

**ĐẠI HỌC BÁCH KHOA HÀ NỘI**  
**TRƯỜNG CÔNG NGHỆ THÔNG TIN & TRUYỀN THÔNG**



**BÁO CÁO MÔN HỌC**  
**THỰC HÀNH LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG**

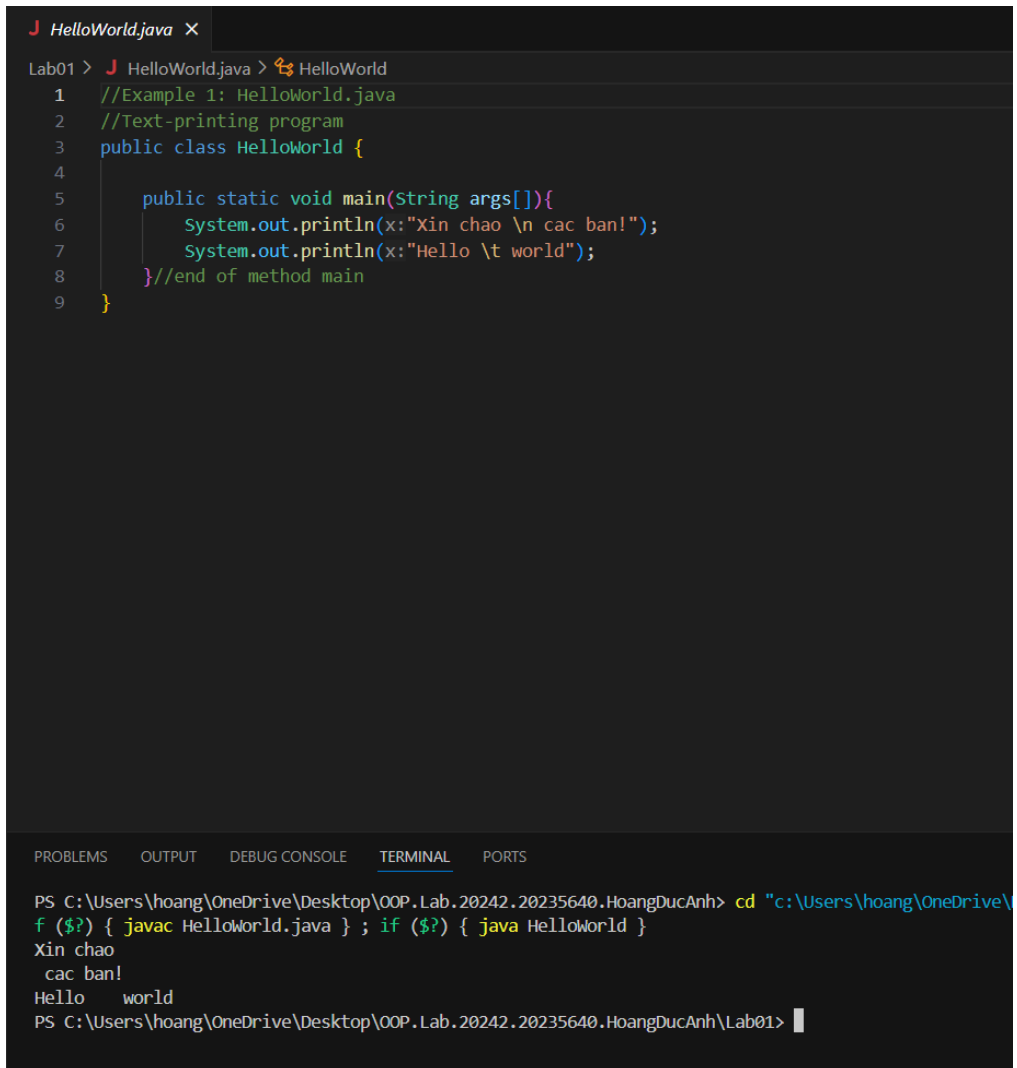
**Mã lớp : 750868 - IT3103**

**BÁO CÁO THỰC HÀNH SỐ 1**

**Sinh viên thực hiện : Hoàng Đức Anh - 20235640**

## Exercise 2.2.1

### Kết quả chạy chương trình



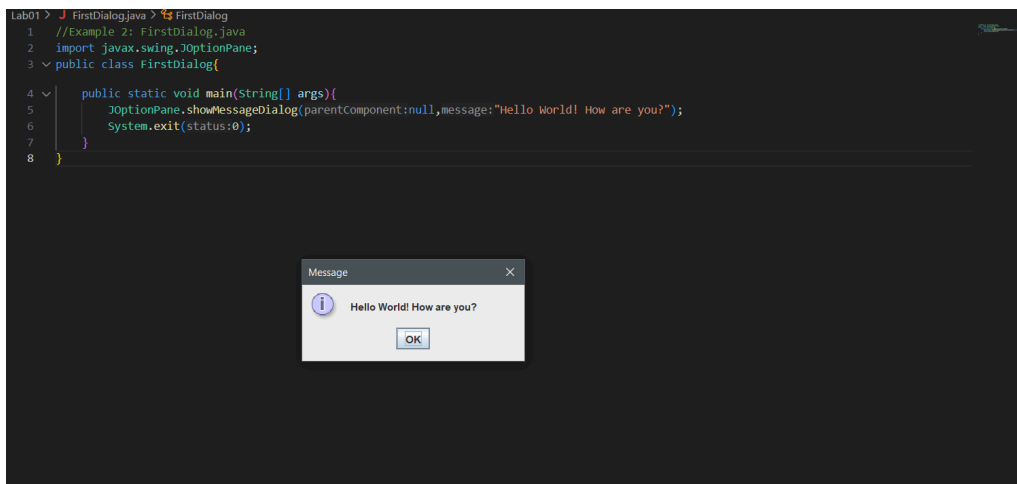
```
J HelloWorld.java X
Lab01 > J HelloWorld.java > HelloWorld
1 //Example 1: HelloWorld.java
2 //Text-printing program
3 public class HelloWorld {
4
5     public static void main(String args[]){
6         System.out.println(x:"Xin chao \n cac ban!");
7         System.out.println(x:"Hello \t world");
8     }//end of method main
9 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh"
f ($?) { javac HelloWorld.java } ; if ($?) { java HelloWorld }
Xin chao
  cac ban!
Hello   world
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01>
```

## Exercise 2.2.2

### Kết quả chạy chương trình



```
Lab01 > J FirstDialog.java > FirstDialog
1 //Example 2: FirstDialog.java
2 import javax.swing.JOptionPane;
3 public class FirstDialog{
4
5     public static void main(String[] args){
6         JOptionPane.showMessageDialog(parentComponent:null,message:"Hello World! How are you?");
7         System.exit(status:0);
8     }
9 }
```

Message

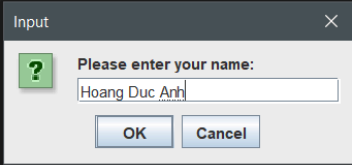
Hello World! How are you?

OK

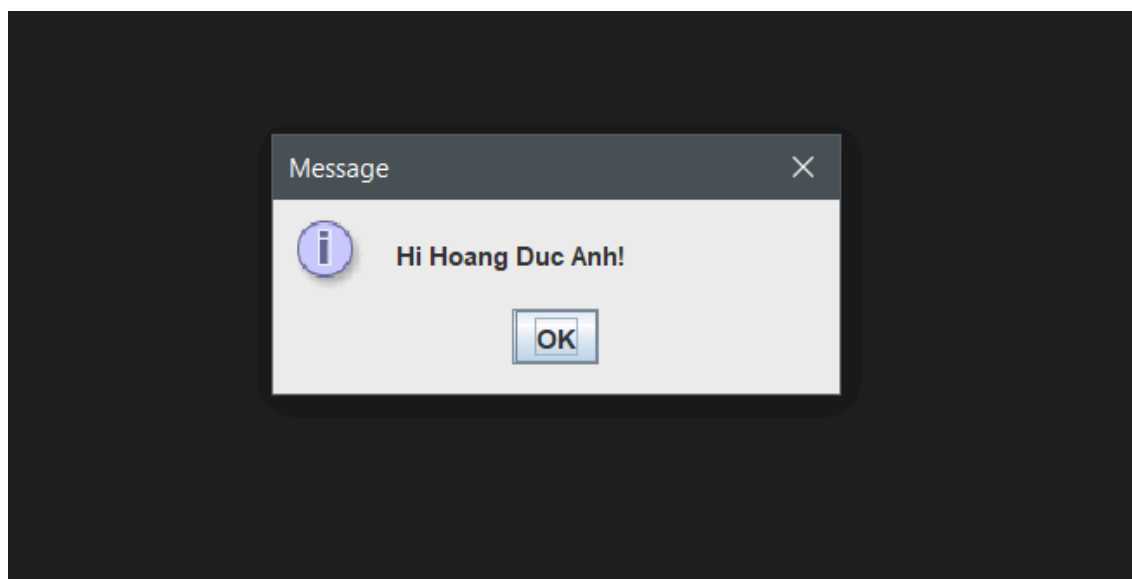
### Exercise 2.2.3

Kết quả chạy chương trình

```
Lab01 > J HelloNameDialog.java > ...
1 //Example 3: HelloNameDialog.java
2 import javax.swing.JOptionPane;
3 public class HelloNameDialog{
4     Run | Debug
5     public static void main(String[] args){
6         String result;
7         result = JOptionPane.showInputDialog(message:"Please enter your name:");
8         JOptionPane.showMessageDialog(parentComponent:null,"Hi "+ result + "!");
9         System.exit(status:0);
10    }
```

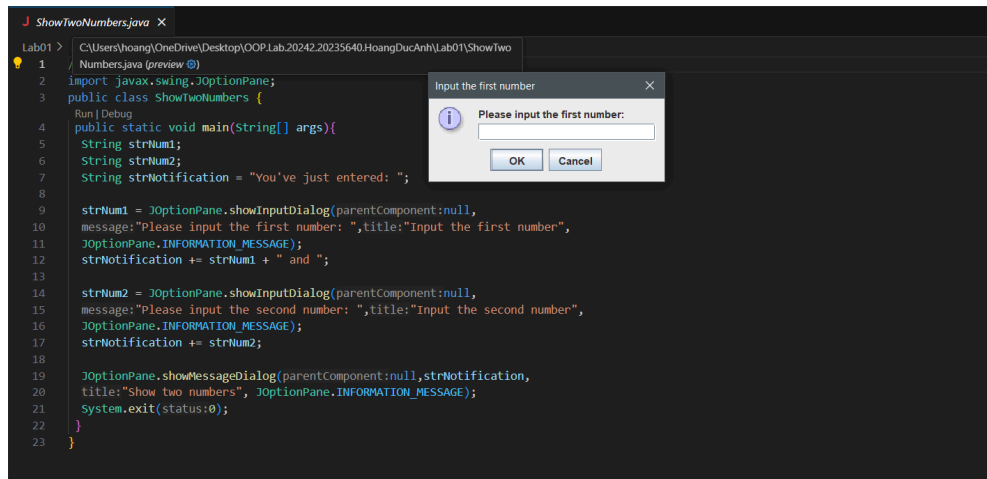


The screenshot shows a Java Swing application window titled "Input". It contains a text input field with the text "Hoang Duc Anh" and a "Please enter your name:" label. Below the input field are "OK" and "Cancel" buttons. The window is displayed over a dark background.

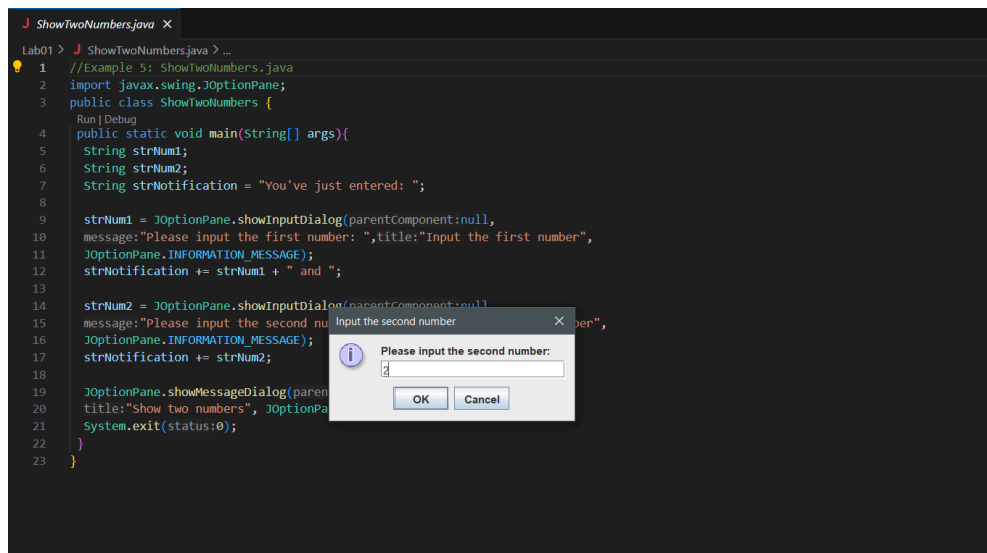


### Exercise 2.2.4

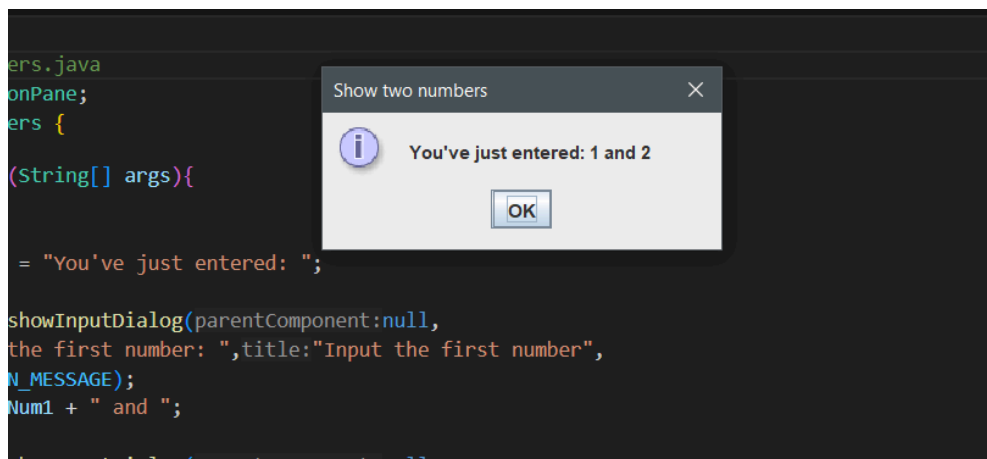
## Kết quả chạy chương trình



```
1 //Example 5: ShowTwoNumbers.java
2 import javax.swing.JOptionPane;
3 public class ShowTwoNumbers {
4     public static void main(String[] args){
5         String strNum1;
6         String strNum2;
7         String strNotification = "You've just entered: ";
8
9         strNum1 = JOptionPane.showInputDialog(parentComponent:null,
10         message:"Please input the first number: ",title:"Input the first number",
11         JOptionPane.INFORMATION_MESSAGE);
12         strNotification += strNum1 + " and ";
13
14         strNum2 = JOptionPane.showInputDialog(parentComponent:null,
15         message:"Please input the second number: ",title:"Input the second number",
16         JOptionPane.INFORMATION_MESSAGE);
17         strNotification += strNum2;
18
19         JOptionPane.showMessageDialog(parentComponent:null,strNotification,
20         title:"Show two numbers", JOptionPane.INFORMATION_MESSAGE);
21         System.exit(status:0);
22     }
23 }
```



```
1 //Example 5: ShowTwoNumbers.java
2 import javax.swing.JOptionPane;
3 public class ShowTwoNumbers {
4     public static void main(String[] args){
5         String strNum1;
6         String strNum2;
7         String strNotification = "You've just entered: ";
8
9         strNum1 = JOptionPane.showInputDialog(parentComponent:null,
10         message:"Please input the first number: ",title:"Input the first number",
11         JOptionPane.INFORMATION_MESSAGE);
12         strNotification += strNum1 + " and ";
13
14         strNum2 = JOptionPane.showInputDialog(parentComponent:null,
15         message:"Please input the second number: ",title:"Input the second number",
16         JOptionPane.INFORMATION_MESSAGE);
17         strNotification += strNum2;
18
19         JOptionPane.showMessageDialog(parentComponent:null,strNotification,
20         title:"Show two numbers", JOptionPane.INFORMATION_MESSAGE);
21         System.exit(status:0);
22     }
23 }
```



```
1 //Example 5: ShowTwoNumbers.java
2 import javax.swing.JOptionPane;
3 public class ShowTwoNumbers {
4     public static void main(String[] args){
5         String strNum1;
6         String strNum2;
7         String strNotification = "You've just entered: ";
8
9         strNum1 = JOptionPane.showInputDialog(parentComponent:null,
10         message:"Please input the first number: ",title:"Input the first number",
11         JOptionPane.INFORMATION_MESSAGE);
12         strNotification += strNum1 + " and ";
13
14         strNum2 = JOptionPane.showInputDialog(parentComponent:null,
15         message:"Please input the second number: ",title:"Input the second number",
16         JOptionPane.INFORMATION_MESSAGE);
17         strNotification += strNum2;
18
19         JOptionPane.showMessageDialog(parentComponent:null,strNotification,
20         title:"Show two numbers", JOptionPane.INFORMATION_MESSAGE);
21         System.exit(status:0);
22     }
23 }
```

## Exercise 2.2.5

## Kết quả chạy chương trình

```
J CalculateBasics.java x
Lab01 > J CalculateBasics.java > ...
1 import java.util.Scanner;
2
3 public class CalculateBasics{
4     Run | Debug
5     public static void main(String[] args) {
6         Scanner scanner = new Scanner(System.in);
7         System.out.print(s:"Enter 1st num: ");
8         double num1 = scanner.nextDouble();
9         System.out.print(s:"Enter 2nd num: ");
10        double num2 = scanner.nextDouble();
11
12        //calculate
13        double sum= num1 +num2;
14        double difference= num1-num2;
15        double product = num1*num2;
16        double quotient = num1/num2;
17        System.out.println("Sum: " + sum);
18        System.out.println("Difference: " + difference);
19        System.out.println("Product: " + product);
20        System.out.println("Quotient: " + quotient);
21        scanner.close();
22    }
23
24
25
26
27

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\" ; if ($?) { javac CalculateBasics.java } ; if ($?) { java CalculateBasics }
Enter 1st num: 10
Enter 2nd num: 5
Sum: 15.0
Difference: 5.0
Product: 50.0
Quotient: 2.0
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01> |
```

## Kết quả chạy trên terminal

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\" ; if ($?) { javac CalculateBasics.java } ; if ($?) { java CalculateBasics }
Enter 1st num: 10
Enter 2nd num: 5
Sum: 15.0
Difference: 5.0
Product: 50.0
Quotient: 2.0
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01> |
```

## Exercise 2.2.6

### Kết quả chạy chương trình

- Menu

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2024.3.4\lib\idea_rt
Cac lva chon
1 - Giai phuong trinh bậc nhất
2 - Giai hệ phương trình bậc nhất
3 - Giai phương trình bậc hai
4 - Ket thuc
|
```

- Giải phương trình bậc 1

```
1
1. Solve first-degree equation (ax + b = 0)
Enter a : 2
Enter b : 1
x = -0.5

Các lựa chọn
1 - Giải phương trình bậc nhất
2 - Giải hệ phương trình bậc nhất
3 - Giải phương trình bậc hai
4 - Kết thúc
```

- Giải hệ phương trình bậc 1

```
2. Solve system of equations:
Enter a1: 1
Enter b1: 2
Enter c1: 3
Enter a2: 4
Enter b2: 5
Enter c2: 6
x = -1.0, y = 2.0

Các lựa chọn
1 - Giải phương trình bậc nhất
2 - Giải hệ phương trình bậc nhất
3 - Giải phương trình bậc hai
4 - Kết thúc
|
```

- Giải phương trình bậc 2

```

3. Solve second-degree equation
Enter a: 1
Enter b: -2
Enter c: 1
The equation has 1 real root: x = 1.0

Các lựa chọn
1 - Giải phương trình bậc nhất
2 - Giải hệ phương trình bậc nhất
3 - Giải phương trình bậc hai
4 - Kết thúc

```

=> Kết thúc chương trình :

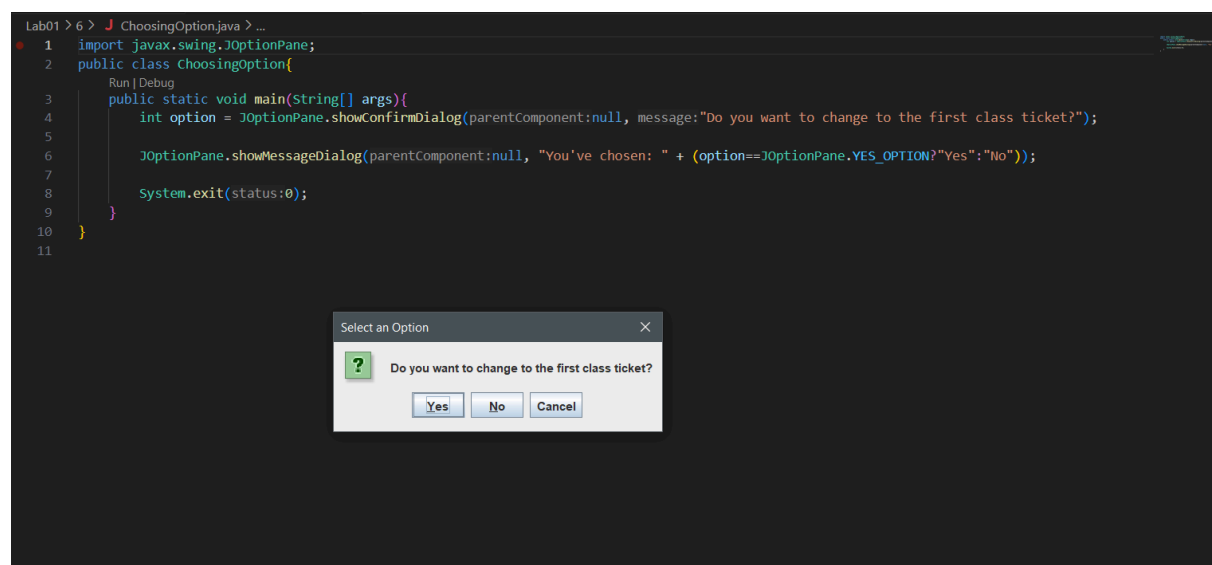
```

Các lựa chọn
1 - Giải phương trình bậc nhất
2 - Giải hệ phương trình bậc nhất
3 - Giải phương trình bậc hai
4 - Kết thúc
4

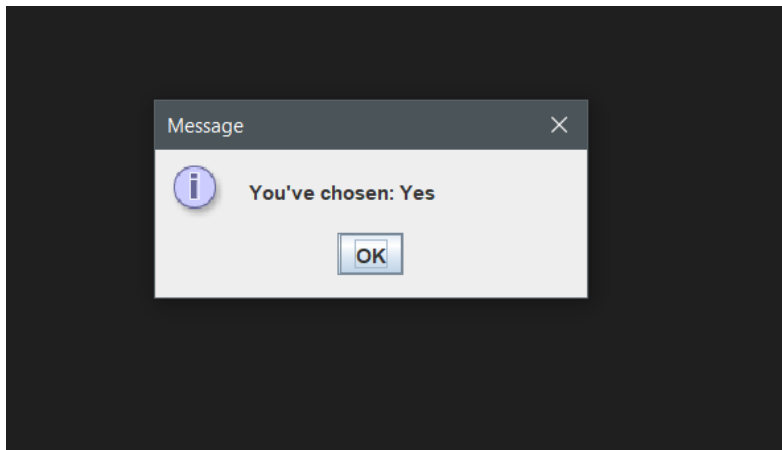
Process finished with exit code 0

```

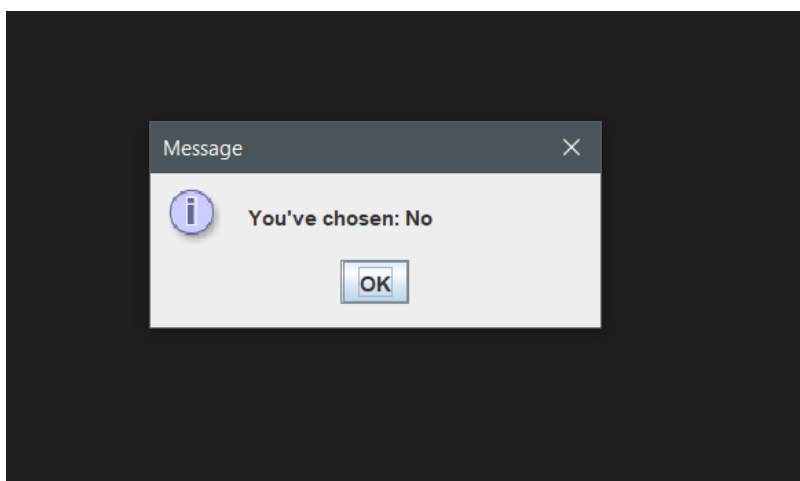
## Exercise 6.1



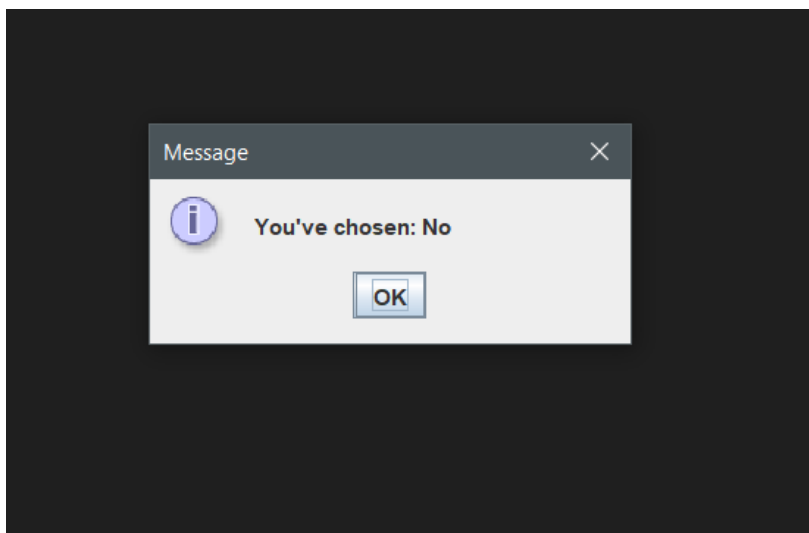
+ YES



+ NO



+ CANCEL



Trả lời câu hỏi & Giải thích :

Câu 1 : - What happens if users choose “Cancel”?



Khi người dùng chọn "Cancel" trong hộp thoại, cửa sổ sẽ đóng, tài nguyên sẽ không được lưu và cũng không có chuyện gì xảy ra. Kết quả hiện thị trên màn hình y hệt khi chọn "NO"

Câu 2: How to customize the options to users, e.g. only two options: "Yes" and "No", OR "I do" and "I don't"

```
import javax.swing.JOptionPane;

public class Customize {
    public static void main(String[] args) {
        String[] options = {"I do", "I don't"};
        int choice = JOptionPane.showOptionDialog( null, "Do you agree ", "Confirmation",
            JOptionPane.YES_NO_OPTION,
            JOptionPane.QUESTION_MESSAGE,
            null,
            options,
            options[0]
        );

        JOptionPane.showMessageDialog(null, "You have chosen: " + options[choice]);
        System.exit(0);
    }
}
```

## 6.2

```
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS
01\6" ; if ($?) { javac InputFromKeyboard.java } ; if ($?) { java InputFromKeyboard }
What's your name?
Hoang Duc Anh
How old are you?
14
How tall are you (m)?
183
Mrs./Ms. Hoang Duc Anh, 14 years old. Your height is 183.0.
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>
```

## 6.3

```

J EquationSolver.class X J AsteriskTriangle.java X
Lab01 > 6 > J AsteriskTriangle.java > ...
1 import java.util.Scanner;
2
3 public class AsteriskTriangle {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6         System.out.print(s:"Enter n: ");
7         int n = scanner.nextInt();
8         if (n <= 0) {
9             System.out.println(x:"Error,");
10            return;
11        }
12
13        for (int i = 1; i <= n; i++) {
14            for (int j = 1; j <= i; j++) {
15                System.out.print(" ");
16            }
17            for (int k = 1; k <= i; k++) {
18                System.out.print("*");
19            }
20            System.out.println();
21        }
22    }
23 }

```

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```

PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6" ; if ($?) { javac AsteriskTriangle.java } ; if ($?) { java AsteriskTriangle }
Enter n: 8
*
***
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```

```

Enter n: 8
*
***
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```

## 6.4

```

PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6" ; if ($?) { javac Date.java } ; if ($?) { java Date }
Enter the year : 1999
Enter the month: January
The month January in 1999 has 31 days.
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```

```

Enter the year : 2000
Enter the month: February
The month February in 2000 has 29 days.
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```

## 6.5

```

PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6\" ; if ($?) { javac Array.java } ; if ($?) { java Array }
5
15
16
10
6
4
4 6 10 15 16

51
10.0
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```

## 6.6

```

PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6> cd "c:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6\" ; if ($?) { javac Matrix.java } ; if ($?) { java Matrix }
Enter the number of rows: 3
Enter the number of columns:
3
Enter the first matrix:
Enter [1][1]: 1
Enter [1][2]: 2
Enter [1][3]: 3
Enter [2][1]: 4
Enter [2][2]: 5
Enter [2][3]: 6
Enter [3][1]: 7
Enter [3][2]: 8
Enter [3][3]: 9
Enter the second matrix:
Enter [1][1]: 1
Enter [1][2]: 2
Enter [1][3]: 3
Enter [2][1]: 4
Enter [2][2]: 5
Enter [2][3]: 6
Enter [3][1]: 7
Enter [3][2]: 8
Enter [3][3]: 9
Sum is:
2 4 6
8 10 12
14 16 18
PS C:\Users\hoang\OneDrive\Desktop\OOP.Lab.20242.20235640.HoangDucAnh\Lab01\6>

```