Họ và tên : Hoàng Văn Kiên

MSSV:20205089

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
// 2.2.1 Write, compile the first Java application:
// Example 1 : HelloWorld.java
// Text - printing program
// HoangVanKien-20205089

public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Xin chào \n các bạn!");
        System.out.println("Hello \t world!");
    } // end of method main
}

```

Kết quả

HelloWorld.java

```java
// 2.2.1 Write, compile the first Java application:
// Example 1 : HelloWorld.java
// Text - printing program
// HoangVanKien-20205089

public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Xin chào \n các bạn!");
        System.out.println("Hello \t world!");
    } // end of method main
}

```

Declaration | Console

<terminated> HelloWorld [Java Application] C:\Users\pc\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.2.v2022(

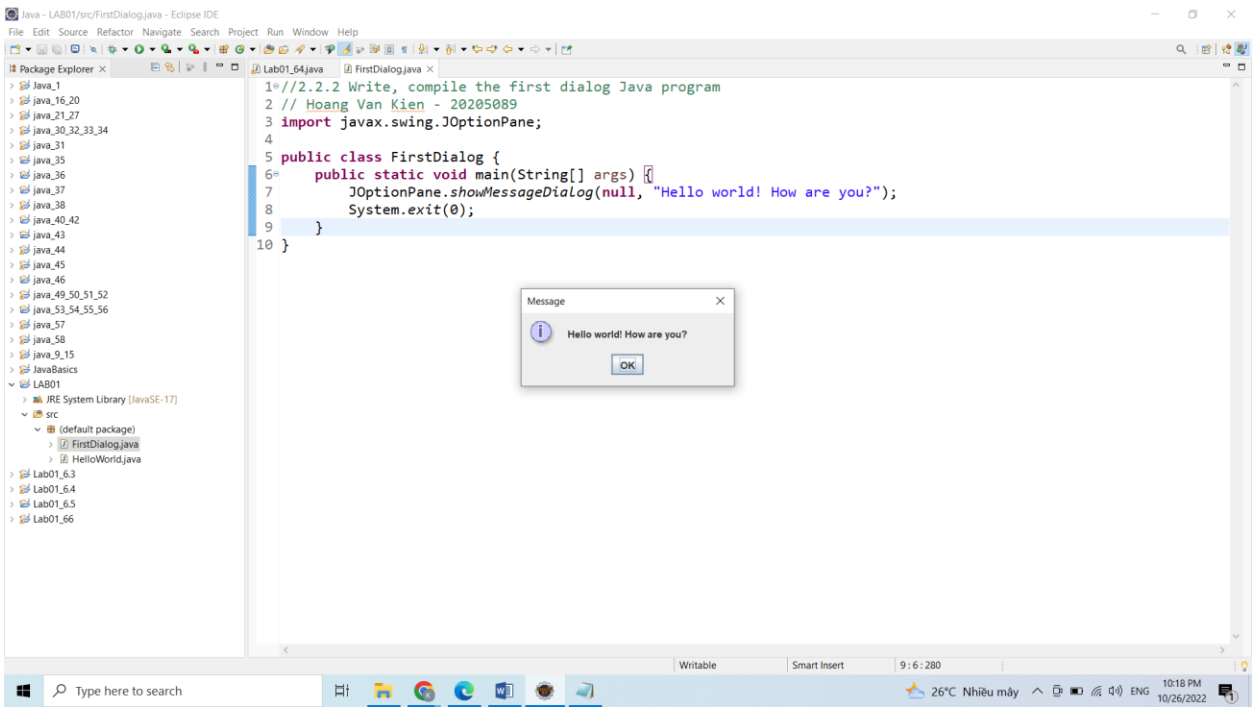
```
Xin chào
 các bạn!
Hello    world!
```

2.2.2 Write, compile the first dialog Java program

Lab01_64.java | FirstDialog.java

```java
//2.2.2 Write, compile the first dialog Java program
// Hoang Van Kien - 20205089
import javax.swing.JOptionPane;

public class FirstDialog {
    public static void main(String[] args) {
        JOptionPane.showMessageDialog(null, "Hello world! How are you?");
        System.exit(0);
    }
}
```

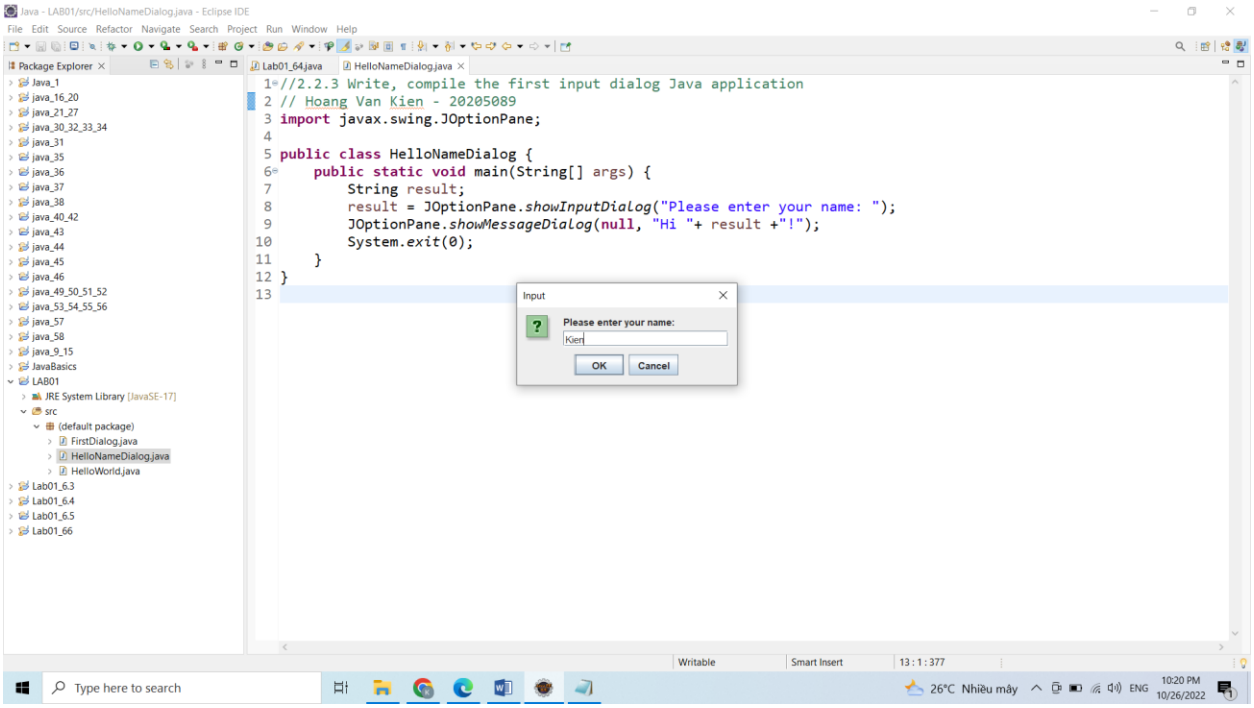
Ket qua

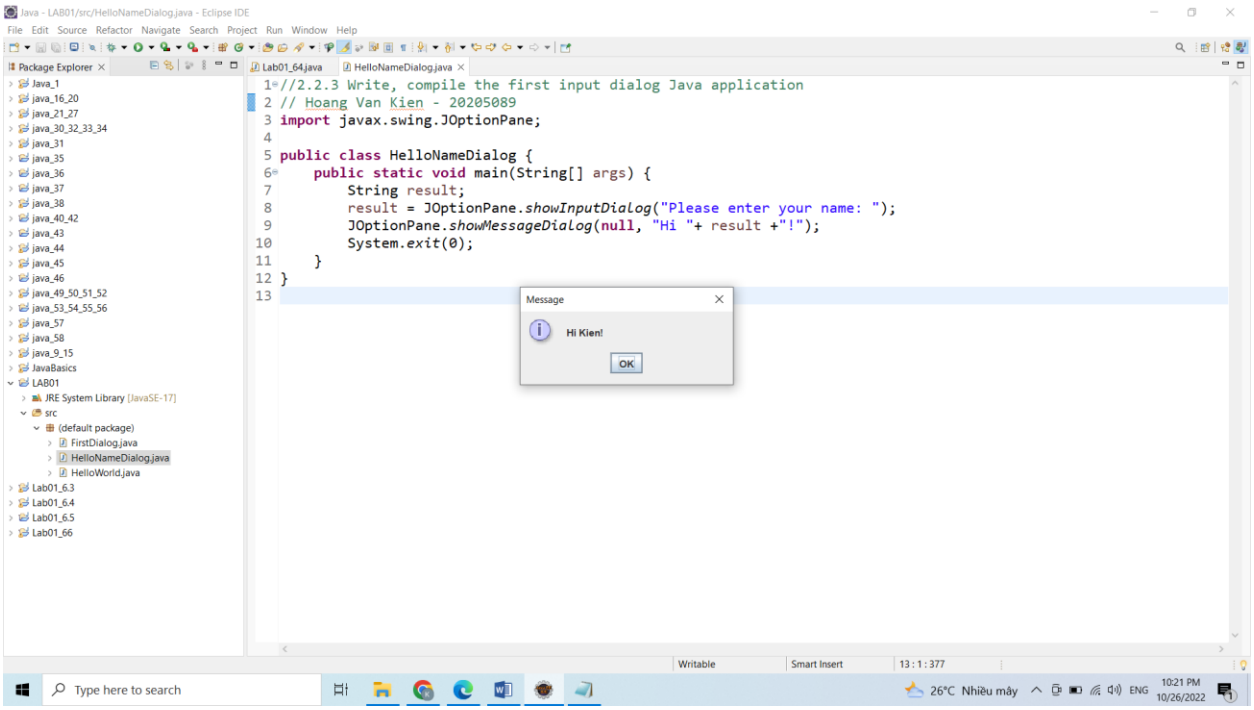


2.2.3 Write, compile the first input dialog Java application

Lab01_64.java | HelloNameDialog.java

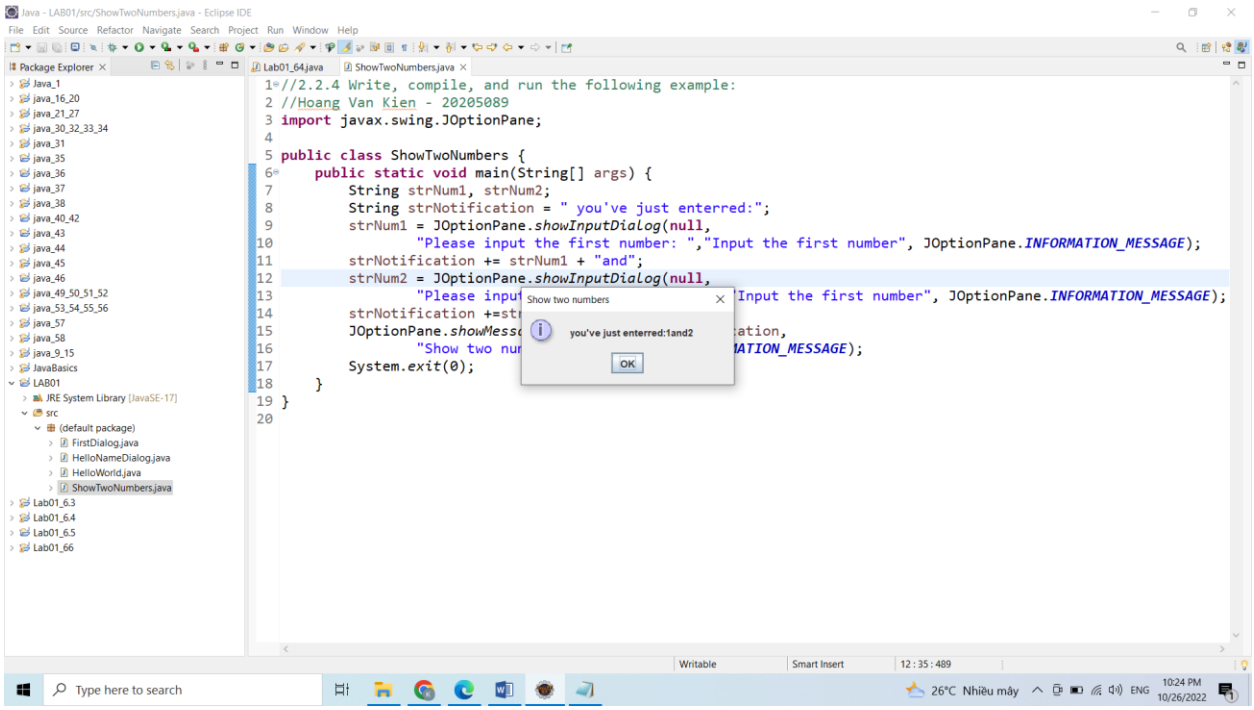
```java
//2.2.3 Write, compile the first input dialog Java application
// Hoang Van Kien - 20205089
import javax.swing.JOptionPane;

public class HelloNameDialog {
    public static void main(String[] args) {
        String result;
        result = JOptionPane.showInputDialog("Please enter your name: ");
        JOptionPane.showMessageDialog(null, "Hi "+ result +"!");
        System.exit(0);
    }
}
```





2.2.4 Write, compile, and run the following example:

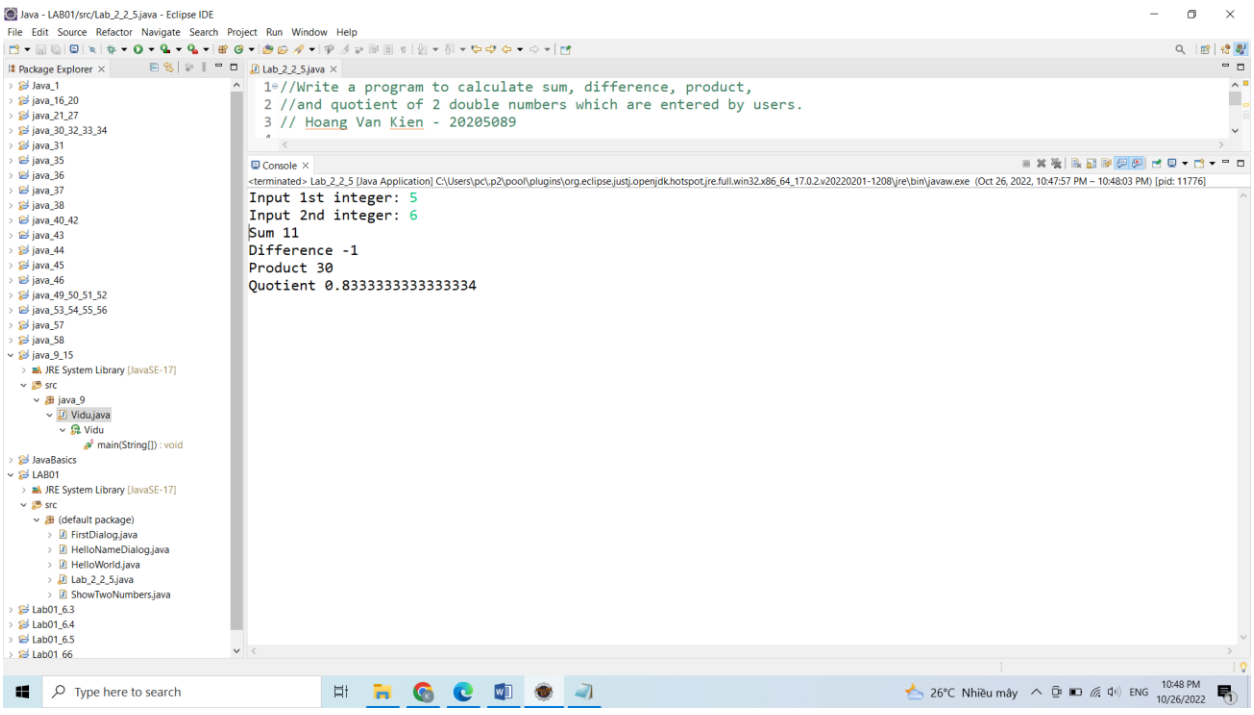
```java
//2.2.4 Write, compile, and run the following example:
//Hoang Van Kien - 20205089
import javax.swing.JOptionPane;

public class ShowTwoNumbers {
    public static void main(String[] args) {
        String strNum1, strNum2;
        String strNotification = " you've just enterred:";
        strNum1 = JOptionPane.showInputDialog(null,
                "Please input the first number: ","Input the first number", JOptionPane.INFORMATION_MESSAGE);
        strNotification += strNum1 + "and";
        strNum2 = JOptionPane.showInputDialog(null,
                "Please input the second number: " , "Input the first number", JOptionPane.INFORMATION_MESSAGE);
        strNotification +=strNum2;
        JOptionPane.showMessageDialog(null, strNotification,
                "Show two numbers", JOptionPane.INFORMATION_MESSAGE);
        System.exit(0);
    }
}

```



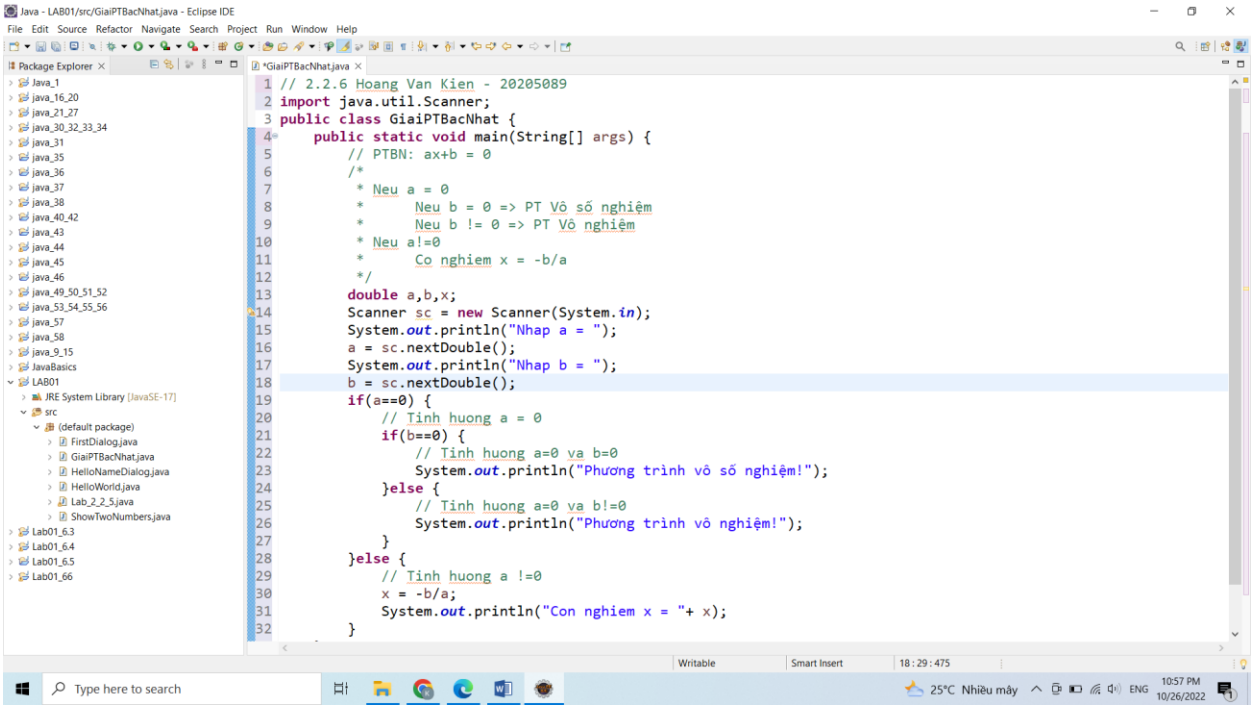
2.2.5 Write a program to calculate sum, difference, product, and quotient of 2 double numbers which are entered by users.

```java
//Write a program to calculate sum, difference, product,
//and quotient of 2 double numbers which are entered by users.
// Hoang Van Kien - 20205089

import java.util.Scanner;
public class Lab_2_2_5 {
        public static void main(String[] args)
        {
            Scanner in = new Scanner(System.in);
            System.out.print("Input 1st integer: ");
            int firstInt = in.nextInt();
            System.out.print("Input 2nd integer: ");
            int secondInt = in.nextInt();

            System.out.println("Sum " + (firstInt + secondInt) );
            System.out.println("Difference " + (firstInt - secondInt) );
            System.out.println("Product " + (firstInt * secondInt) );
            System.out.println("Quotient " + ((double)firstInt/secondInt) );

        }
}
```

Ket qua

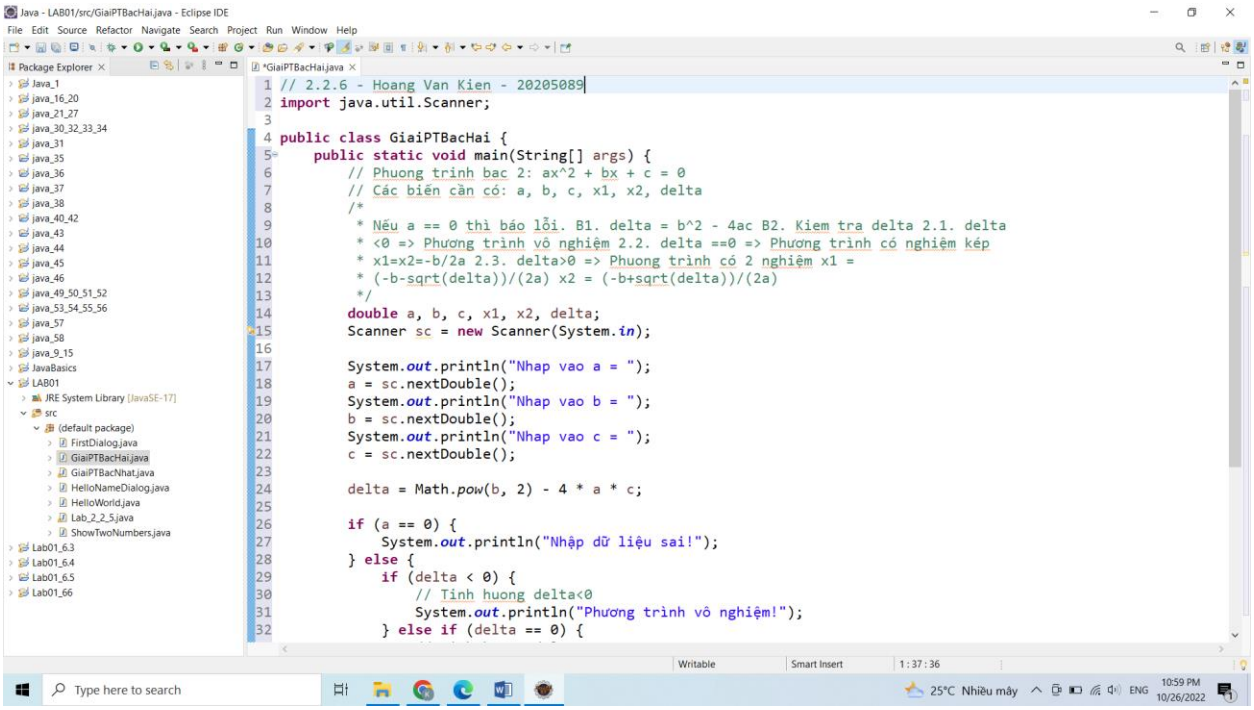


2.2.6 Write a program to calculate sum, difference, product, and quotient of 2 double numbers which are entered by users.

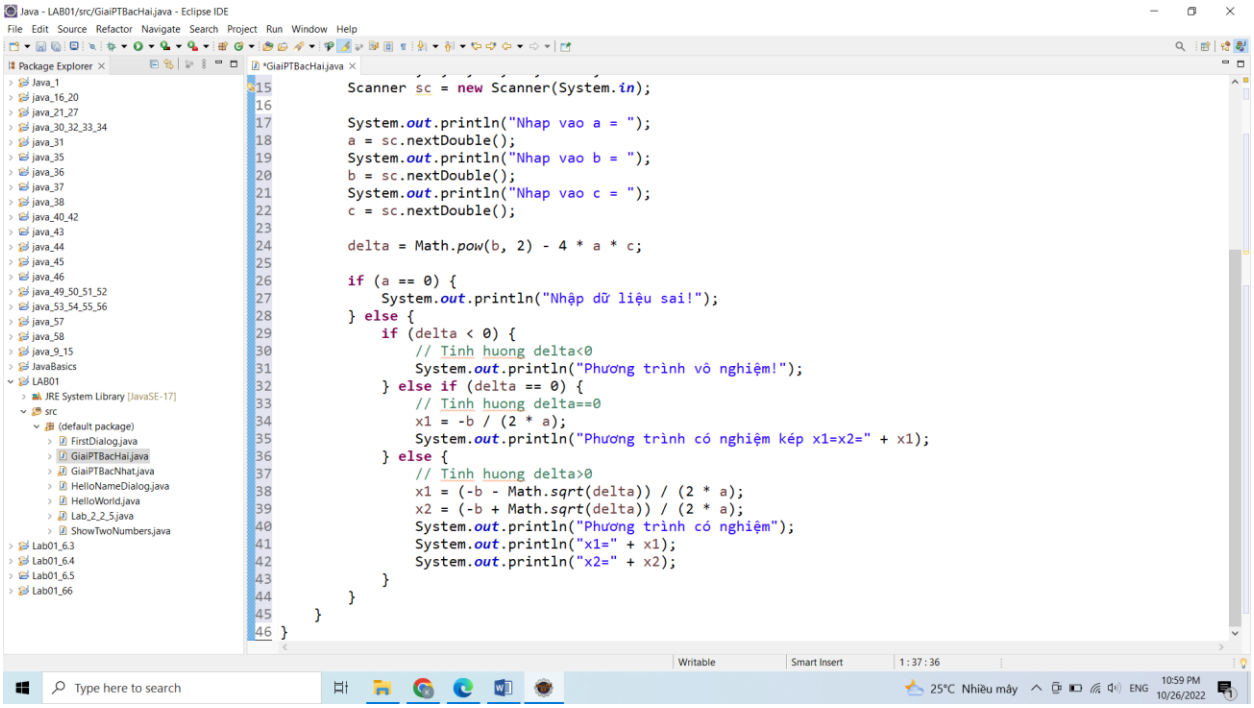


```java
// 2.2.6 Hoang Van Kien - 20205089
import java.util.Scanner;
public class GiaiPTBacNhat {
    public static void main(String[] args) {
        // PTBN: ax+b = 0
        /*
         * Neu a = 0
         *      Neu b = 0 => PT Vô số nghiệm
         *      Neu b != 0 => PT Vô nghiệm
         * Neu a!=0
         *      Co nghiem x = -b/a
         */
        double a,b,x;
        Scanner sc = new Scanner(System.in);
        System.out.println("Nhap a = ");
        a = sc.nextDouble();
        System.out.println("Nhap b = ");
        b = sc.nextDouble();
        if(a==0) {
            // Tinh huong a = 0
            if(b==0) {
                // Tinh huong a=0 va b=0
                System.out.println("Phương trình vô số nghiệm!");
            }else {
                // Tinh huong a=0 va b!=0
                System.out.println("Phương trình vô nghiệm!");
            }
        }else {
            // Tinh huong a !=0
            x = -b/a;
            System.out.println("Con nghiem x = "+ x);
        }
```

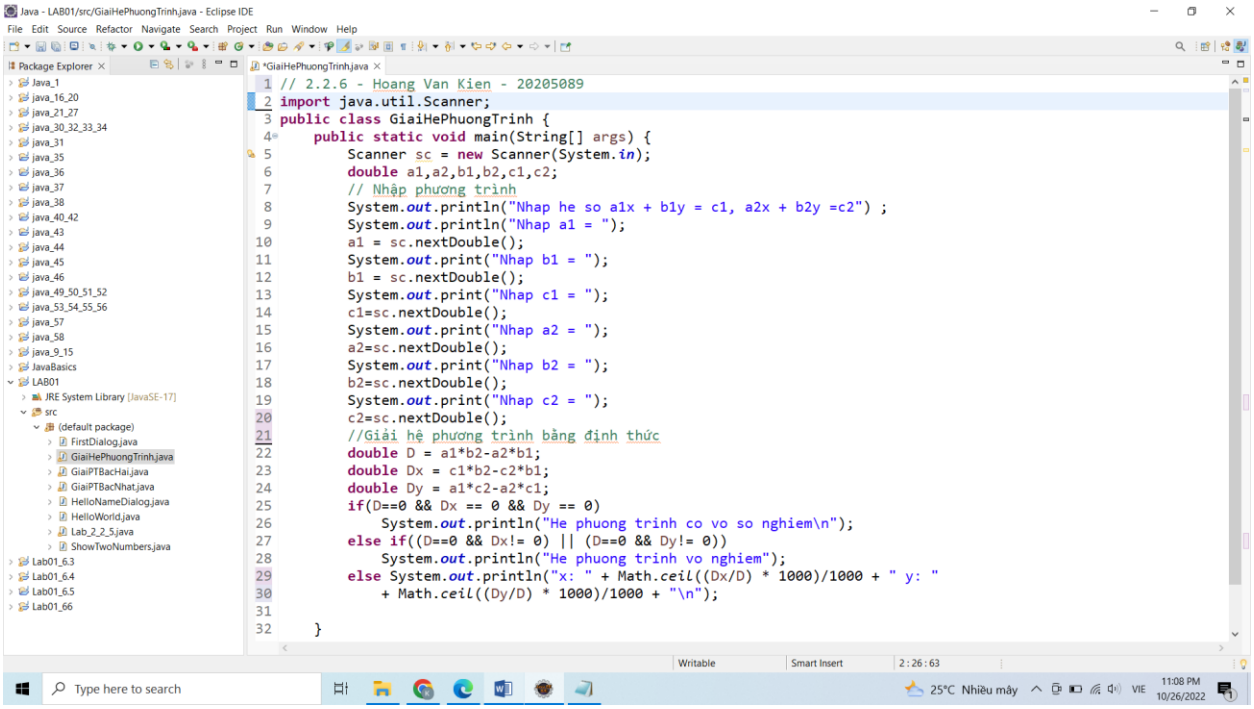
Giai Phuong trinh bậc 2



```java
// 2.2.6 - Hoang Van Kien - 20205089
import java.util.Scanner;

public class GiaiPTBacHai {
    public static void main(String[] args) {
        // Phuong trinh bac 2: ax^2 + bx + c = 0
        // Các biến cần có: a, b, c, x1, x2, delta
        /*
         * Nếu a == 0 thì báo lỗi. B1. delta = b^2 - 4ac B2. Kiem tra delta 2.1. delta
         * <0 => Phương trình vô nghiệm 2.2. delta ==0 => Phương trình có nghiệm kép
         * x1=x2=-b/2a 2.3. delta>0 => Phuong trình có 2 nghiệm x1 =
         * (-b-sqrt(delta))/(2a) x2 = (-b+sqrt(delta))/(2a)
         */
        double a, b, c, x1, x2, delta;
        Scanner sc = new Scanner(System.in);

        System.out.println("Nhap vao a = ");
        a = sc.nextDouble();
        System.out.println("Nhap vao b = ");
        b = sc.nextDouble();
        System.out.println("Nhap vao c = ");
        c = sc.nextDouble();

        delta = Math.pow(b, 2) - 4 * a * c;

        if (a == 0) {
            System.out.println("Nhập dữ liệu sai!");
        } else {
            if (delta < 0) {
                // Tinh huong delta<0
                System.out.println("Phương trình vô nghiệm!");
            } else if (delta == 0) {
```



Giai hệ Phuong trình

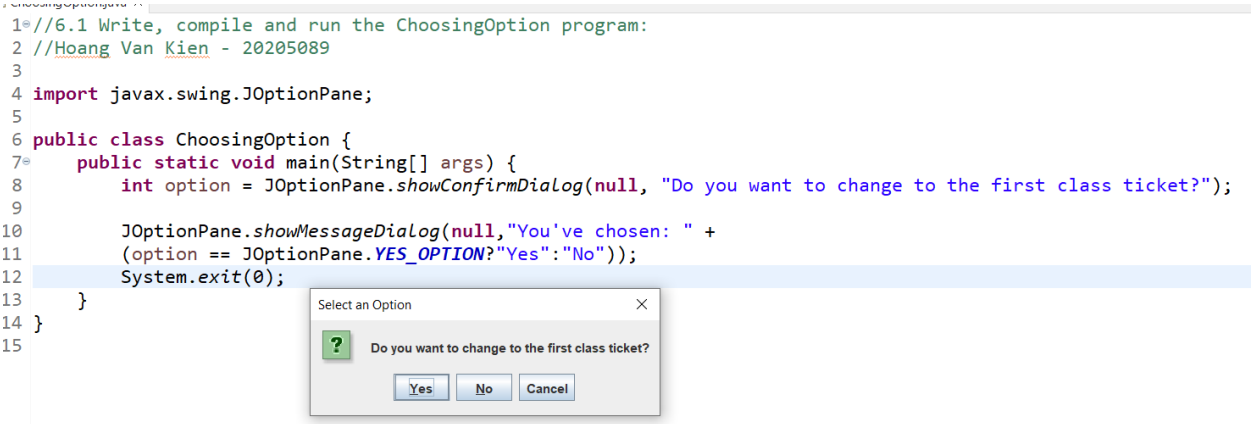


6 .Exercies

6.1 Write, compile and run the ChoosingOption program:

```java
//6.1 Write, compile and run the ChoosingOption program:
//Hoang Van Kien - 20205089

import javax.swing.JOptionPane;

public class ChoosingOption {
    public static void main(String[] args) {
        int option = JOptionPane.showConfirmDialog(null, "Do you want to change to the first class ticket?");

        JOptionPane.showMessageDialog(null,"You've chosen: " +
        (option == JOptionPane.YES_OPTION?"Yes":"No"));
        System.exit(0);
    }
}
```

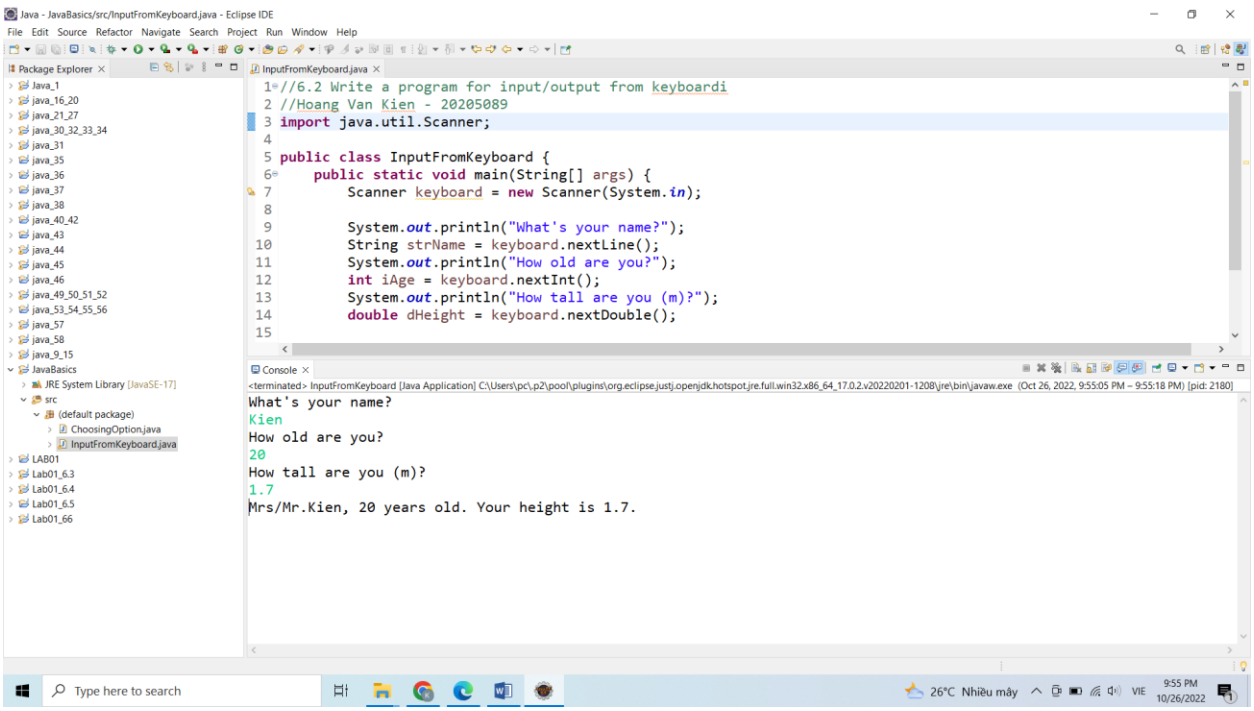
Ket qua:



6.2 Write a program for input/output from keyboardi

```java
//6.2 Write a program for input/output from keyboardi
//Hoang Van Kien - 20205089
import java.util.Scanner;

public class InputFromKeyboard {
    public static void main(String[] args) {
        Scanner keyboard = new Scanner(System.in);

        System.out.println("What's your name?");
        String strName = keyboard.nextLine();
        System.out.println("How old are you?");
        int iAge = keyboard.nextInt();
        System.out.println("How tall are you (m)?");
        double dHeight = keyboard.nextDouble();

        System.out.println("Mrs/Mr." + strName + ", " + iAge + " years old. " +
        "Your height is " + dHeight + ".");

    }
}
```

Ket qua:



6.3 Write a program to display a triangle with a height of n stars (*), n is entered by users.

E.g. n=5:

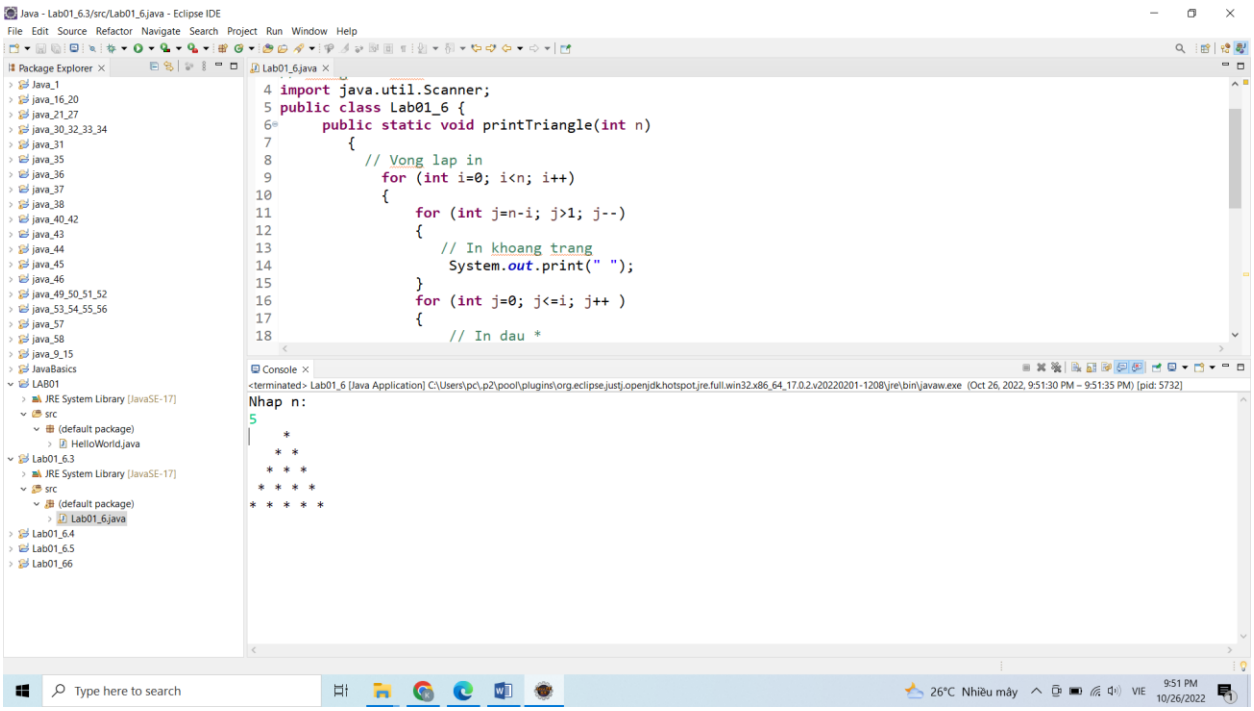
```
    *
```



```
   ***
  *****
 *******
*********
```

```java
//6.3 Write a program to display a triangle with a height of n stars (*),
//n is entered by users.
// Hoang Van Kien - 20205089
import java.util.Scanner;
public class Lab01_6 {
     public static void printTriangle(int n)
        {
          // Vong lap in
            for (int i=0; i<n; i++)
            {
                for (int j=n-i; j>1; j--)
                {
                   // In khoang trang
                    System.out.print(" ");
                }
                for (int j=0; j<=i; j++ )
                {
                    // In dau *
                    System.out.print("* ");
                }

                System.out.println();
            }
        }

        public static void main(String args[])
        {
            Scanner sc = new Scanner(System.in);
            int n = sc.nextInt();
            printTriangle(n);
        }
}
```

Ket qua:



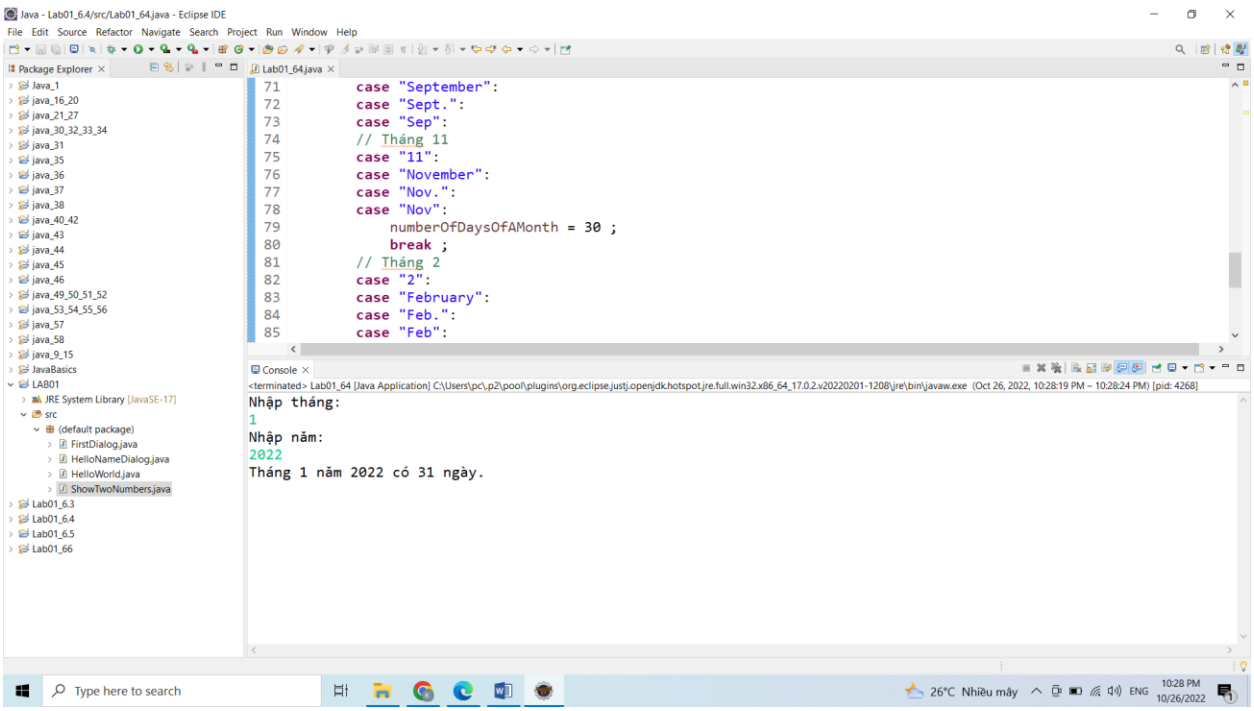
6.4 Write a program to display the number of days of a month

```java
import java.util.Scanner;

//6.4 Write a program to display the number of days of a month, which is entered by users (both month and year)
//If it is an invalid month/year, ask the user to enter again.
// HoangVanKien-20205089
public class Lab01_64 {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        // Khai báo tháng năm
        int year  ;
        String month ;

        // Khai báo mặc định số ngày trong tháng;
        int numberOfDaysOfAMonth = 0 ;

        // Nhập năm và tháng
        System.out.println("Nhập tháng: ");
        month = sc.nextLine();
        System.out.println("Nhập năm: ");
        year = sc.nextInt();


        // Kiểm tra số ngày trong tháng
        switch (month) {
        // Tháng 1
        case "1":
        case "January":
        case "Jan.":
        case "Jan" :
        // Tháng 3
        case "3":
        case "March":
        case "Mar.":
        case "Mar" :
        // Tháng 5
        case "5":
        case "May":
        // Tháng 7
        case "7":
        case "July":
        case "Jul":
        // Tháng 8
        case "8":
        case "August":
        case "Aug.":
        case "Aug":
        // Tháng 10
        case "10":
        case "October":
        case "Oct.":
        case "Oct":
        // Tháng 12
        case "12":
        case "December":
        case "Dec.":
        case "Dec":
            numberOfDaysOfAMonth = 31 ;
            break;
        // Tháng 4
        case "4":
        case "April":
        case "Apr.":
```

```
        // Tháng 6
        case "6":
        case "June":
        case "Jun":
        // Tháng 9
        case "9":
        case "September":
        case "Sept.":
        case "Sep":
        // Tháng 11
        case "11":
        case "November":
        case "Nov.":
        case "Nov":
            numberOfDaysOfAMonth = 30 ;
            break ;
        // Tháng 2
        case "2":
        case "February":
        case "Feb.":
        case "Feb":
            if ((year % 400 == 0) || ((year % 4 == 0) && (year % 100 != 0))) {
                numberOfDaysOfAMonth = 29;
            } else {
                numberOfDaysOfAMonth = 28 ;
            }
            break;

        default:
            System.out.println("Nhập sai rồi bạn ơi!");
            break;
```

```
        case "November":
        case "Nov.":
        case "Nov":
            numberOfDaysOfAMonth = 30 ;
            break ;
        // Tháng 2
        case "2":
        case "February":
        case "Feb.":
        case "Feb":
            if ((year % 400 == 0) || ((year % 4 == 0) && (year % 100 != 0))) {
                numberOfDaysOfAMonth = 29;
            } else {
                numberOfDaysOfAMonth = 28 ;
            }
            break;

        default:
            System.out.println("Nhập sai rồi bạn ơi!");
            break;
        }
        // In
        System.out.println("Tháng " + month + " năm " + year + " có " + numberOfDaysOfAMonth + " ngày." );


    }
}
```

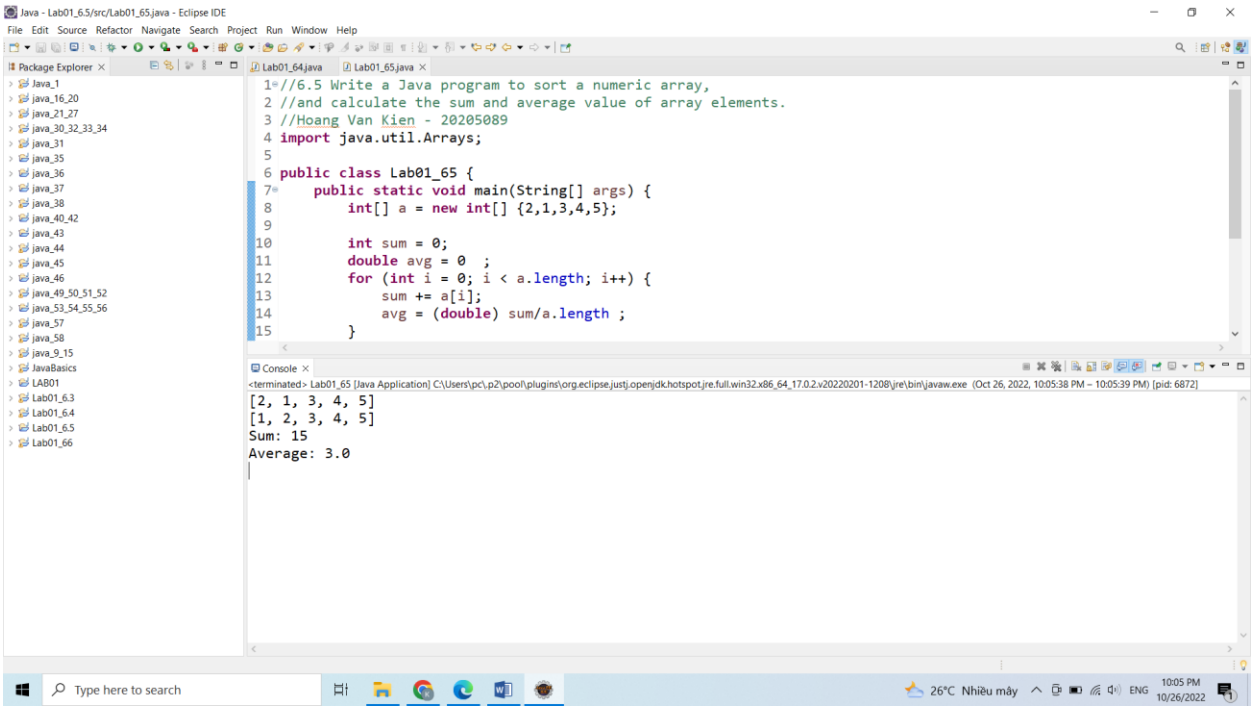
Ket qua:



6.5 Write a Java program to sort a numeric array, and calculate the sum and average value of array elements.

```java
//6.5 Write a Java program to sort a numeric array,
//and calculate the sum and average value of array elements.
//Hoang Van Kien - 20205089
import java.util.Arrays;

public class Lab01_65 {
    public static void main(String[] args) {
        int[] a = new int[] {2,1,3,4,5};

        int sum = 0;
        double avg = 0  ;
        for (int i = 0; i < a.length; i++) {
            sum += a[i];
            avg = (double) sum/a.length ;
        }

        System.out.println(Arrays.toString(a));
        Arrays.sort(a);
        System.out.println(Arrays.toString(a));
        System.out.println("Sum: " + sum);
        System.out.println("Average: " + avg);
    }
}
```

Ket qua:

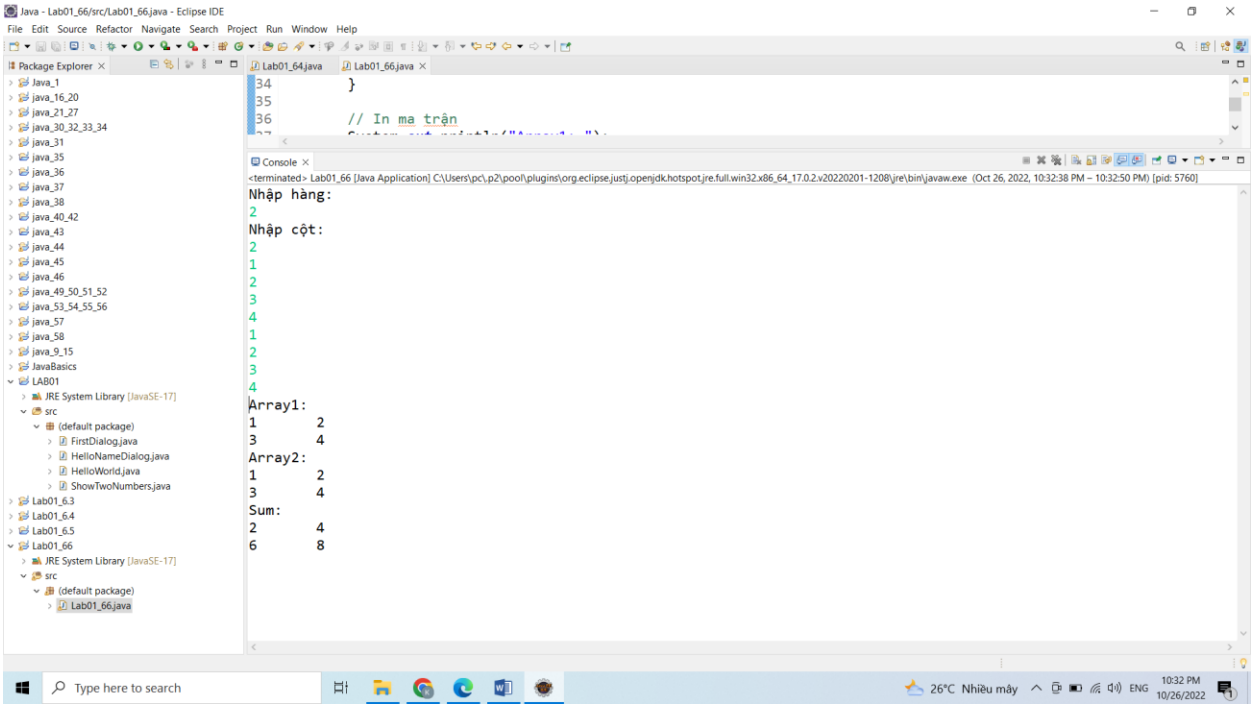


6.6 Write a Java program to add two matrices of the same size.

```java
import java.util.Scanner;

// 6.6 Write a Java program to add two matrices of the same size.
// HoangVanKien-20205089
public class Lab01_66 {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        int m ; // Khai báo hàng
        int n ; // Khai báo cột

        // Nhập số hàng , số cột
        System.out.println("Nhập hàng:");
        m = sc.nextInt();
        System.out.println("Nhập cột:");
        n = sc.nextInt();

        // Khai báo hai ma trận cùng kích thước
        int array1[][] = new int[m][n];
        int array2[][] = new int[m][n];
        int sum[][] = new int[m][n];

        // Nhập giá trị cho 2 ma trận
        for (int i = 0; i < m; i++) {
            for (int j = 0; j < n; j++) {
                array1[i][j] = sc.nextInt();
            }
        }

        for (int i = 0; i < m; i++) {
            for (int j = 0; j < n; j++) {
                array2[i][j] = sc.nextInt();
```

```
        }

        // In ma trận
        System.out.println("Array1: ");
        for (int i = 0; i < m; i++) {
            for (int j = 0; j < n; j++) {
                System.out.print(array1[i][j]+"\t");
            }
            System.out.println();
        }

        System.out.println("Array2: ");
        for (int i = 0; i < m; i++) {
            for (int j = 0; j < n; j++) {
                System.out.print(array2[i][j]+"\t");
            }
            System.out.println();
        }

        // Tinh tong 2 ma tran
        for ( int i = 0 ; i < m ; i++ ) {
            for ( int j = 0 ; j < n ; j++ )
                 sum[i][j] = array1[i][j] + array2[i][j];
        }

          System.out.println("Sum:");

          for ( int i = 0 ; i < m ; i++ )
          {
             for ( int j = 0 ; j < n ; j++ )
                System.out.print(sum[i][j]+"\t");
```

Ket qua:


Java - Lab01_66/src/Lab01_66.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Java_1
java_16_20
java_21_27
java_30_32_33_34
java_31
java_35
java_36
java_37
java_38
java_40_42
java_43
java_44
java_45
java_46
java_49_50_51_52
java_53_54_55_56
java_57
java_58
java_9_15
JavaBasics
LAB01
JRE System Library [JavaSE-17]
src
(default package)
FirstDialog.java
HelloNameDialog.java
HelloWorld.java
ShowTwoNumbers.java
Lab01_6.3
Lab01_6.4
Lab01_6.5
Lab01_66
JRE System Library [JavaSE-17]
src
(default package)
Lab01_66.java
Lab01_64.java
Lab01_66.java
34 }
35
36 // In ma trận
Console
<terminated> Lab01_66 [Java Application] C:\Users\pc\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.2.v20220201-1208\jre\bin\javaw.exe (Oct 26, 2022, 10:32:38 PM – 10:32:50 PM) [pid: 5760]
Nhập hàng:
2
Nhập cột:
2
1
2
3
4
1
2
3
4
Array1:
1 2
3 4
Array2:
1 2
3 4
Sum:
2 4
6 8
Type here to search
26°C Nhiều mây
ENG
10:32 PM
10/26/2022