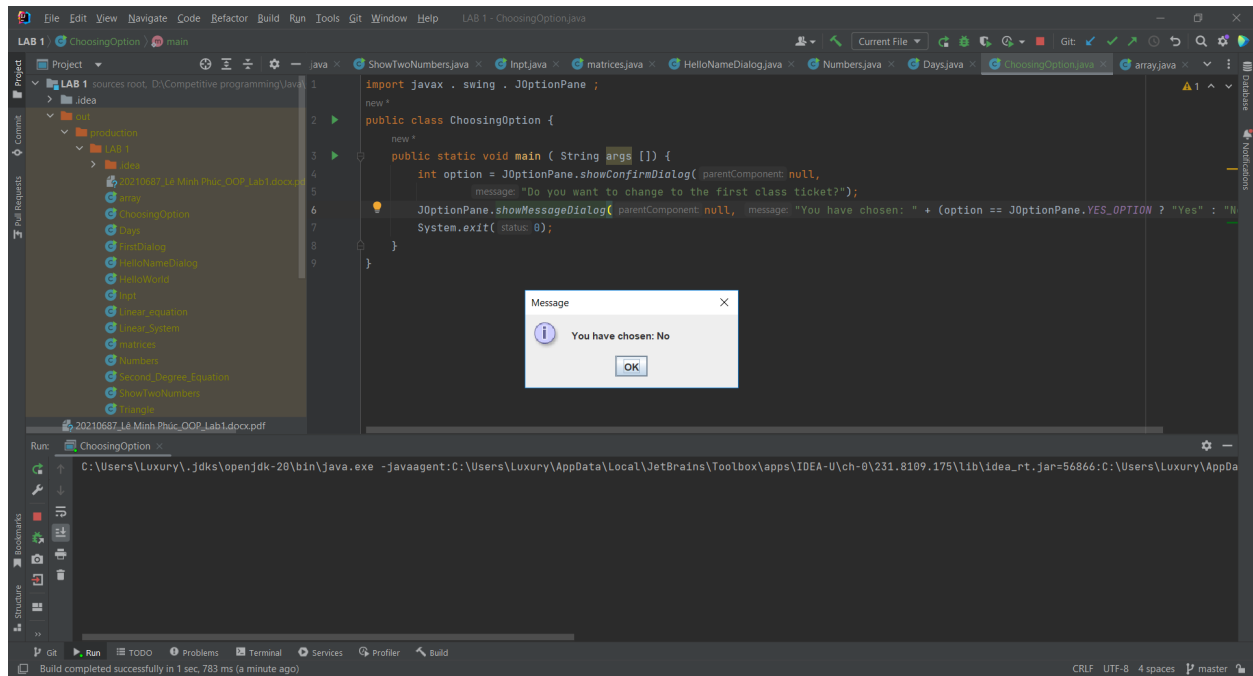
3. The Second Degree Equation



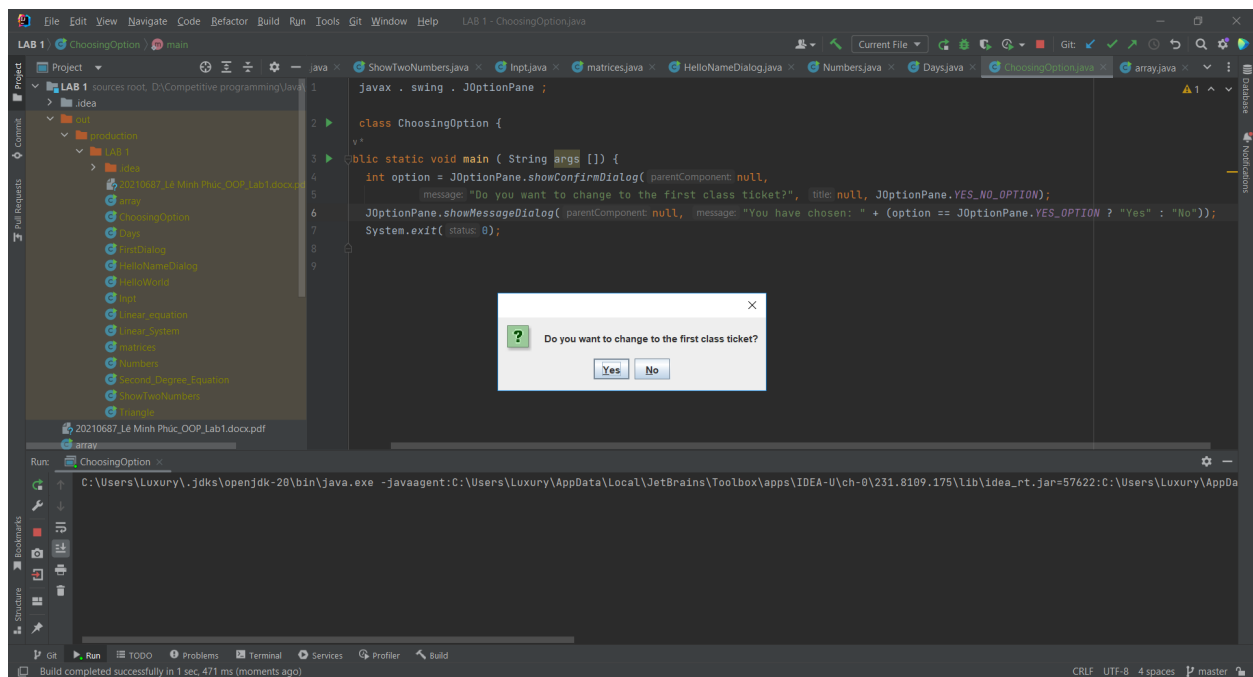
6.1: Choosing Option



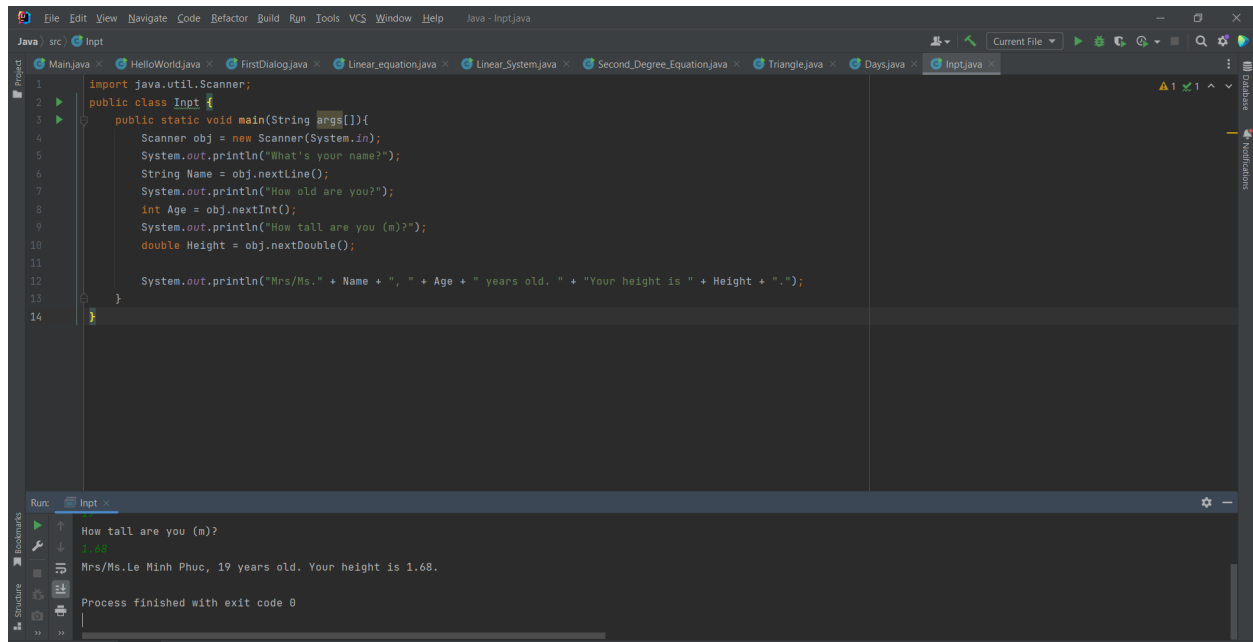
Question 1: When you hit "Cancel", it will count as a negative choice so the "You have chosen: No" dialog will popup.



Question 2: You can use `JOptionPane.YES_NO_OPTION` so there will be 2 options left.



6.2: Input from keyboard

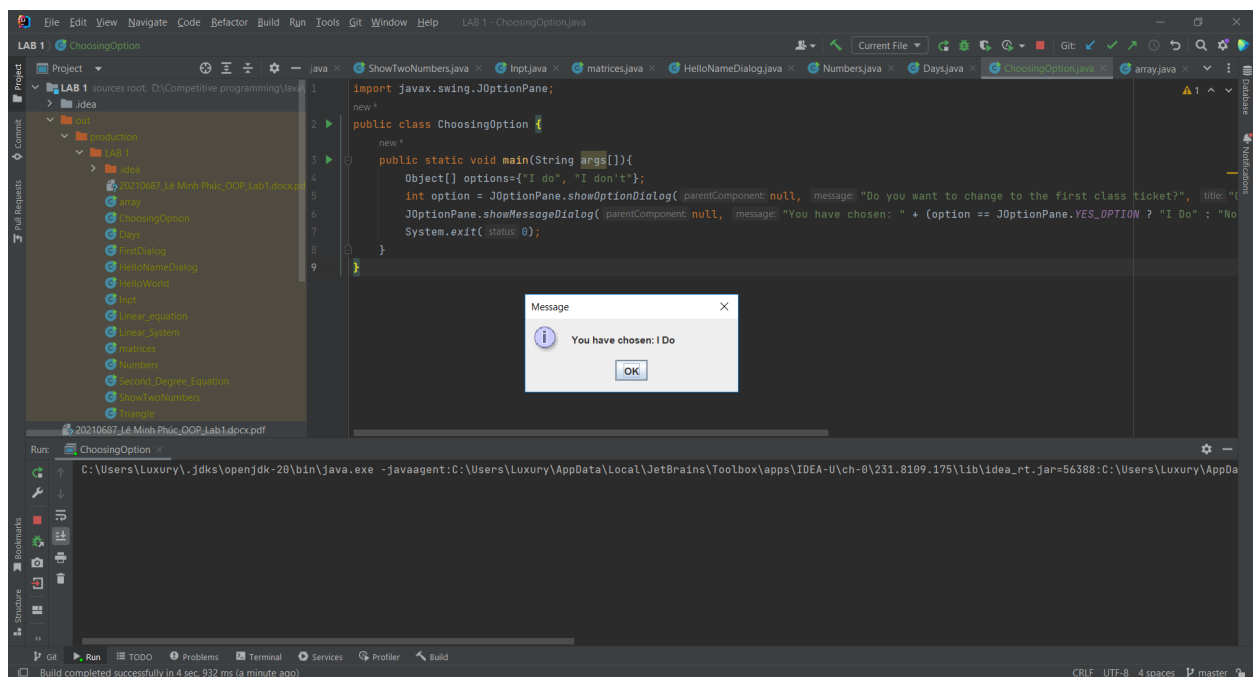


The screenshot shows the IntelliJ IDEA IDE with the file `Inpt.java` open. The code is as follows:

```
1 import java.util.Scanner;
2 public class Inpt {
3     public static void main(String args[]){
4         Scanner obj = new Scanner(System.in);
5         System.out.println("What's your name?");
6         String Name = obj.nextLine();
7         System.out.println("How old are you?");
8         int Age = obj.nextInt();
9         System.out.println("How tall are you (m)?");
10        double Height = obj.nextDouble();
11
12        System.out.println("Mrs/Ms." + Name + ", " + Age + " years old. " + "Your height is " + Height + ".");
13    }
14 }
```

The Run window at the bottom shows the execution output:

```
How tall are you (m)?
1.68
Mrs/Ms.Le Minh Phuc, 19 years old. Your height is 1.68.
Process finished with exit code 0
```



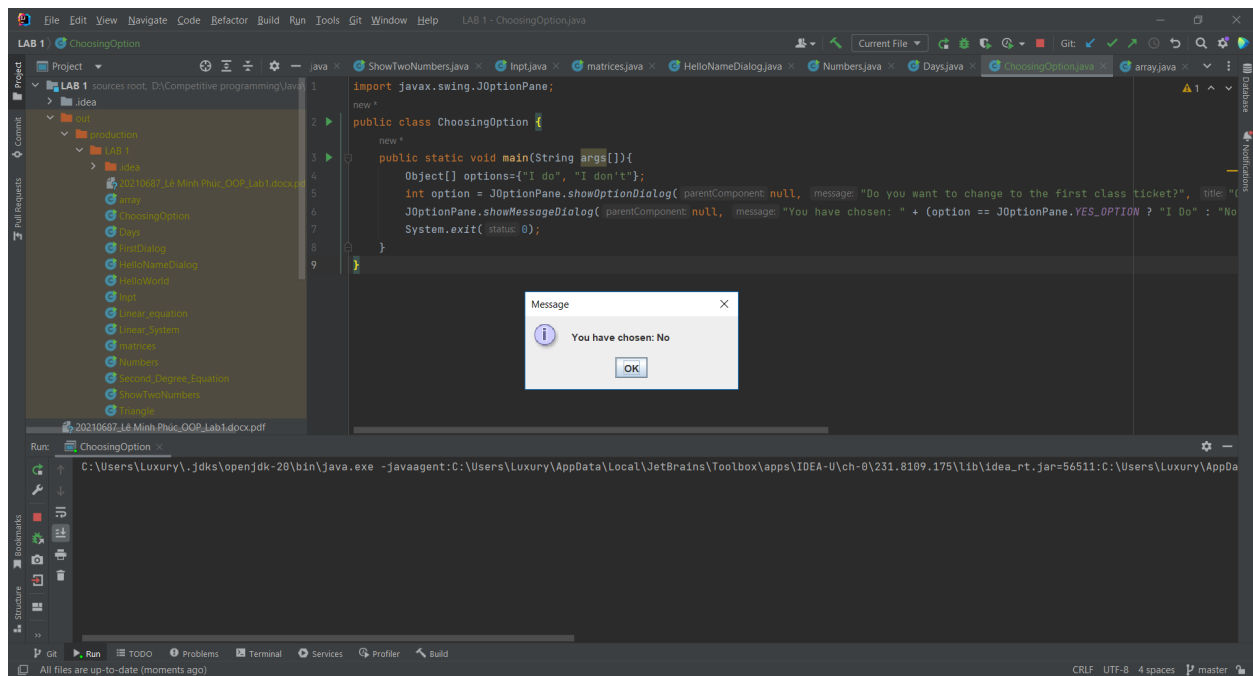
The screenshot shows the IntelliJ IDEA IDE with the file `ChoosingOption.java` open. The code is as follows:

```
1 import javax.swing.JOptionPane;
2 new *
3 public class ChoosingOption {
4     new *
5     public static void main(String args[]){
6         Object[] options={"I do", "I don't"};
7         int option = JOptionPane.showOptionDialog( parentComponent: null, message: "Do you want to change to the first class ticket?", title: "
8         JOptionPane.showMessageDialog( parentComponent: null, message: "You have chosen: " + (option == JOptionPane.YES_OPTION ? "I Do" : "No
9         System.exit( status: 0);
10    }
```

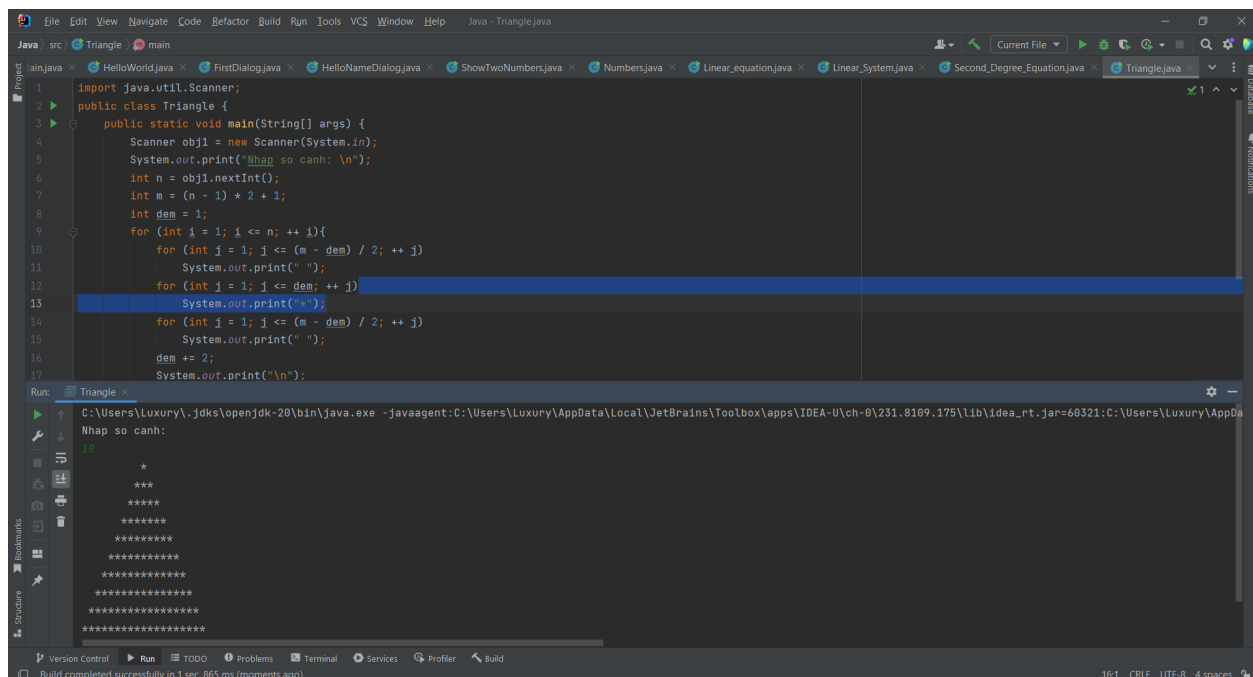
A message dialog box is displayed with the text: "You have chosen: I Do".

The Run window at the bottom shows the execution command:

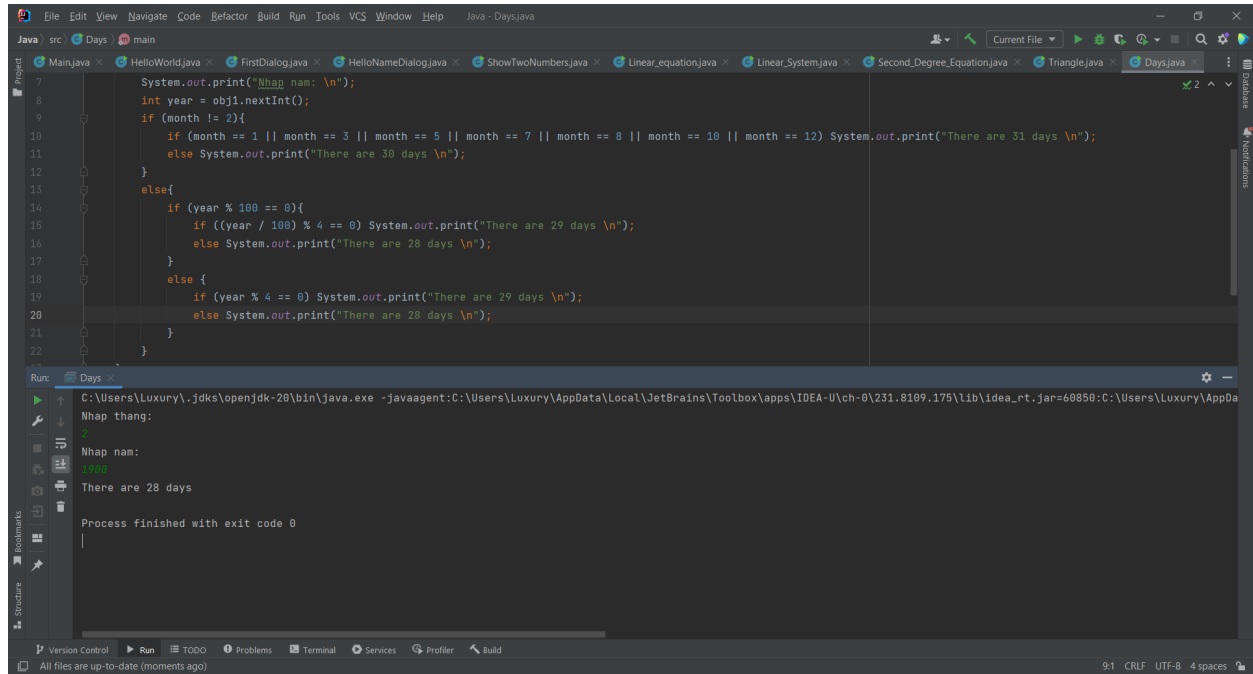
```
C:\Users\Luxury\.jdk\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\lib\idea_rt.jar=56388:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\bin -classpath C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\bin\idea_rt.jar 20210687.Lê Minh Phúc_OOP_Lab1.docx.pdf
```

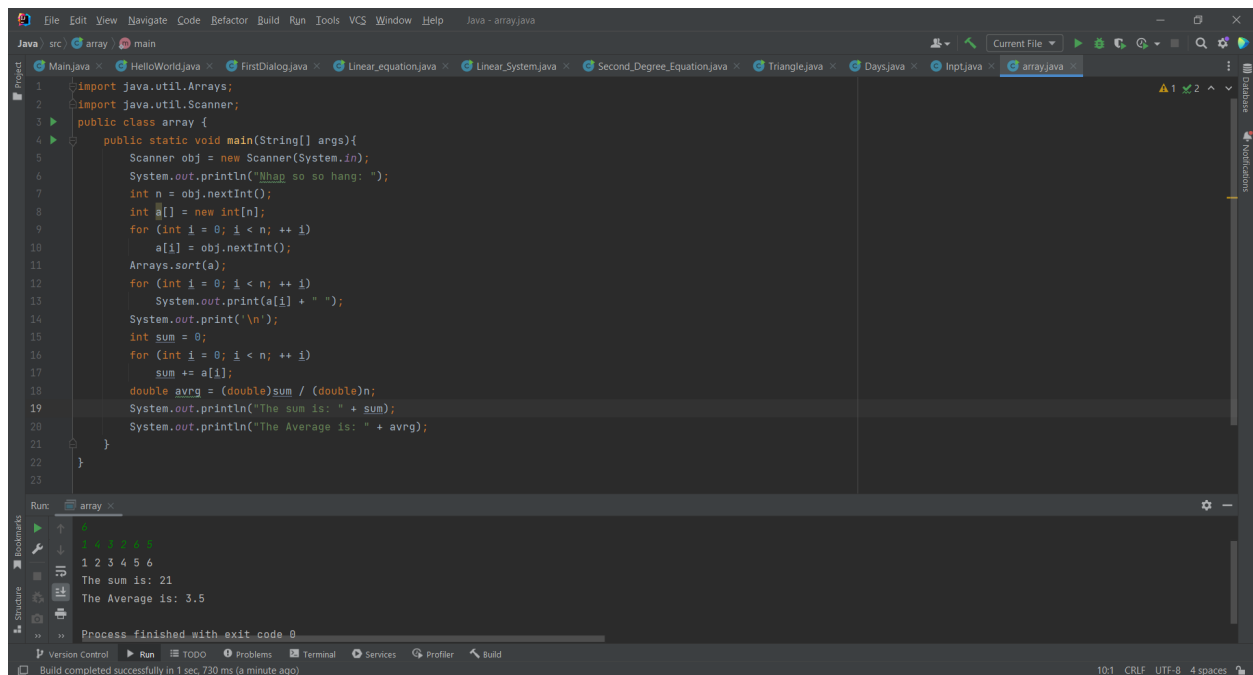
6.3: Triangle



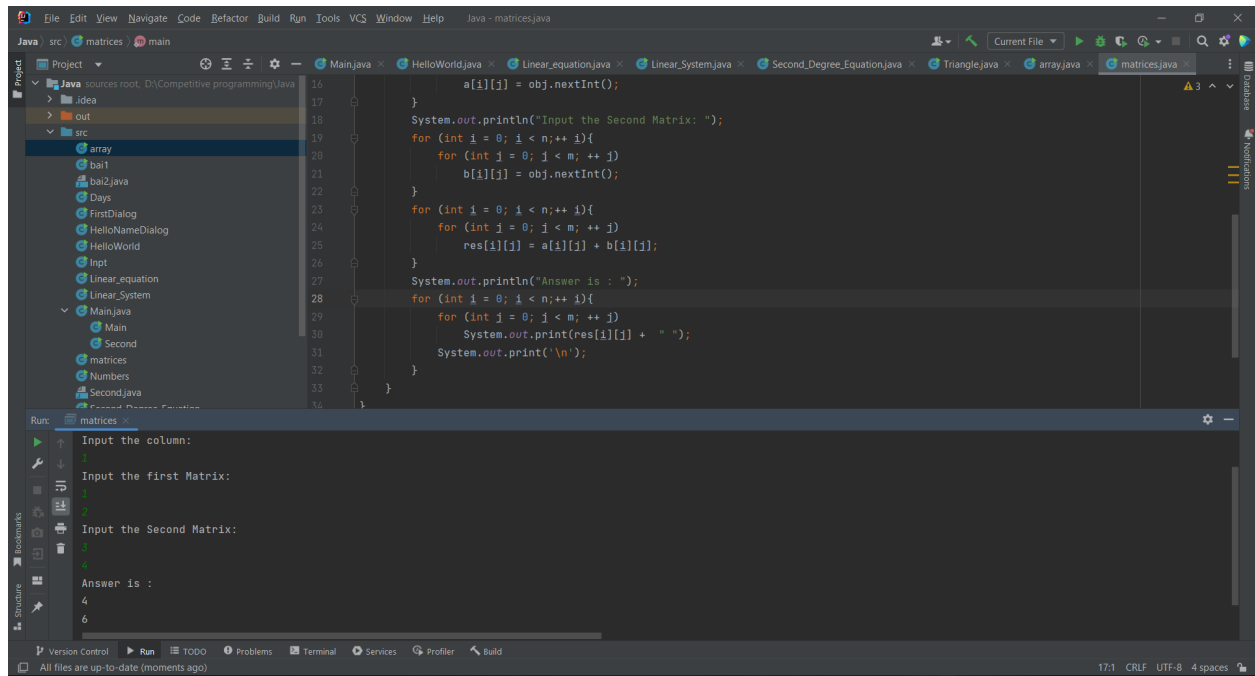
6.4: Write a program to display the number of days of a month



6.5: Arrays



6.6: Matrices



```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help Java - matrices.java
Java src / matrices / main
Project
  Java sources root, D:\Competitive programming\Java
  .idea
  out
  src
    array
    bai1
    bai2.java
    Days
    FirstDialog
    HelloNameDialog
    HelloWorld
    Inpt
    Linear_equation
    Linear_System
    Main.java
    Main
    Second
    matrices
    Numbers
    Second.java
    Second Degree Equation
Run: matrices
  Input the column:
  Input the first Matrix:
  Input the Second Matrix:
  Answer is :
  4
  6
Version Control Run TODO Problems Terminal Services Profiler Build
All files are up-to-date (moments ago) 17:1 CRLF UTF-8 4 spaces
```

```
16      a[i][j] = obj.nextInt();
17  }
18  System.out.println("Input the Second Matrix: ");
19  for (int i = 0; i < n; ++ i){
20      for (int j = 0; j < m; ++ j)
21          b[i][j] = obj.nextInt();
22  }
23  for (int i = 0; i < n; ++ i){
24      for (int j = 0; j < m; ++ j)
25          res[i][j] = a[i][j] + b[i][j];
26  }
27  System.out.println("Answer is : ");
28  for (int i = 0; i < n; ++ i){
29      for (int j = 0; j < m; ++ j)
30          System.out.print(res[i][j] + " ");
31      System.out.print('\n');
32  }
33  }
```