

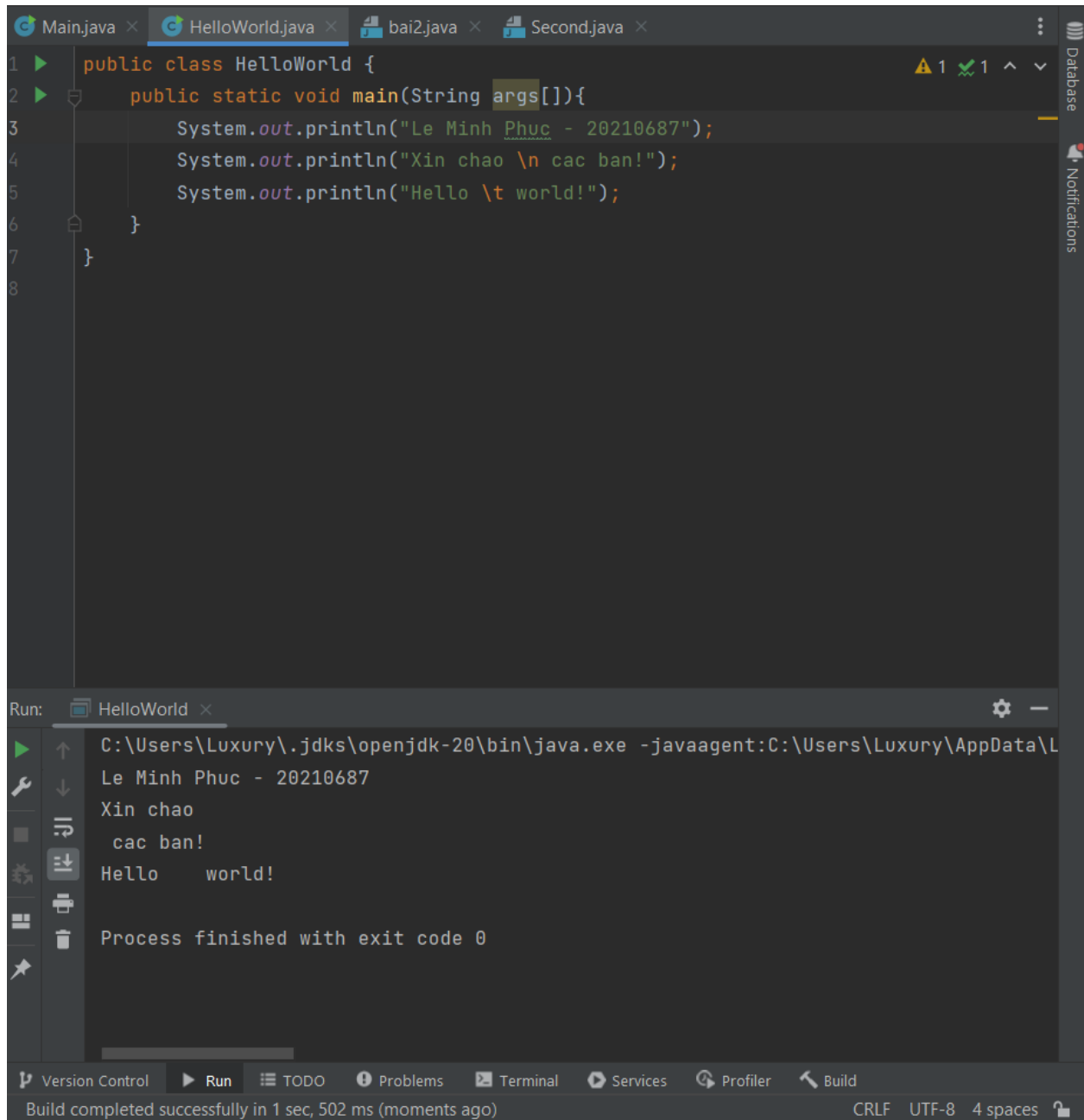
BÁO CÁO THỰC HÀNH LAB 1 LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

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



The screenshot shows an IDE with a project named 'HelloWorld'. The main file, 'HelloWorld.java', contains the following code:

```
1 public class HelloWorld {
2     public static void main(String args[]){
3         System.out.println("Le Minh Phuc - 20210687");
4         System.out.println("Xin chao \n cac ban!");
5         System.out.println("Hello \t world!");
6     }
7 }
8
```

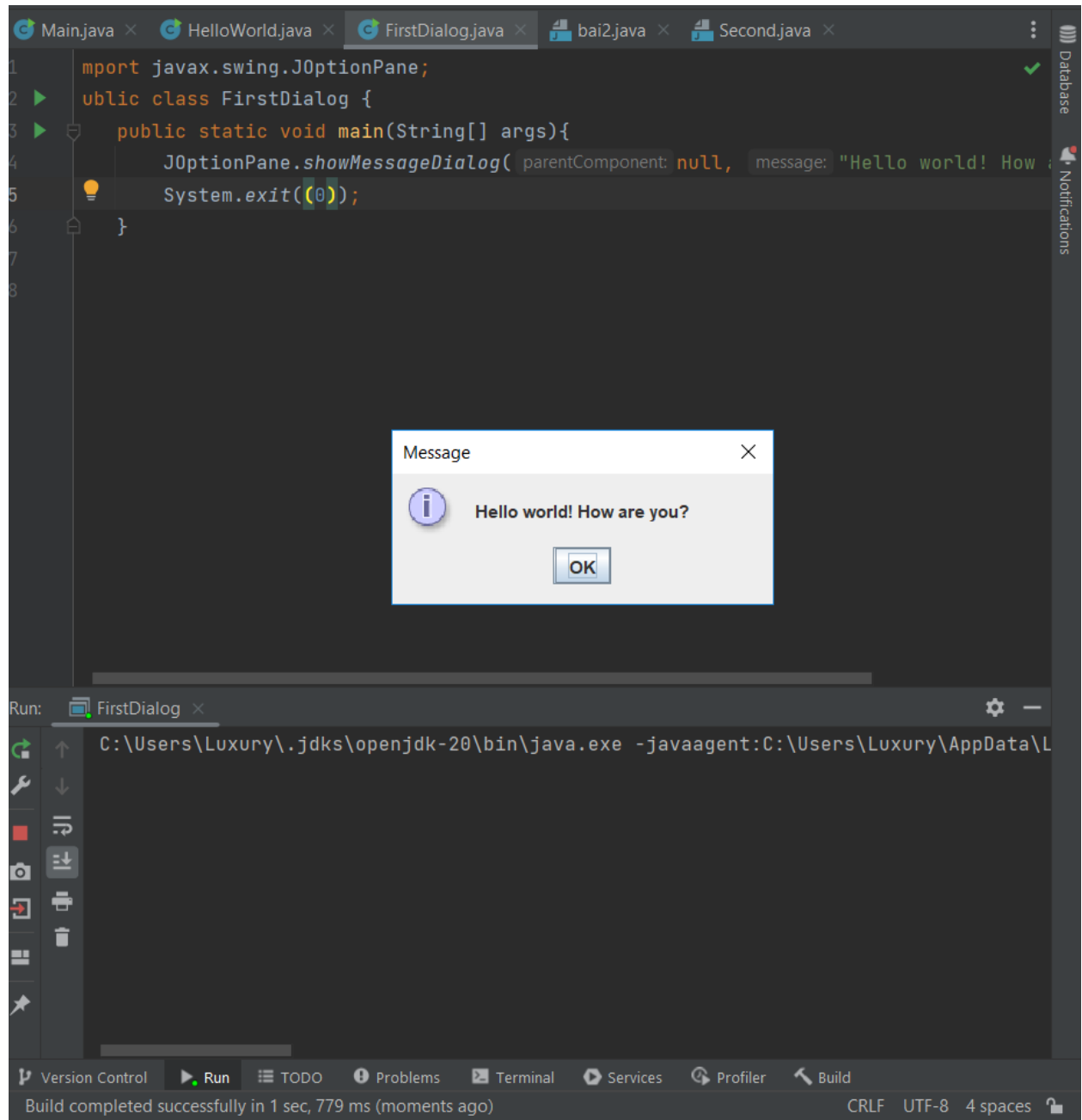
The 'Run' window shows the execution of the program:

```
Run: HelloWorld
C:\Users\Luxury\.jdk\openjdk-20\bin\java.exe -javaagent:C:\Users\Luxury\AppData\Local\Temp\jvarkit\jvarkit.jar
Le Minh Phuc - 20210687
Xin chao
    cac ban!
Hello    world!
Process finished with exit code 0
```

The status bar at the bottom indicates: Build completed successfully in 1 sec, 502 ms (moments ago). CRLF UTF-8 4 spaces.

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 }
```

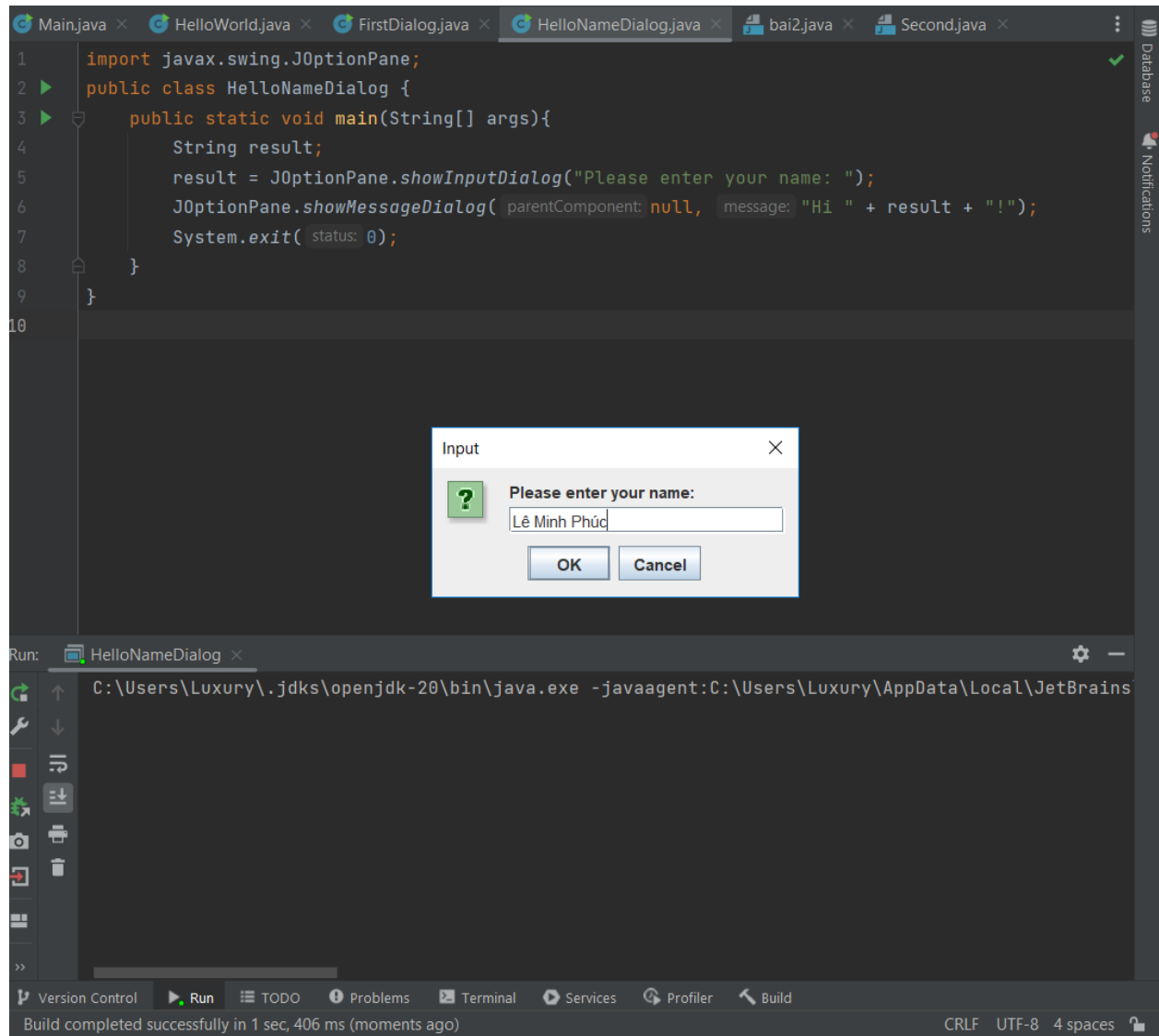


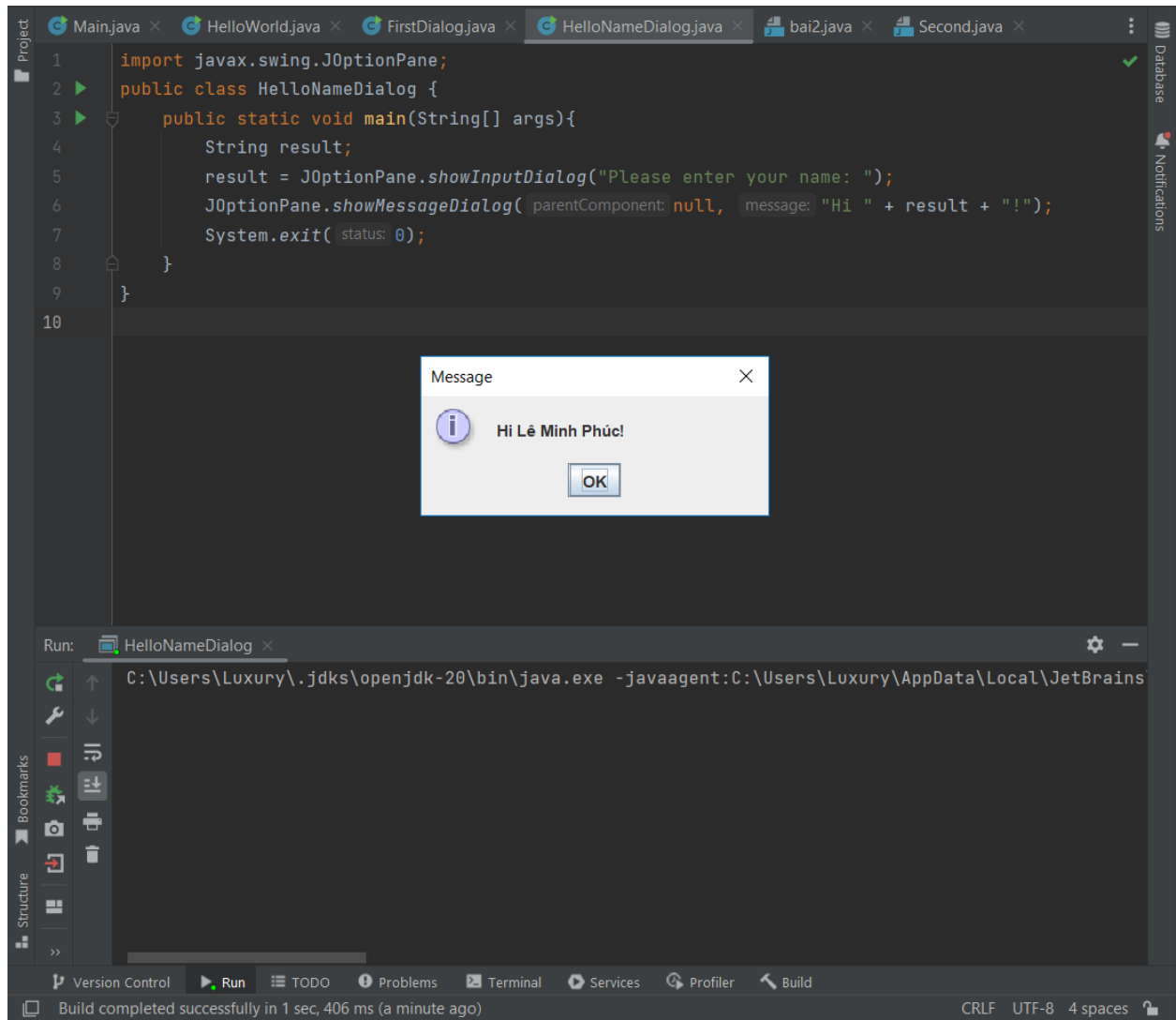
2.2.3 Write, compile the first input dialog Java application

```

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 }

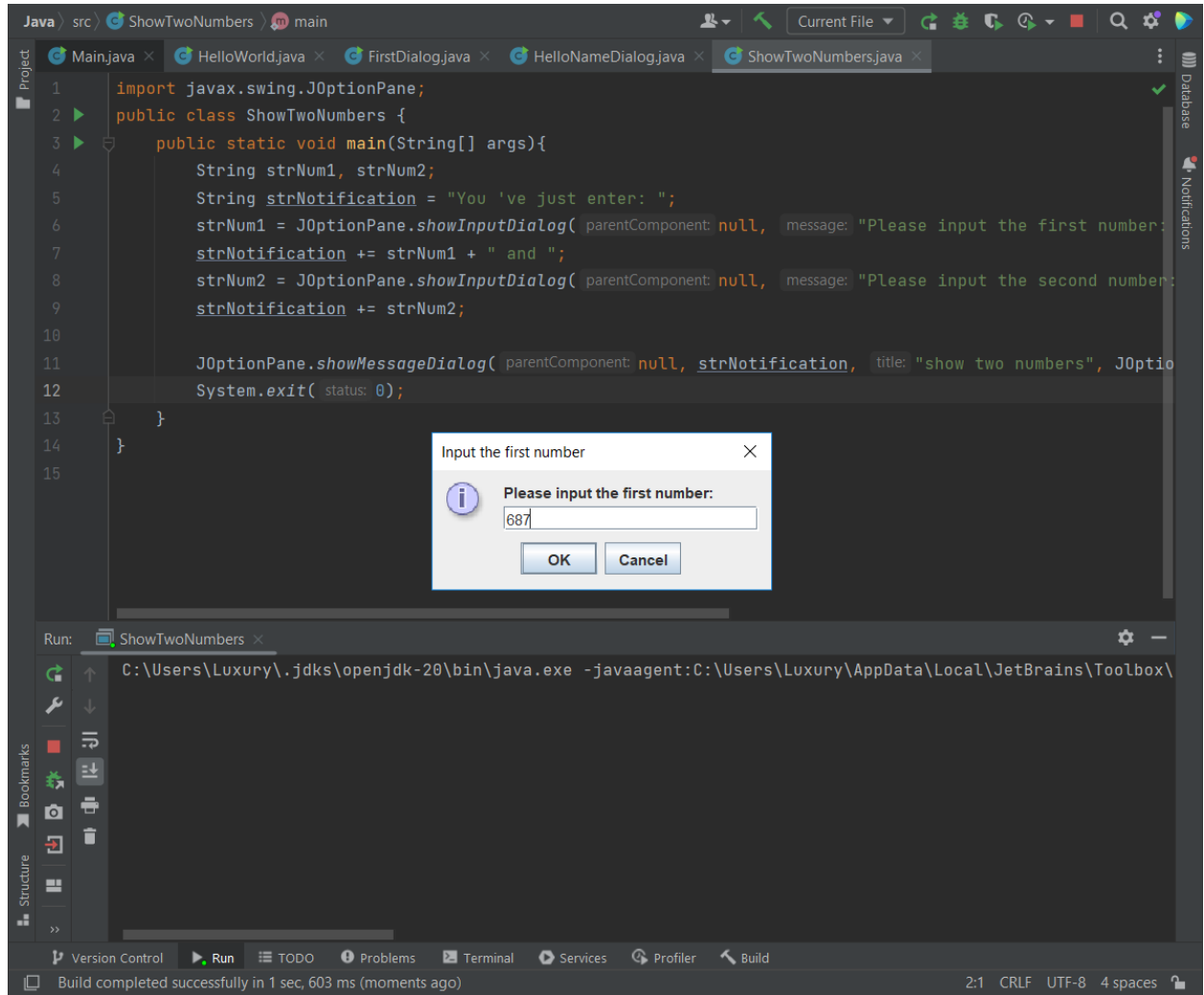
```

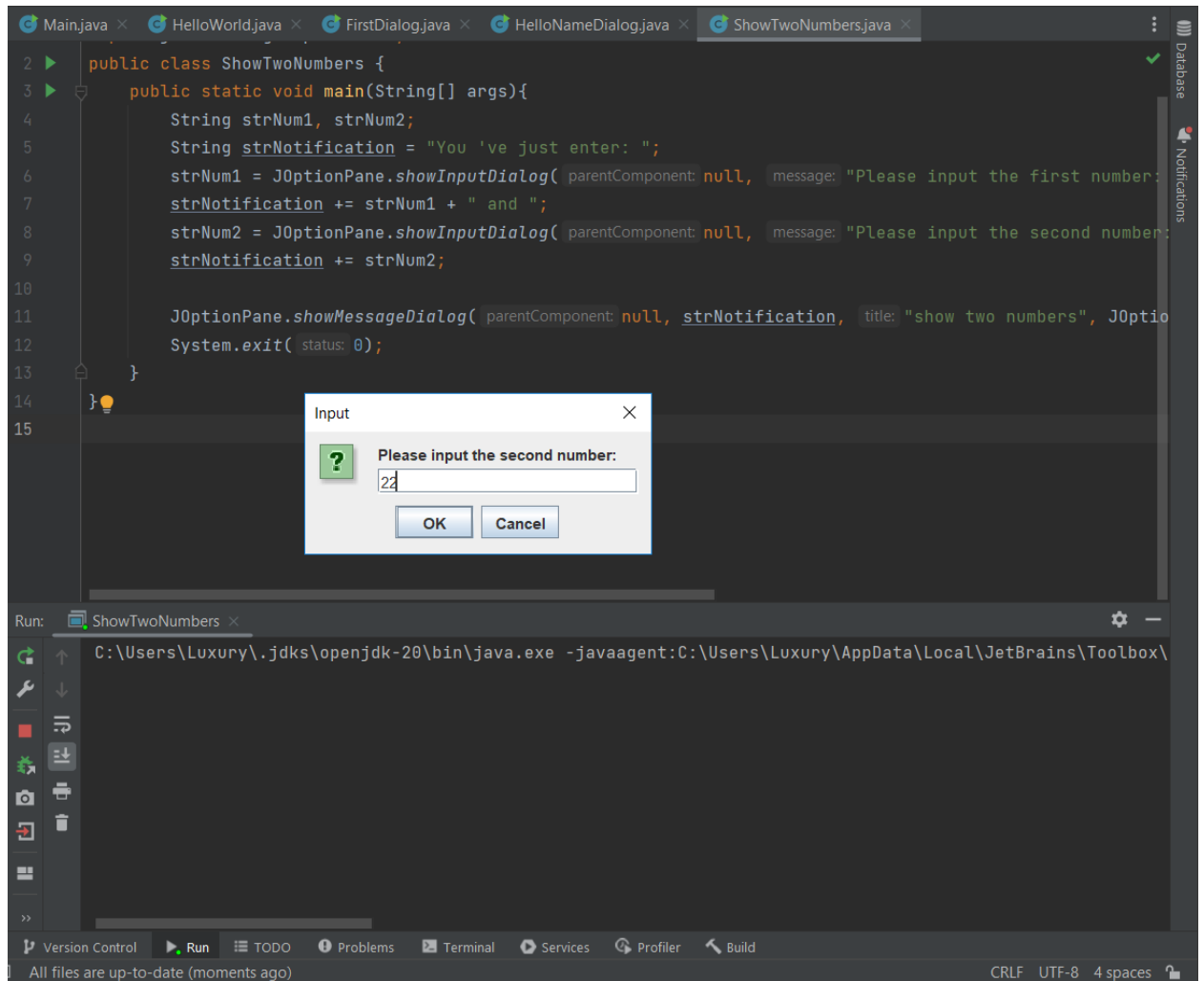


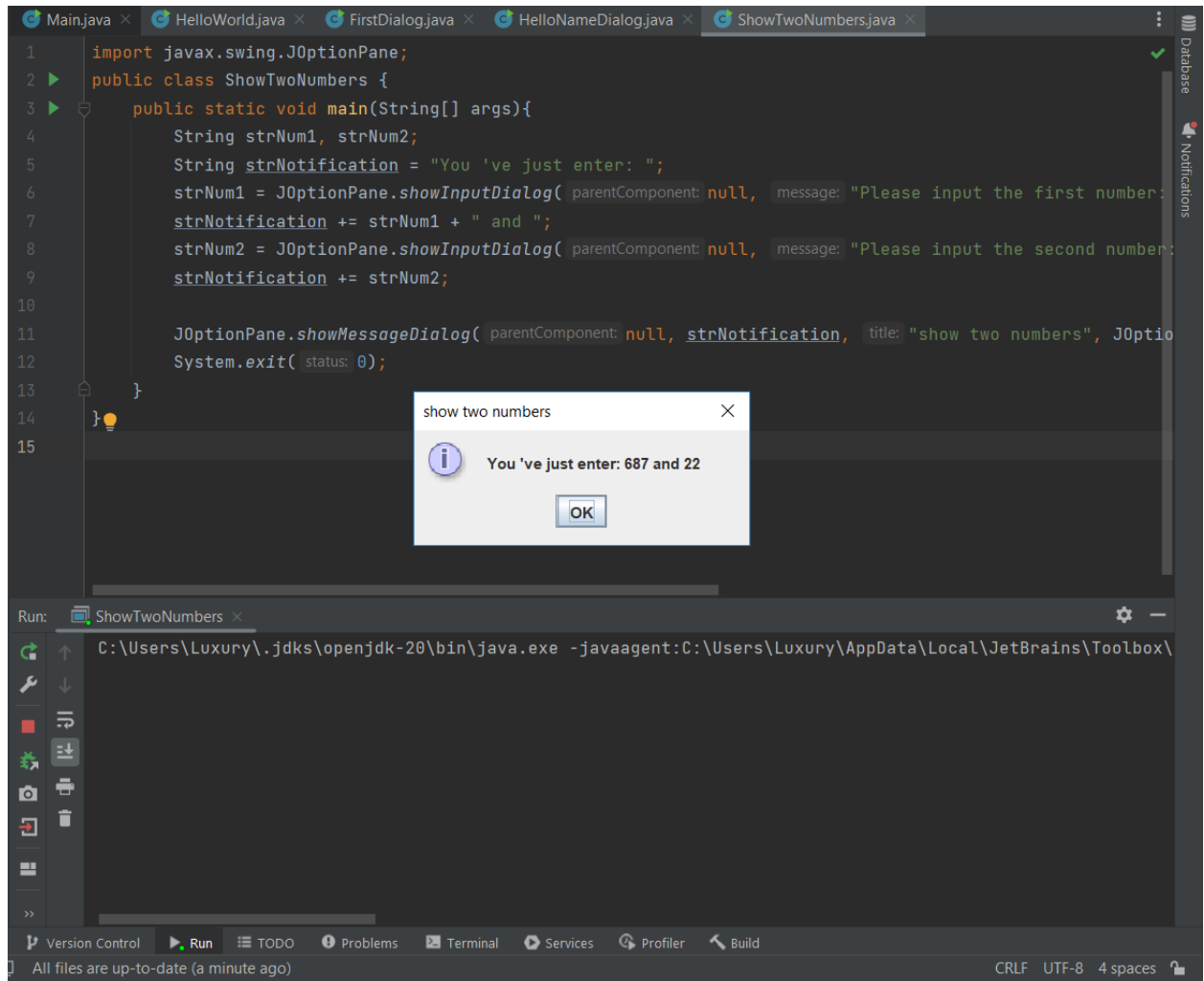


2.2.4 Write, compile, and run the following example:

```
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 }
```



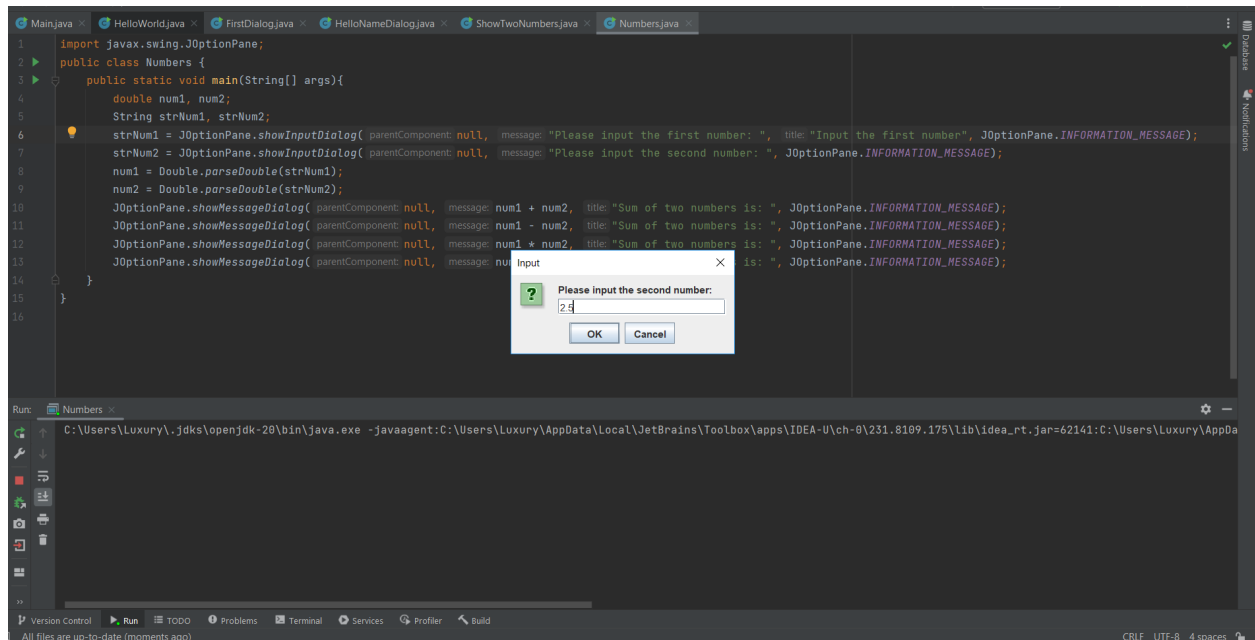
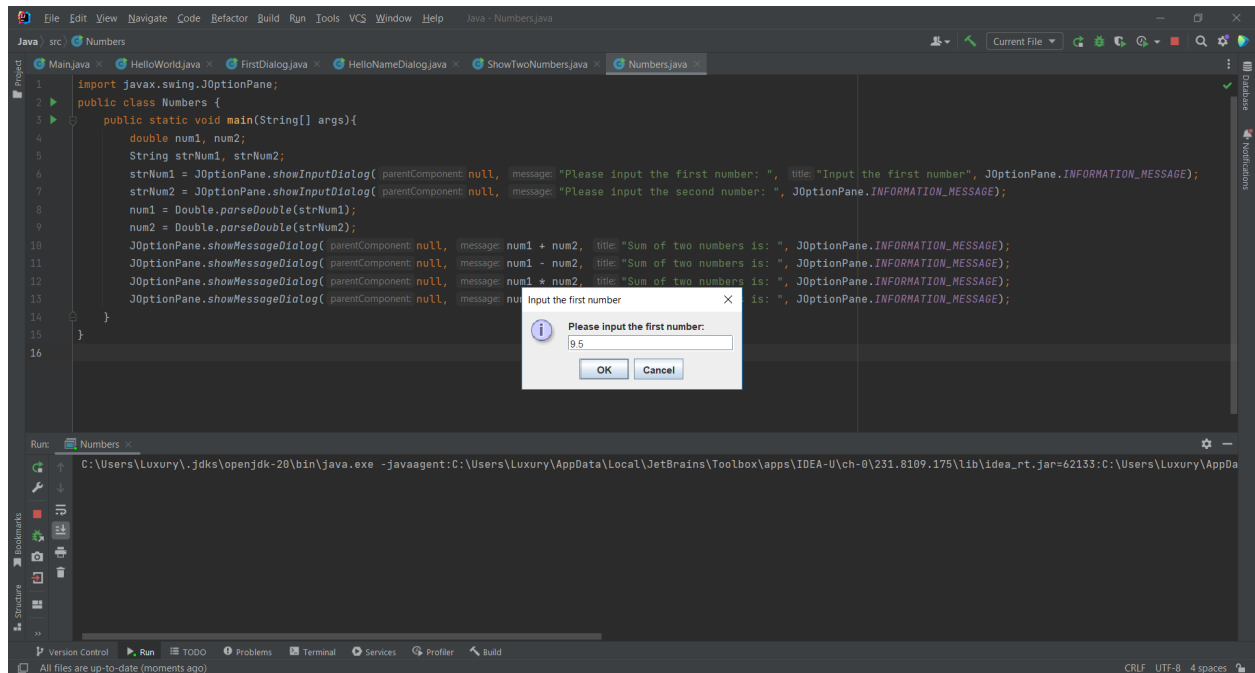


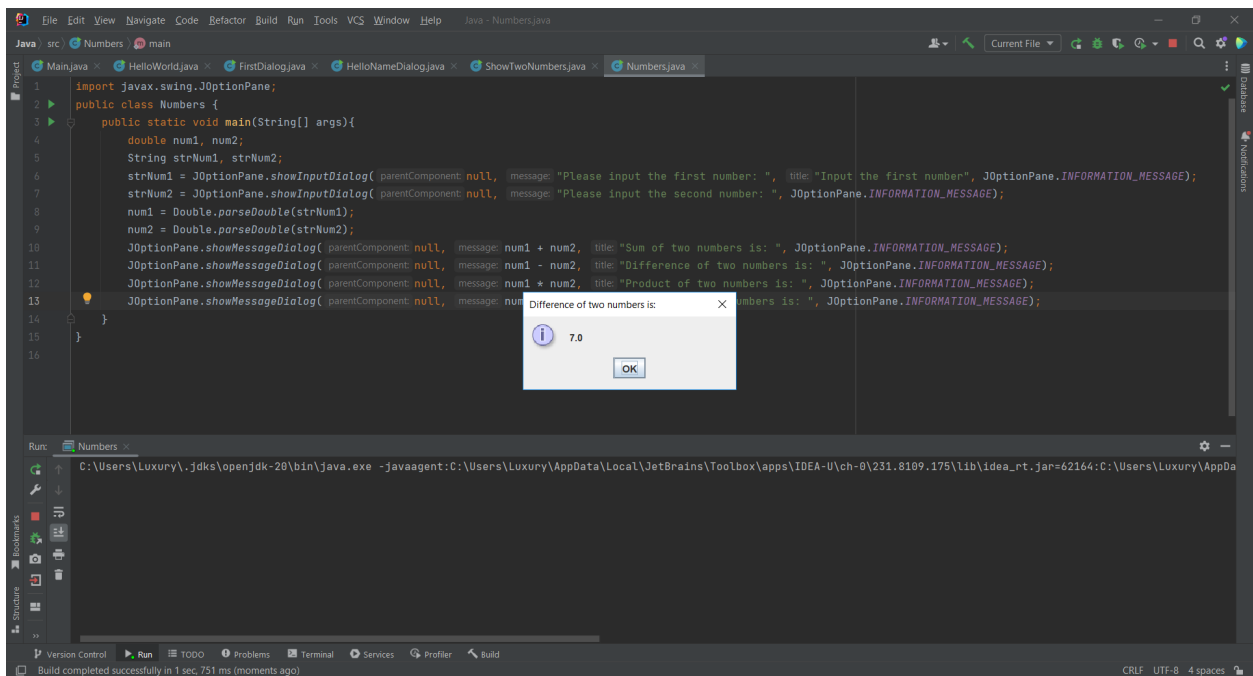
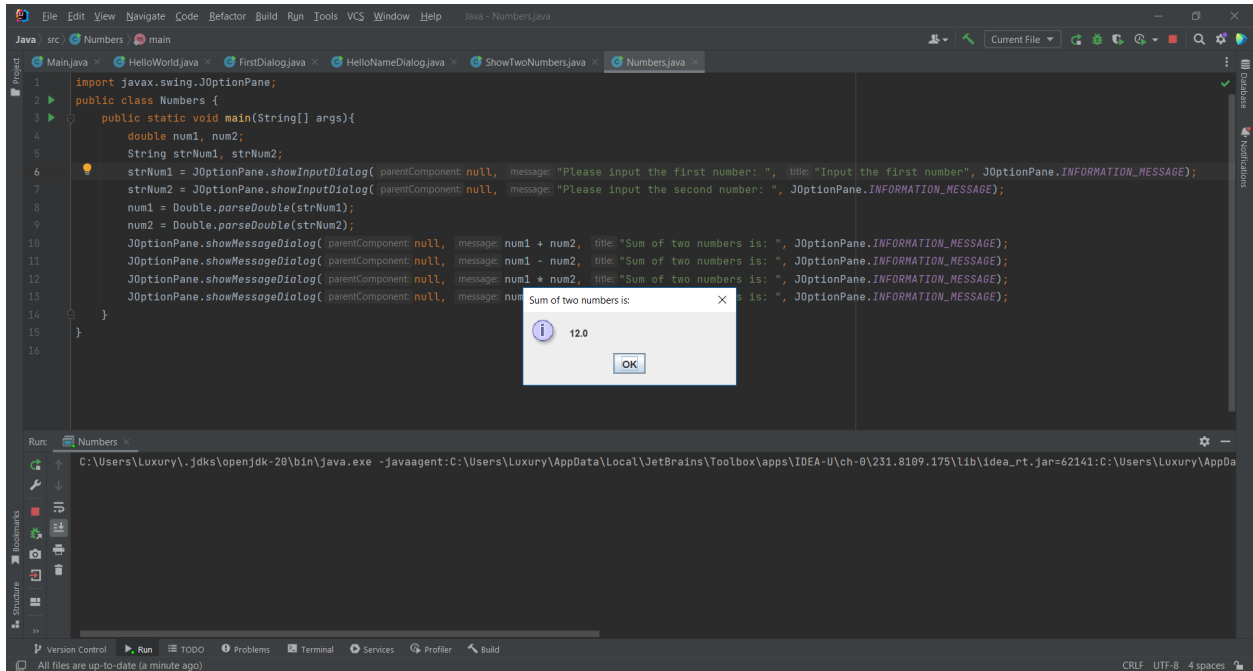


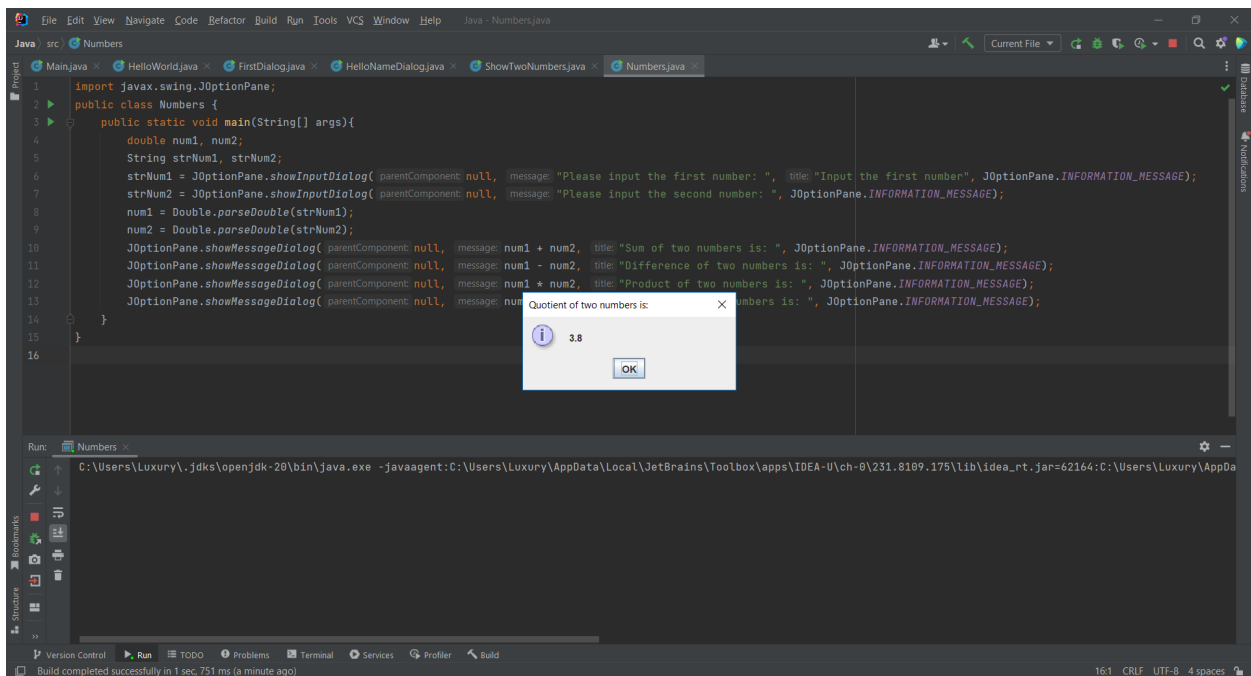
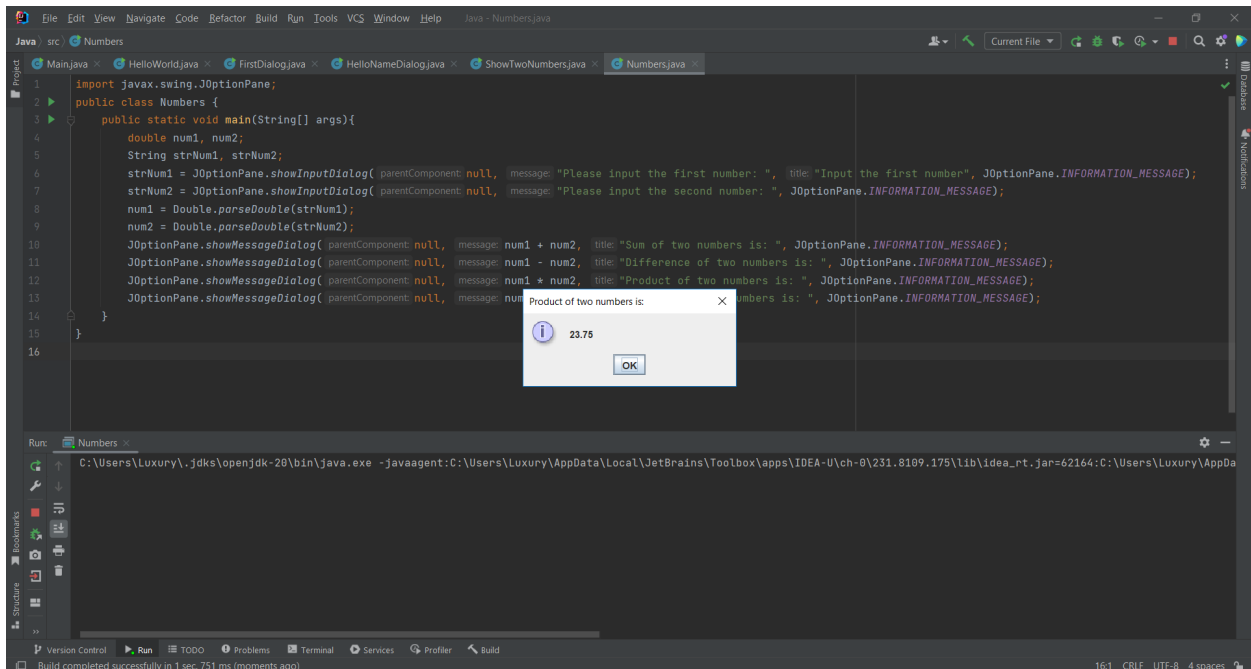
```
1 import javax.swing.JOptionPane;
2 public class ShowTwoNumbers {
3     public static void main(String[] args){
4         String strNum1, strNum2;
5         String strNotification = "You 've just enter: ";
6         strNum1 = JOptionPane.showInputDialog( parentComponent: null, message: "Please input 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 - a12 * 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);

```

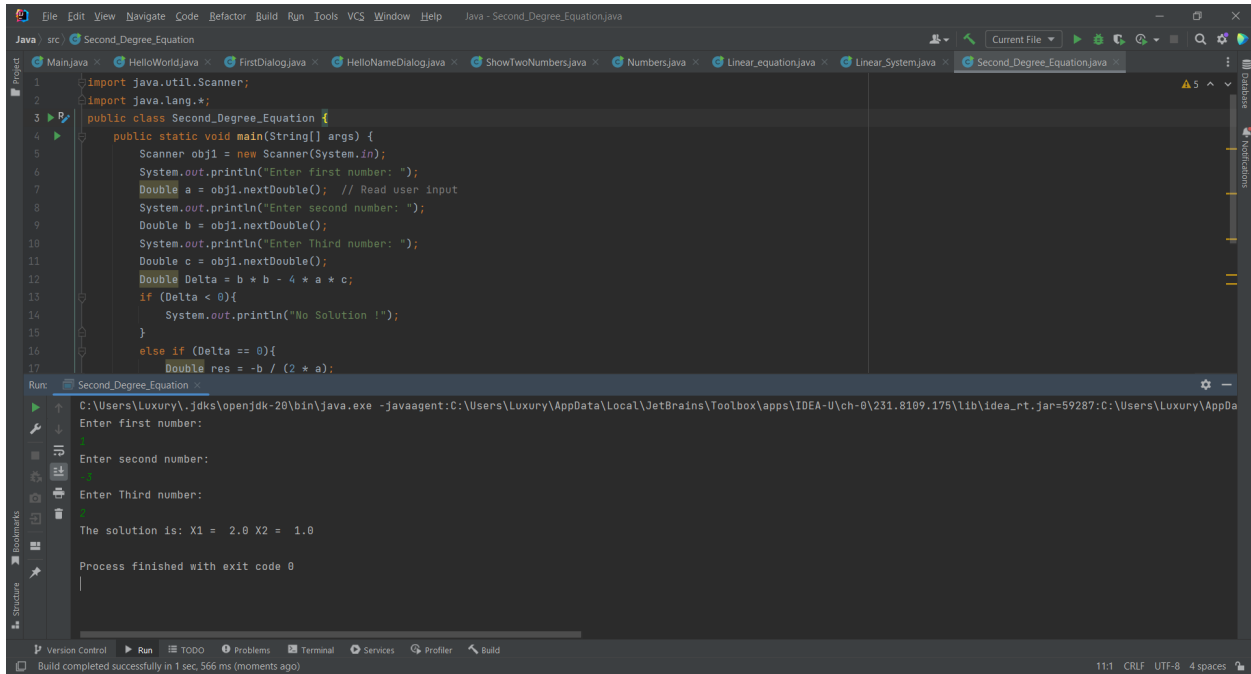
Run: Linear_System x

```

Enter second left number:
Enter first right number:
Enter Third left number:
Enter Fourth left number:
Enter second right number:
Solution is: X = 5.0 Y = -1.0

```

3. The Second Degree Equation



```
1 import java.util.Scanner;
2 import java.lang.*;
3 public class Second_Degree_Equation {
4     public static void main(String[] args) {
5         Scanner obj1 = new Scanner(System.in);
6         System.out.println("Enter first number: ");
7         Double a = obj1.nextDouble(); // Read user input
8         System.out.println("Enter second number: ");
9         Double b = obj1.nextDouble();
10        System.out.println("Enter Third number: ");
11        Double c = obj1.nextDouble();
12        Double Delta = b * b - 4 * a * c;
13        if (Delta < 0){
14            System.out.println("No Solution !");
15        }
16        else if (Delta == 0){
17            Double res = -b / (2 * a);
```

Run: Second_Degree_Equation

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=59287:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\bin\idea.exe

Enter first number: 2.0

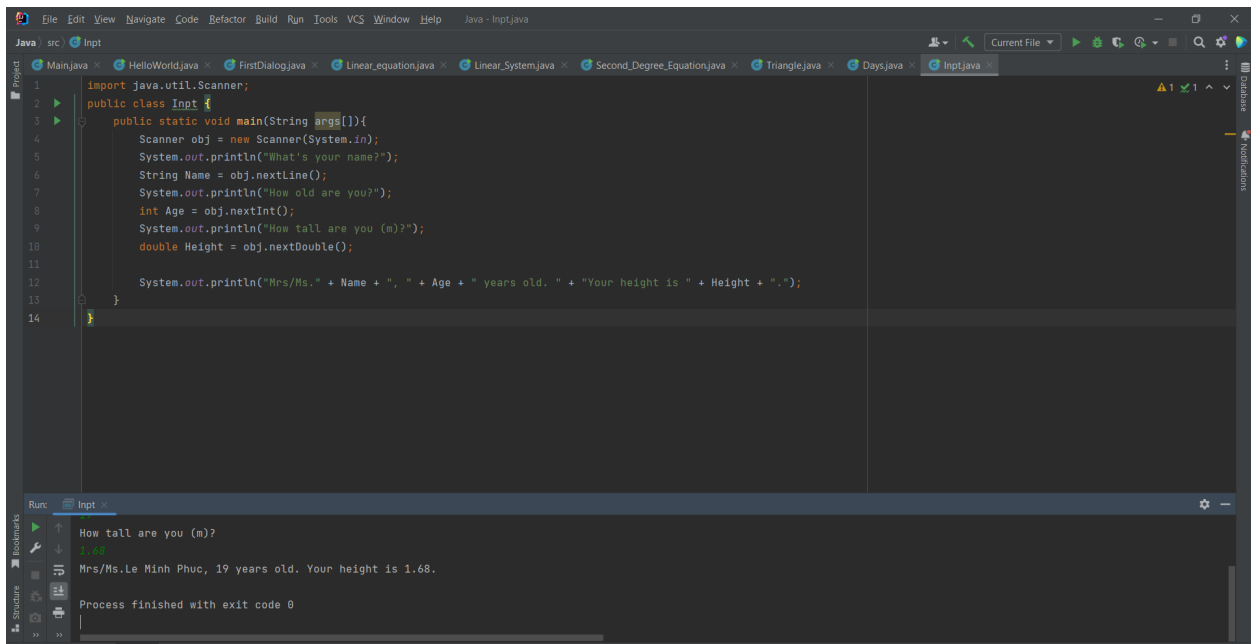
Enter second number: 1.0

Enter Third number: 1.0

The solution is: X1 = 2.0 X2 = 1.0

Process finished with exit code 0

6.2: Input from keyboard



```
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 }
```

Run: Inpt

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

6.3: Triangle

```

1 import java.util.Scanner;
2 public class Triangle {
3     public static void main(String[] args) {
4         Scanner obj1 = new Scanner(System.in);
5         System.out.print("Nhap so canh: \n");
6         int n = obj1.nextInt();
7         int m = (n - 1) * 2 + 1;
8         int dem = 1;
9         for (int i = 1; i <= n; ++i){
10             for (int j = 1; j <= (m - dem) / 2; ++j)
11                 System.out.print(" ");
12             for (int j = 1; j <= dem; ++j)
13                 System.out.print("*");
14             for (int j = 1; j <= (m - dem) / 2; ++j)
15                 System.out.print(" ");
16             dem += 2;
17             System.out.print("\n");
18         }
19     }
20 }

```

Run: Triangle

```

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=60321:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\bin\java.exe
Nhap so canh:
5
*
***
*****
*****
*****

```

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

```

1 import java.util.Scanner;
2 public class Days {
3     public static void main(String[] args) {
4         Scanner obj1 = new Scanner(System.in);
5         System.out.print("Nhap thang: \n");
6         int month = obj1.nextInt();
7         System.out.print("Nhap nam: \n");
8         int year = obj1.nextInt();
9         if (month != 2){
10             if (month == 1 || month == 3 || month == 5 || month == 7 || month == 8 || month == 10 || month == 12) System.out.print("There are 31 days \n");
11             else System.out.print("There are 30 days \n");
12         }
13         else{
14             if (year % 100 == 0){
15                 if ((year / 100) % 4 == 0) System.out.print("There are 29 days \n");
16                 else System.out.print("There are 28 days \n");
17             }
18             else {
19                 if (year % 4 == 0) System.out.print("There are 29 days \n");
20                 else System.out.print("There are 28 days \n");
21             }
22         }
23     }
24 }

```

Run: Days

```

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=60850:C:\Users\Luxury\AppData\Local\JetBrains\Toolbox\apps\IDEA-U\ch-0\231.8109.175\bin\java.exe
Nhap thang:
2
Nhap nam:
2021
There are 28 days
Process finished with exit code 0

```

6.5: Arrays

```

1 import java.util.Arrays;
2 import java.util.Scanner;
3 public class array {
4     public static void main(String[] args){
5         Scanner obj = new Scanner(System.in);
6         System.out.println("Nhap so so hang: ");
7         int n = obj.nextInt();
8         int a[] = new int[n];
9         for (int i = 0; i < n; ++ i)
10            a[i] = obj.nextInt();
11         Arrays.sort(a);
12         for (int i = 0; i < n; ++ i)
13            System.out.print(a[i] + " ");
14         System.out.print("\n");
15         int sum = 0;
16         for (int i = 0; i < n; ++ i)
17            sum += a[i];
18         double avrg = (double)sum / (double)n;
19         System.out.println("The sum is: " + sum);
20         System.out.println("The Average is: " + avrg);
21     }
22 }

```

Run: array

```

1 2 3 4 5 6
The sum is: 21
The Average is: 3.5
Process finished with exit code 0

```

6.6: Matrices

```

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 }
34 }
35 }
36 }

```

Run: matrices

```

Input the column:
Input the first Matrix:
Input the Second Matrix:
Answer is :
4
6

```