

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

Họ và tên: Phạm Quang Huy – MSSV: 20215207

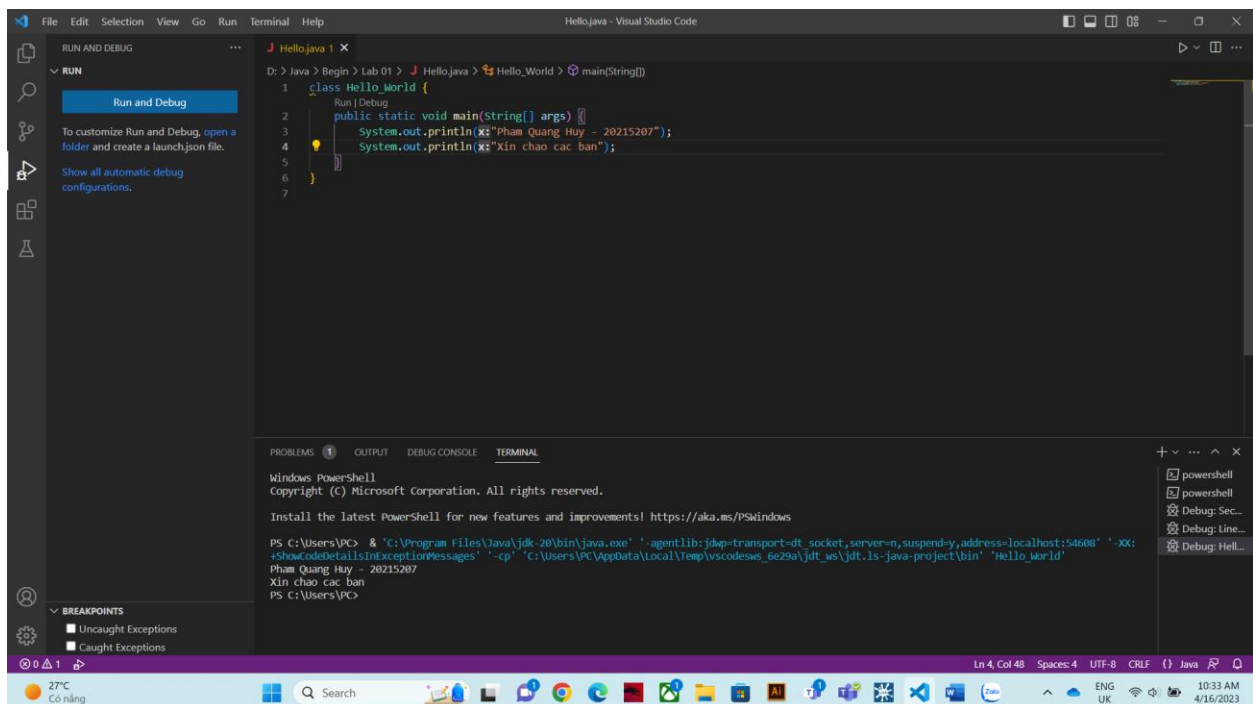
**Example:**

**Example 1: Write, compile the first Java program:**

**Code:**

```
D: > Java > Begin > Lab 01 > J Hello.java > Hello_World > main(String[])
1  class Hello_World {
2      public static void main(String[] args) {
3          System.out.println(x:"Pham Quang Huy - 20215207");
4          System.out.println(x:"Xin chao cac ban");
5      }
6  }
7
```

**Kết quả chạy chương trình:**



```
File Edit Selection View Go Run Terminal Help
Hello.java - Visual Studio Code
D: > Java > Begin > Lab 01 > J Hello.java > Hello_World > main(String[])
1  class Hello_World {
2      public static void main(String[] args) {
3          System.out.println(x:"Pham Quang Huy - 20215207");
4          System.out.println(x:"Xin chao cac ban");
5      }
6  }
7

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Windows PowerShell
Copyright (c) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

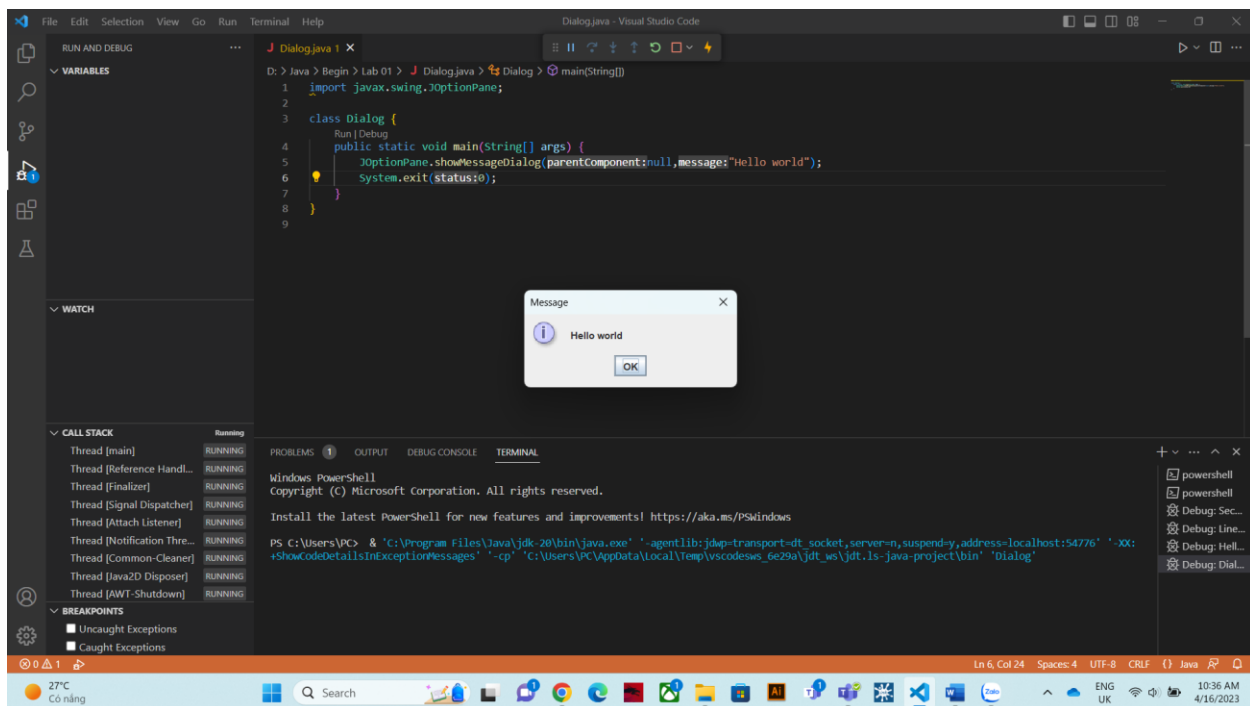
PS C:\Users\PC> & "C:\Program Files\Java\jdk-20\bin\java.exe" "-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:54608" "-XX:
+ShowCodeDetailsInExceptionMessages" "-cp" "C:\Users\PC\AppData\Local\Temp\vscodesw_6e29a\jdk_ws\jdk_ws-java-project\bin" "Hello_World"
Pham Quang Huy - 20215207
Xin chao cac ban
PS C:\Users\PC>
```

**Example 2: Write, compile the first dialog Java program**

**Code:**

```
D: > Java > Begin > Lab 01 > J Dialog.java > Dialog > main(String[])
1  import javax.swing.JOptionPane;
2
3  class Dialog {
4      public static void main(String[] args) {
5          JOptionPane.showMessageDialog(parentComponent:null,message:"Hello world");
6          System.exit(status:0);
7      }
8  }
```

Kết quả thực hiện chạy chương trình

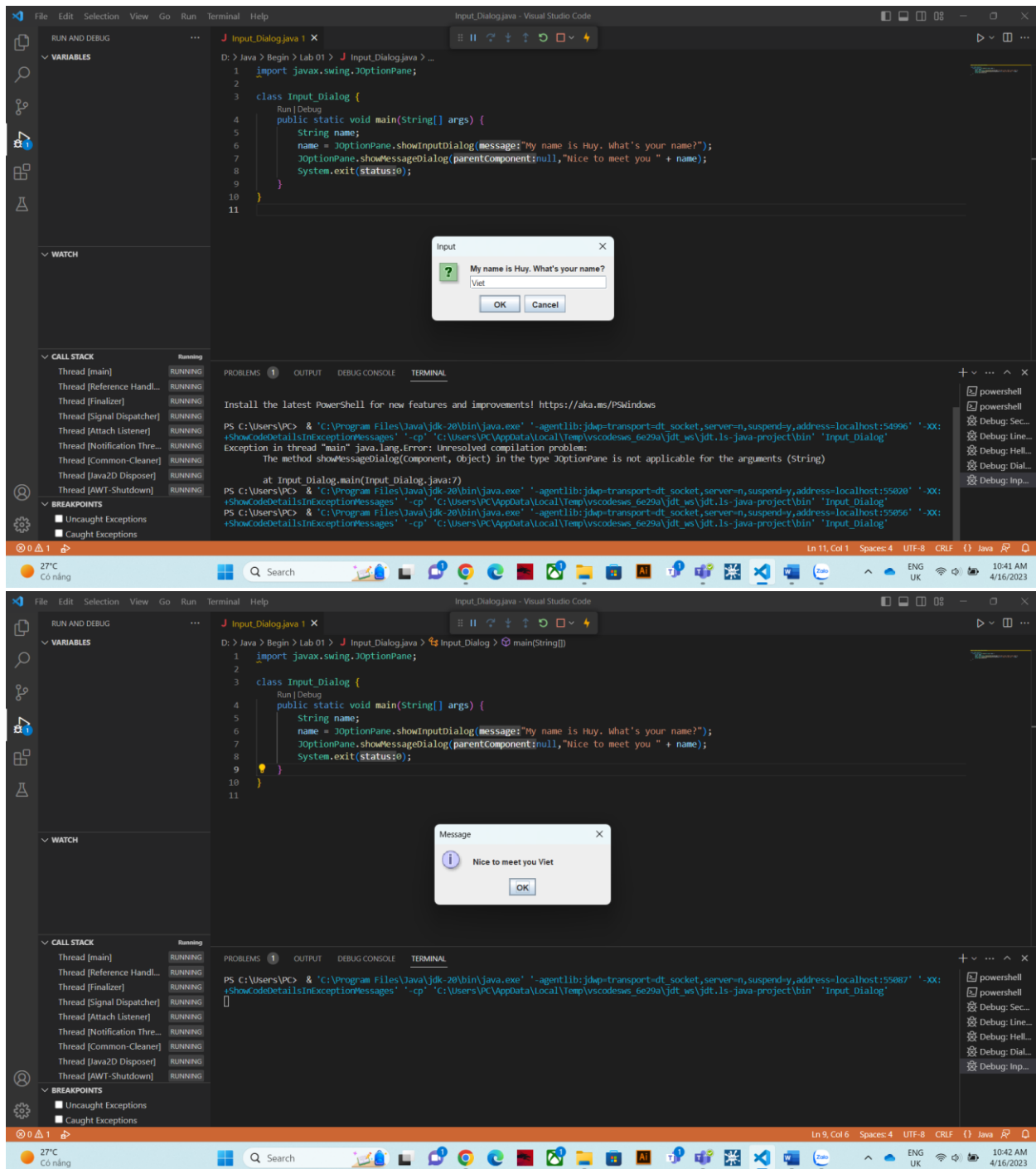


**Example 3:** Write, compile the first input dialog Java application

Code:

```
D: > Java > Begin > Lab 01 > J Input_Dialog.java > ...
1  import javax.swing.JOptionPane;
2
3  class Input_Dialog {
4      public static void main(String[] args) {
5          String name;
6          name = JOptionPane.showInputDialog(message:"My name is Huy. What's your name?");
7          JOptionPane.showMessageDialog(parentComponent:null,"Nice to meet you " + name);
8          System.exit(status:0);
9      }
10 }
11
```

Kết quả chạy chương trình

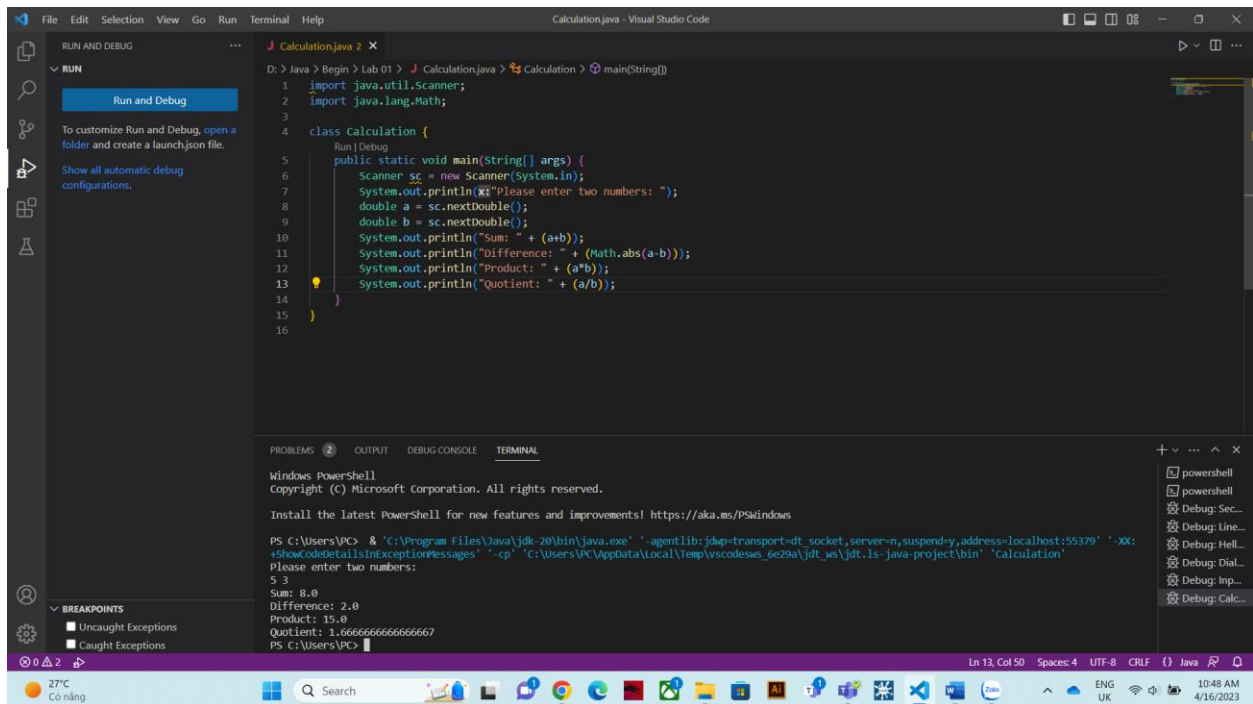


**Example 4:** Write a program to calculate sum, difference, product, and quotient of 2 double numbers which are entered by users.

**Code:**

```
D: > Java > Begin > Lab 01 > J Calculation.java > Calculation > main(String[])
1  import java.util.Scanner;
2  import java.lang.Math;
3
4  class Calculation {
5      Run | Debug
6      public static void main(String[] args) {
7          Scanner sc = new Scanner(System.in);
8          System.out.println(x:"Please enter two numbers: ");
9          double a = sc.nextDouble();
10         double b = sc.nextDouble();
11         System.out.println("Sum: " + (a+b));
12         System.out.println("Difference: " + (Math.abs(a-b)));
13         System.out.println("Product: " + (a*b));
14         System.out.println("Quotient: " + (a/b));
15     }
16 }
```

Kết quả chạy chương trình:



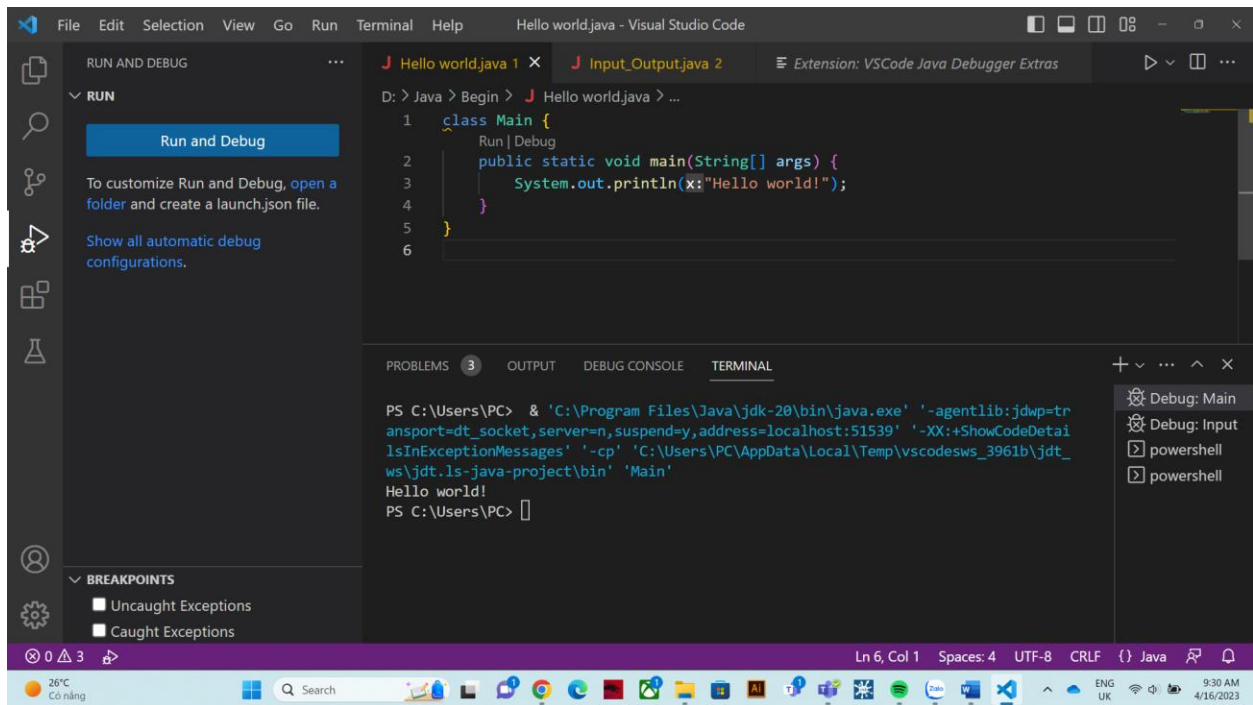
Exercises:

## Bài 1: First Java program

Code:

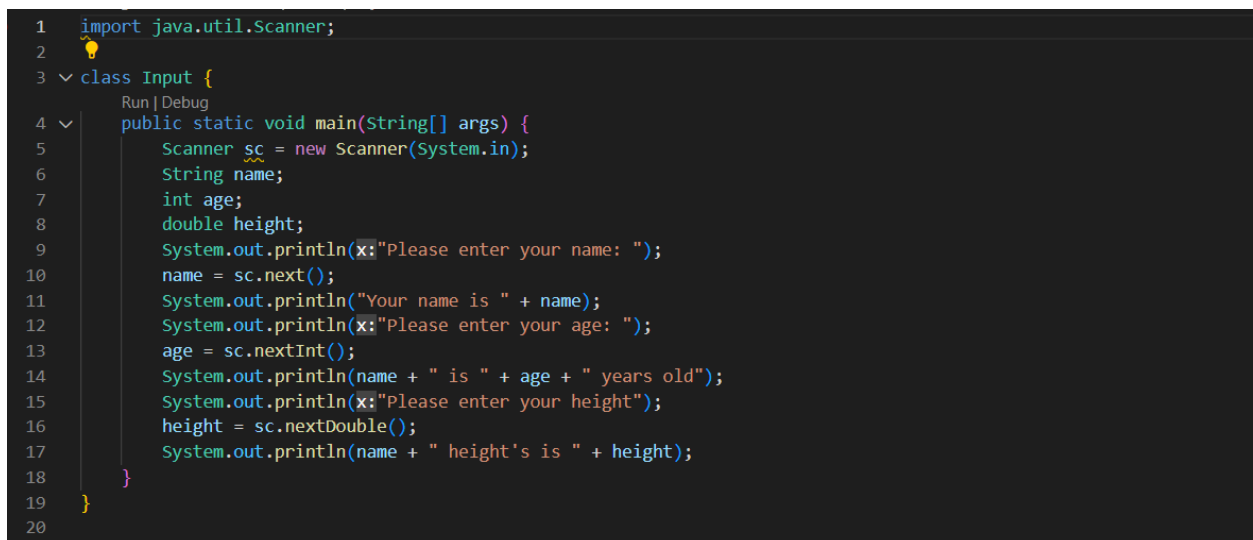
```
D: > Java > Begin > J Hello world.java > ...
1  class Main {
2      Run | Debug
3      public static void main(String[] args) {
4          System.out.println(x:"Hello world!");
5      }
6  }
```

Kết quả chạy:

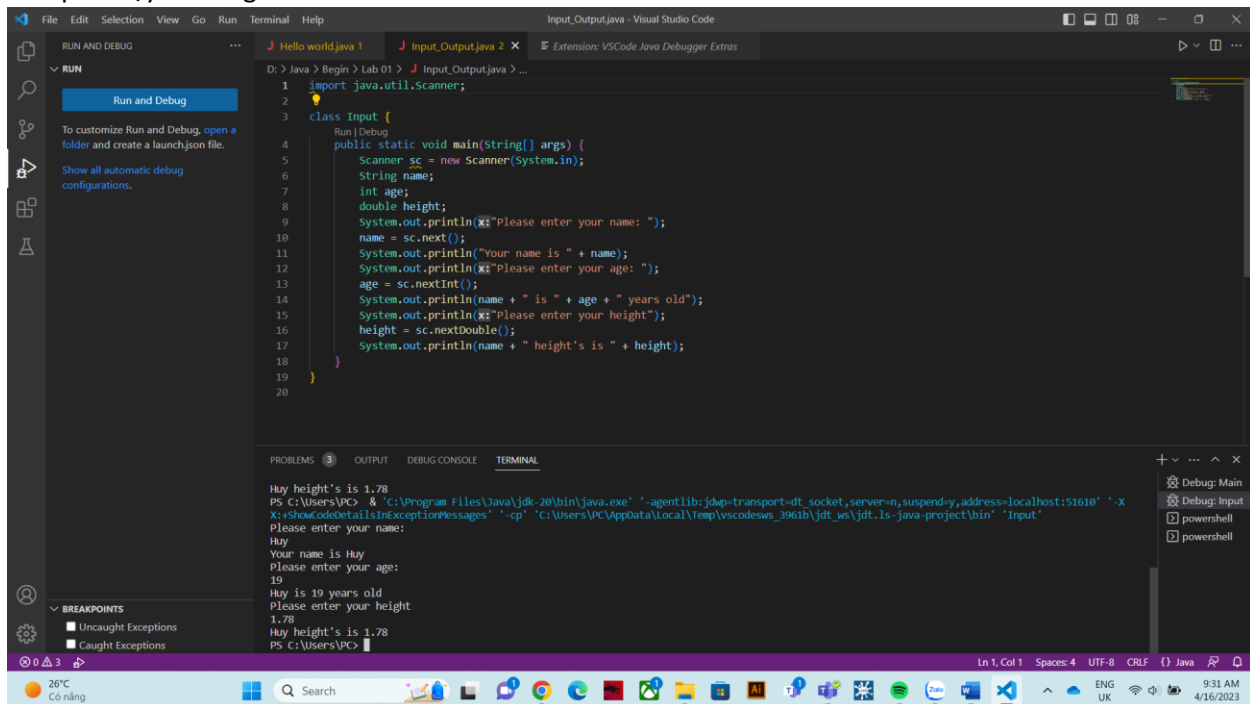


## Bài 2: Input and Output from keyboard.

Code:



Kết quả chạy chương trình:



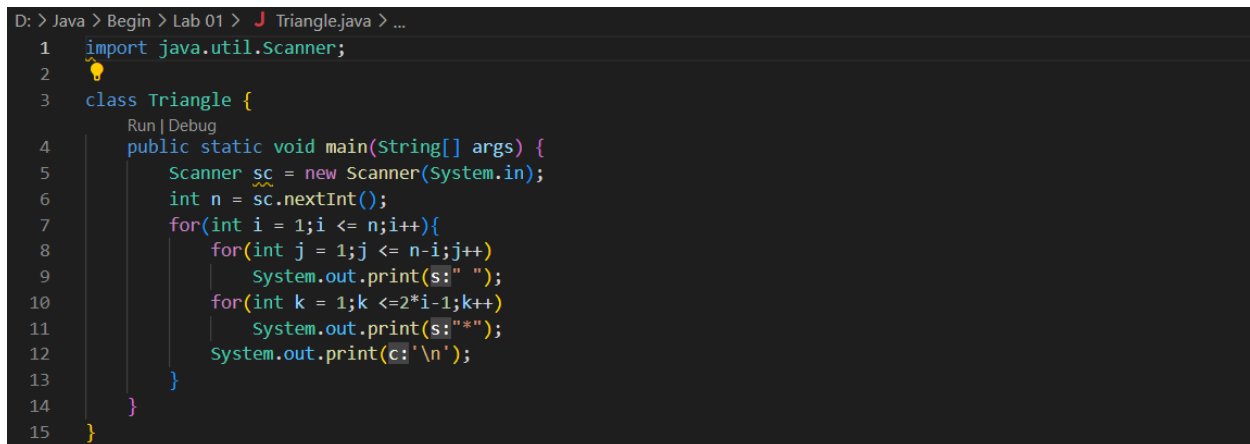
```
D: > Java > Begin > Lab 01 > Input_Output.java > ...
1 import java.util.Scanner;
2
3 class Input {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         String name;
7         int age;
8         double height;
9         System.out.println("Please enter your name: ");
10        name = sc.next();
11        System.out.println("Your name is " + name);
12        System.out.println("Please enter your age: ");
13        age = sc.nextInt();
14        System.out.println(name + " is " + age + " years old");
15        System.out.println("Please enter your height");
16        height = sc.nextDouble();
17        System.out.println(name + " height's is " + height);
18    }
19 }
20
```

PROBLEMS (3) OUTPUT DEBUG CONSOLE TERMINAL

Huy height's is 1.78  
PS C:\Users\PC> & "C:\Program Files\Java\jdk-20\bin\java.exe" "-agentlib:jdwp=transport=dt\_socket,server=n,suspend=y,address=localhost:51610" "-X  
Xs:showcodeDetailsInExceptionMessages" "-cp" "C:\Users\PC\AppData\Local\temp\vscodesws\_3961B\jdt\_ws\jdt.ls-java-project\bin" "Input"  
Please enter your name:  
Huy  
Your name is Huy  
Please enter your age:  
19  
Huy is 19 years old  
Please enter your height:  
1.78  
Huy height's is 1.78  
PS C:\Users\PC>

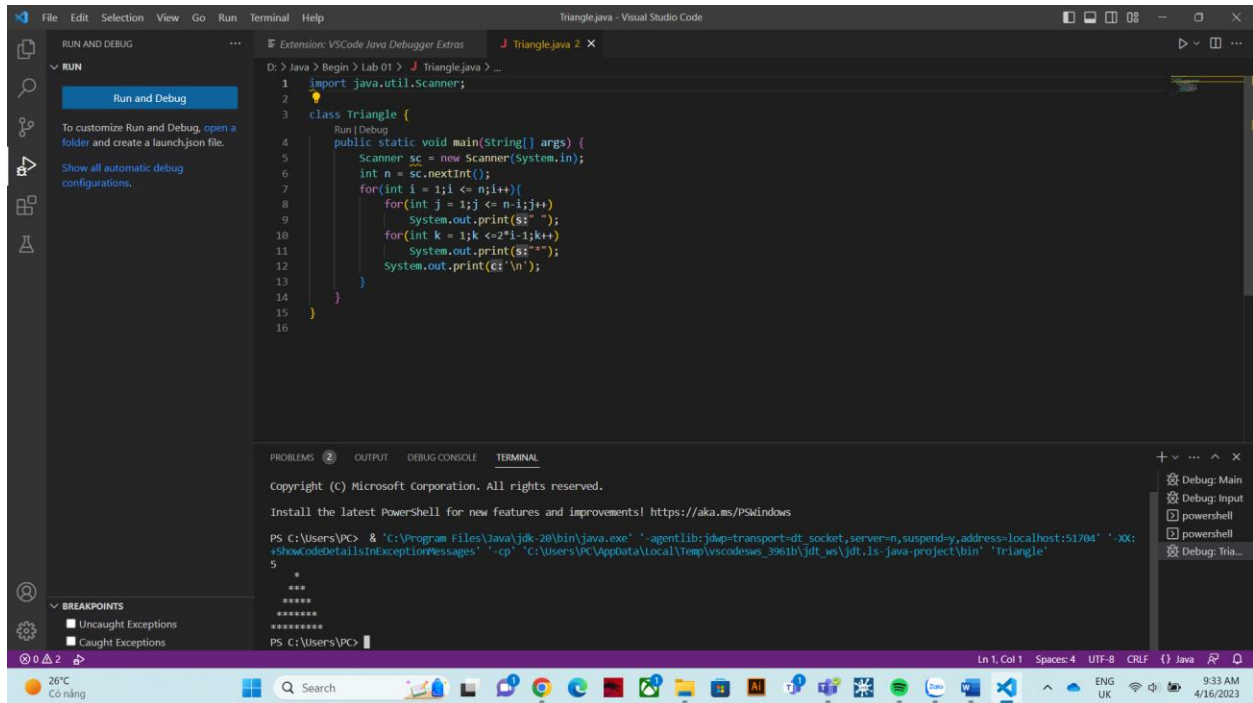
### Bài 3: Print out a triangle

Code:



```
D: > Java > Begin > Lab 01 > Triangle.java > ...
1 import java.util.Scanner;
2
3 class Triangle {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         int n = sc.nextInt();
7         for(int i = 1; i <= n; i++){
8             for(int j = 1; j <= n-i; j++){
9                 System.out.print(" ");
10            }
11            for(int k = 1; k <= 2*i-1; k++){
12                System.out.print(" * ");
13            }
14            System.out.print("\n");
15        }
16    }
17 }
```

Kết quả chạy chương trình:



#### Bài 4: Number of days in a month

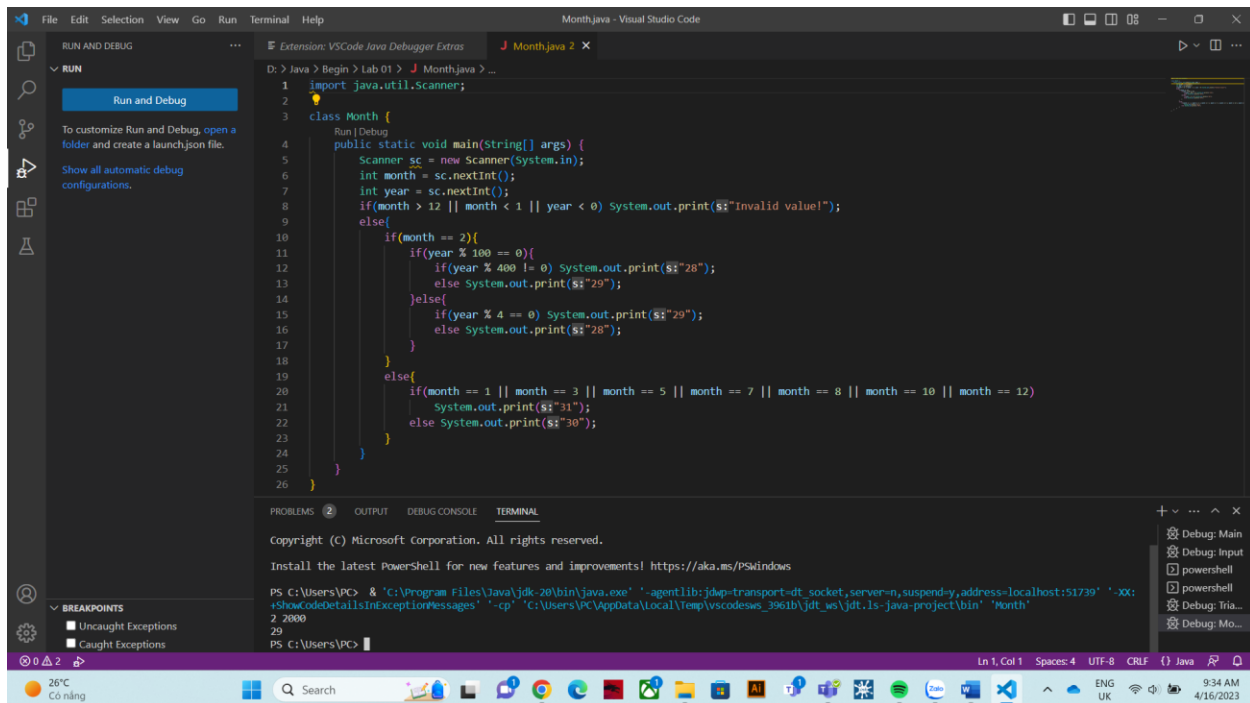
Code:

```

1 import java.util.Scanner;
2
3 class Month {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         int month = sc.nextInt();
7         int year = sc.nextInt();
8         if(month > 12 || month < 1 || year < 0) System.out.print(s:"Invalid value!");
9         else{
10             if(month == 2){
11                 if(year % 100 == 0){
12                     if(year % 400 != 0) System.out.print(s:"28");
13                     else System.out.print(s:"29");
14                 }else{
15                     if(year % 4 == 0) System.out.print(s:"29");
16                     else System.out.print(s:"28");
17                 }
18             }
19             else{
20                 if(month == 1 || month == 3 || month == 5 || month == 7 || month == 8 || month == 10 || month == 12)
21                     System.out.print(s:"31");
22                 else System.out.print(s:"30");
23             }
24         }
25     }
26 }

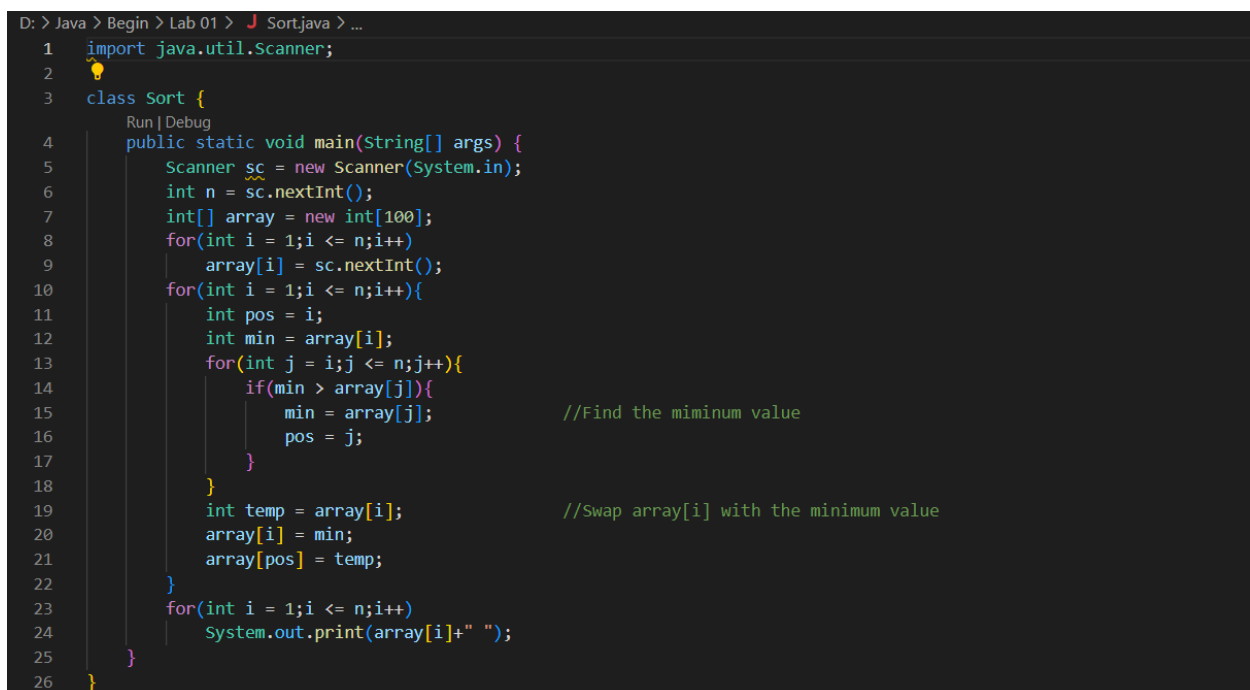
```

### Kết quả chạy chương trình



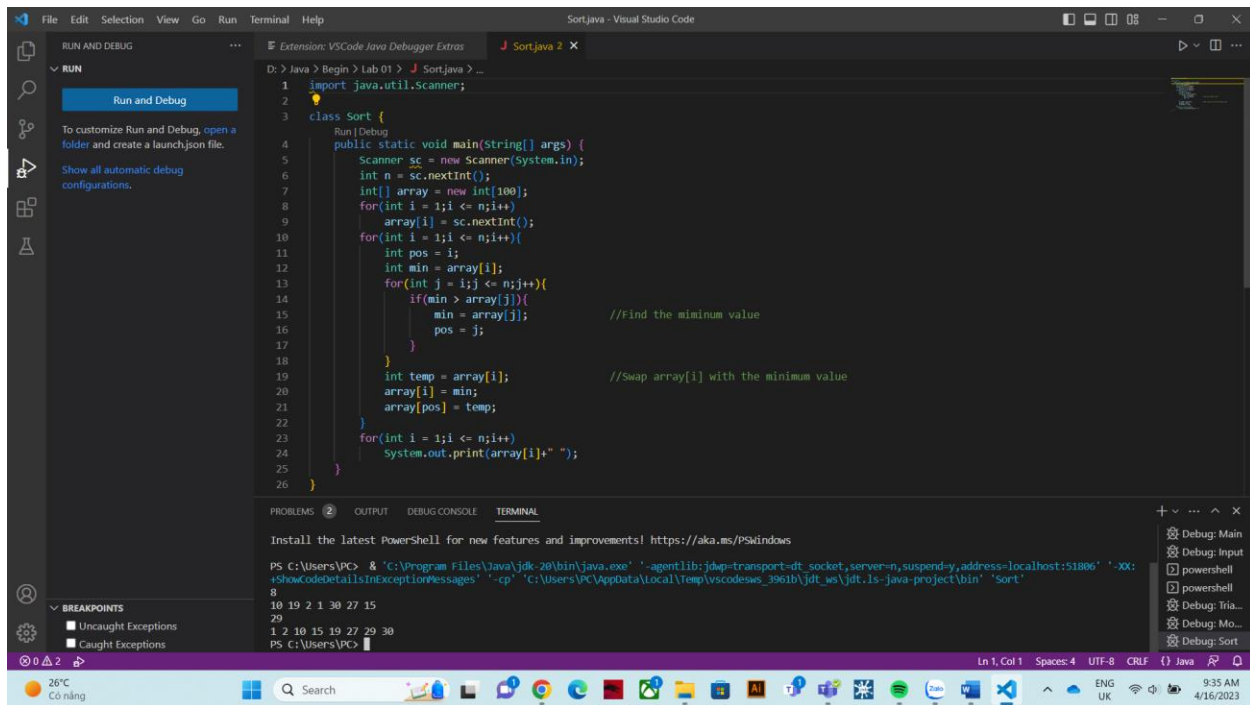
## Bài 5: Sort a sequence of number

Code:



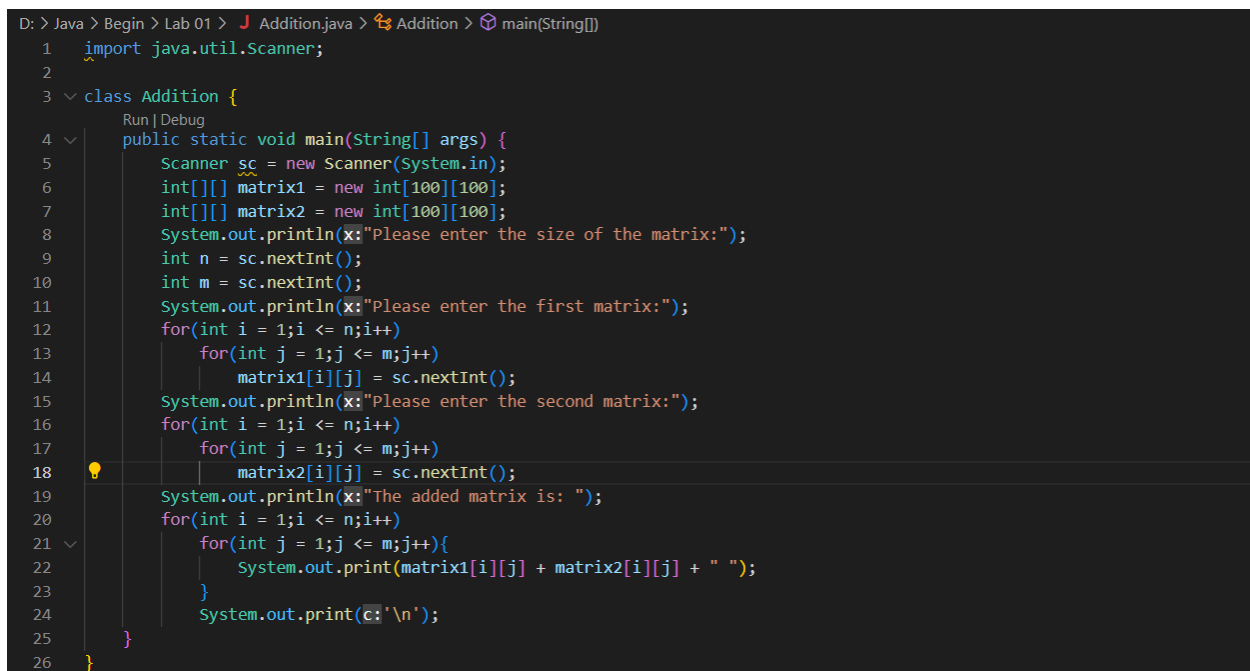
Kết quả chạy chương trình



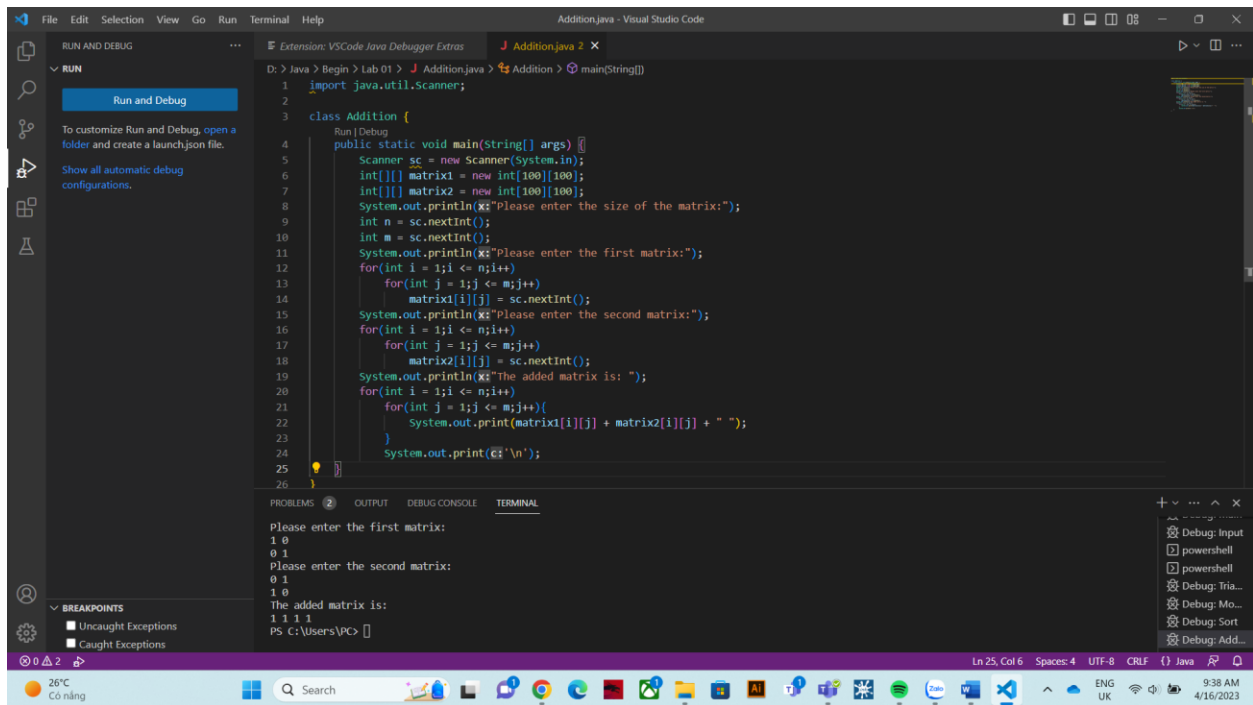


## Bài 6: Add two matrices of the same size

Code:

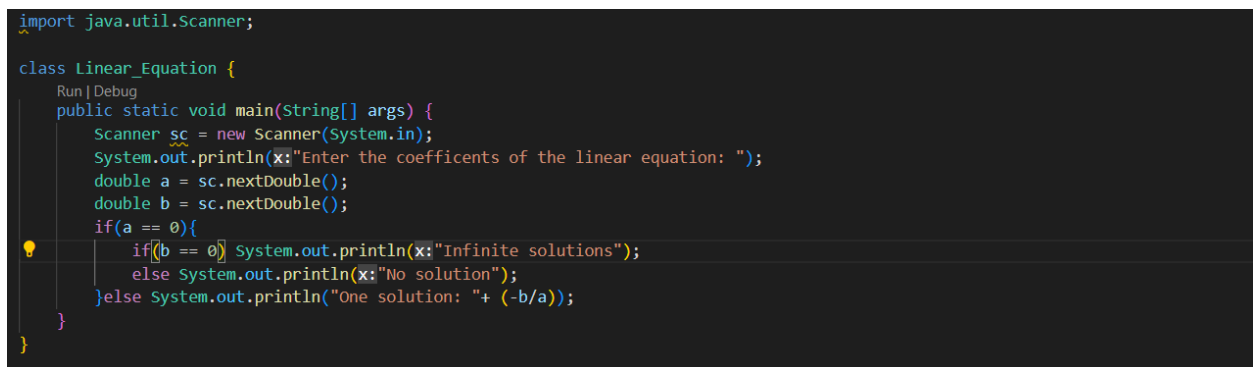


Kết quả chạy chương trình:

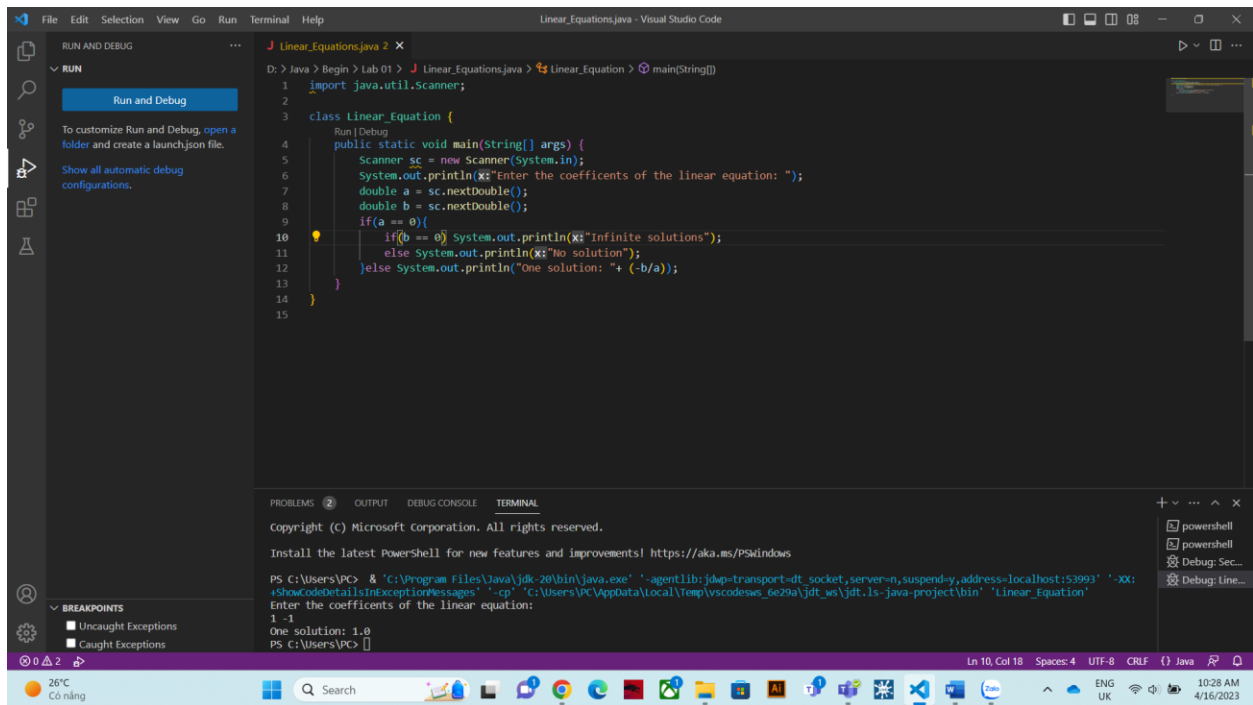


## Bài 7: Solve a linear equation $ax + b = 0$

Code:



Kết quả chạy chương trình:



**Bài 8: Solve a quadratic equation:  $ax^2 + bx + c = 0$**

**Code:**

```
D: > Java > Begin > Lab 01 > J Second_Degree_Equations.java > Second_Degree_Equation > main(String[])
1 import java.util.Scanner;
2 import java.lang.Math;
3
4 class Second_Degree_Equation {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7         System.out.println(x;"Please enter the coefficients of the equations: ");
8         double a = sc.nextDouble();
9         double b = sc.nextDouble();
10        double c = sc.nextDouble();
11        if(a == 0){
12            if(b == 0){
13                if(c != 0) System.out.println(x;"No solution!");
14                else System.out.println(x;"Infinite solution!");
15            }else System.out.println(-c/b);
16        }
17        else{
18            double delta = b*b-4*a*c;
19            if(delta < 0) System.out.println(x;"No real solution!");
20            else if(delta == 0) System.out.println("Double solution: " + (-b/(2*a)));
21            else{
22                double x_1 = (-b-Math.sqrt(delta))/(2*a);
23                double x_2 = (-b+Math.sqrt(delta))/(2*a);
24                System.out.println("Two real solutions: " + x_1 + " " + x_2);
25            }
26        }
27    }
28 }
```

## Kết quả chạy chương trình

The screenshot displays the Visual Studio Code environment with the 'Second\_Degree\_Equations.java' file open. The 'Run and Debug' sidebar on the left shows the 'Run' button and options to customize configurations. The code editor in the center shows the Java code for solving quadratic equations. The terminal window at the bottom shows the execution output, including prompts for coefficients and the resulting solutions.

```
File Edit Selection View Go Run Terminal Help
Second_Degree_Equations.java - Visual Studio Code

RUN AND DEBUG
RUN
Run and Debug
To customize Run and Debug, open a folder and create a launch.json file.
Show all automatic debug configurations.

BREAKPOINTS
Uncaught Exceptions
Caught Exceptions

D: > Java > Begin > Lab 01 > J Second_Degree_Equations.java > ...
1 import java.lang.Math;
2
3
4 class Second_Degree_Equation {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7         System.out.println(x;"Please enter the coefficients of the equations: ");
8         double a = sc.nextDouble();
9         double b = sc.nextDouble();
10        double c = sc.nextDouble();
11        if(a == 0){
12            if(b == 0){
13                if(c != 0) System.out.println(x;"No solution!");
14                else System.out.println(x;"Infinite solution!");
15            }else System.out.println(-c/b);
16        }
17        else{
18            double delta = b*b-4*a*c;
19            if(delta < 0) System.out.println(x;"No real solution!");
20            else if(delta == 0) System.out.println("Double solution: " + (-b/(2*a)));
21            else{
22                double x_1 = (-b-Math.sqrt(delta))/(2*a);
23                double x_2 = (-b+Math.sqrt(delta))/(2*a);
24                System.out.println("Two real solutions: " + x_1 + " " + x_2);
25            }
26        }
27    }
28 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Please enter the coefficients of the equations:
1 1 -1
Two real solutions: -1.618033988749895 0.6180339887498949
PS C:\Users\PC> & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:54462' '-XX:
+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\PC\AppData\Local\Temp\vscodesws_6e29a\jdt_ws\jdt.ls-java-project\bin' 'Second_Degree_Equation'

Please enter the coefficients of the equations:
1 3 2
PS C:\Users\PC> & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:54473' '-XX:
+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\PC\AppData\Local\Temp\vscodesws_6e29a\jdt_ws\jdt.ls-java-project\bin' 'Second_Degree_Equation'

Please enter the coefficients of the equations:
1 0 -1
Two real solutions: -1.0 1.0
```

Ln 29, Col 1 Spaces: 4 UTF-8 CRLF {} Java

27°C Có nắng

Search

10:30 AM 4/16/2023