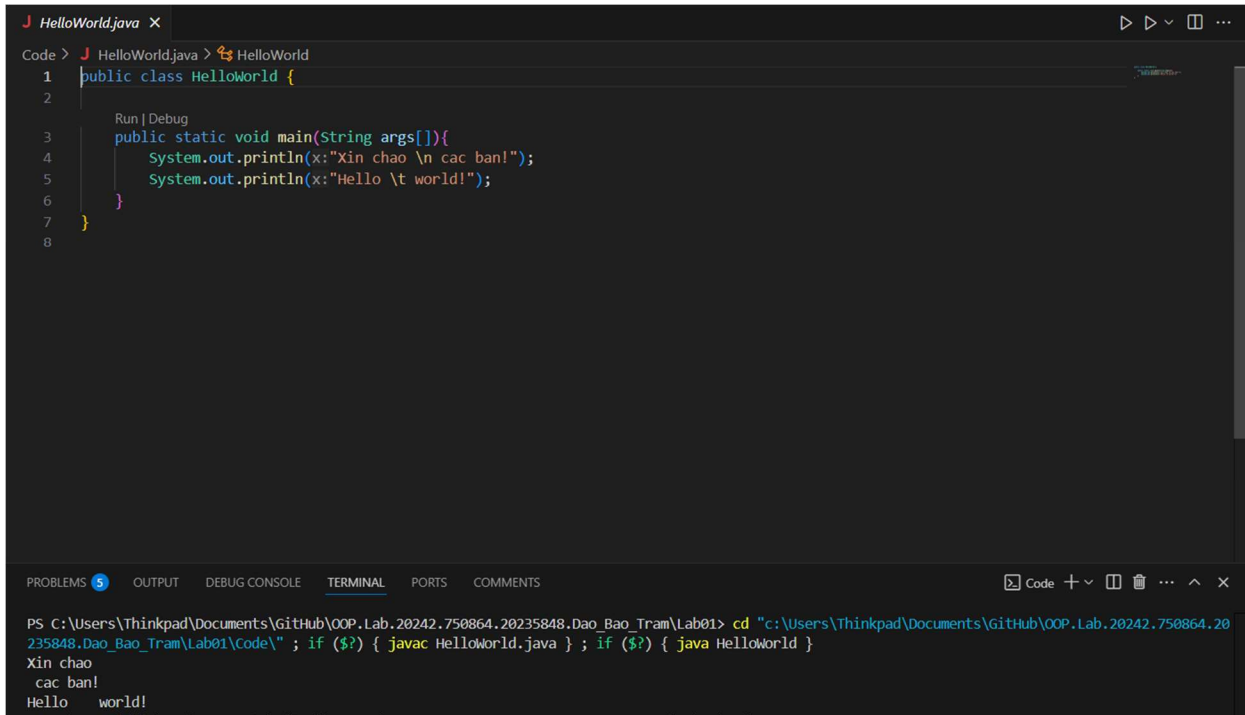


BÁO CÁO THỰC HÀNH

IT3103 – LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

Tuần 1

Bài 2.2.1



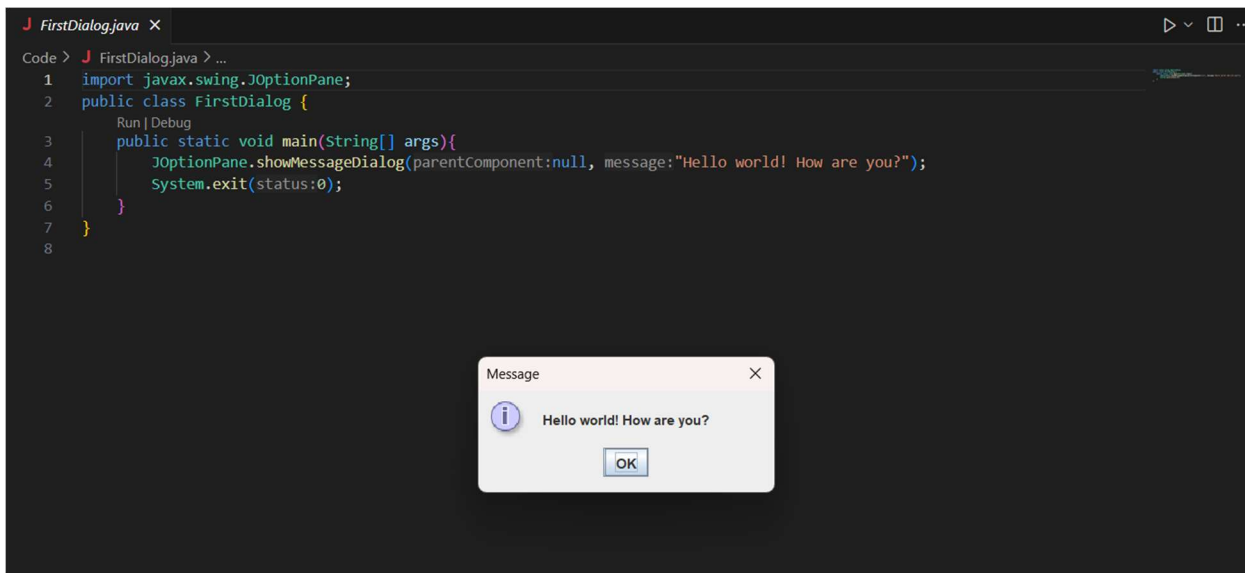
The screenshot shows an IDE with a file named `HelloWorld.java`. The code is as follows:

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

The terminal output shows the command executed and the resulting output:

```
PS C:\Users\Thinkpad\Documents\Github\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01> cd "c:\Users\Thinkpad\Documents\Github\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code\" ; if ($?) { javac HelloWorld.java } ; if ($?) { java HelloWorld }  
Xin chao  
cac ban!  
Hello world!
```

Bài 2.2.2

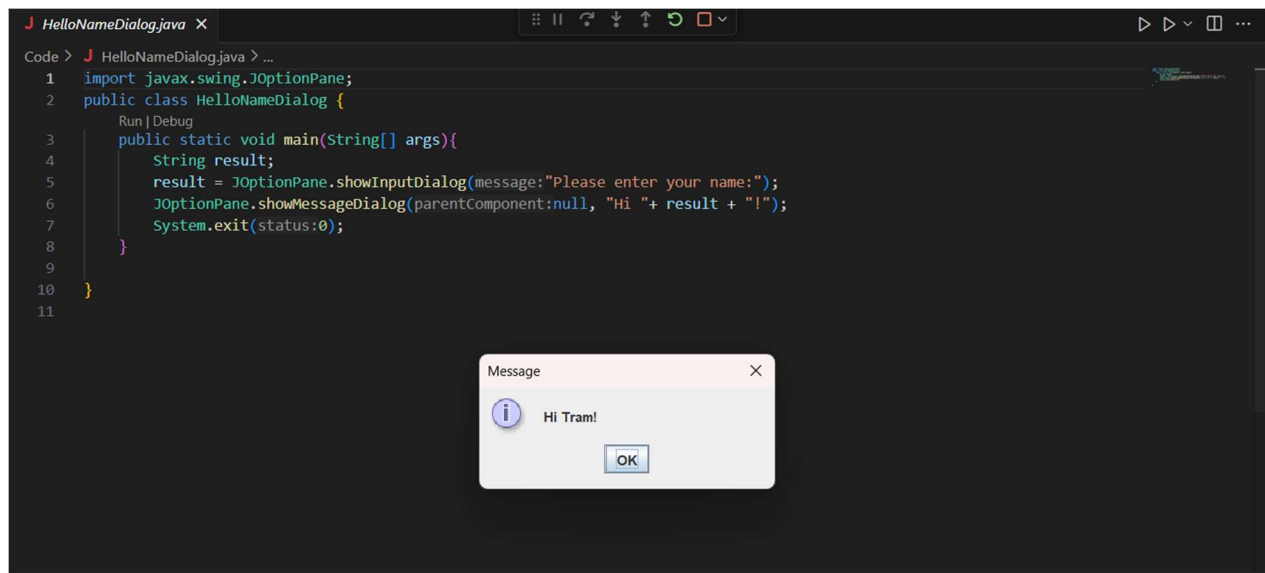
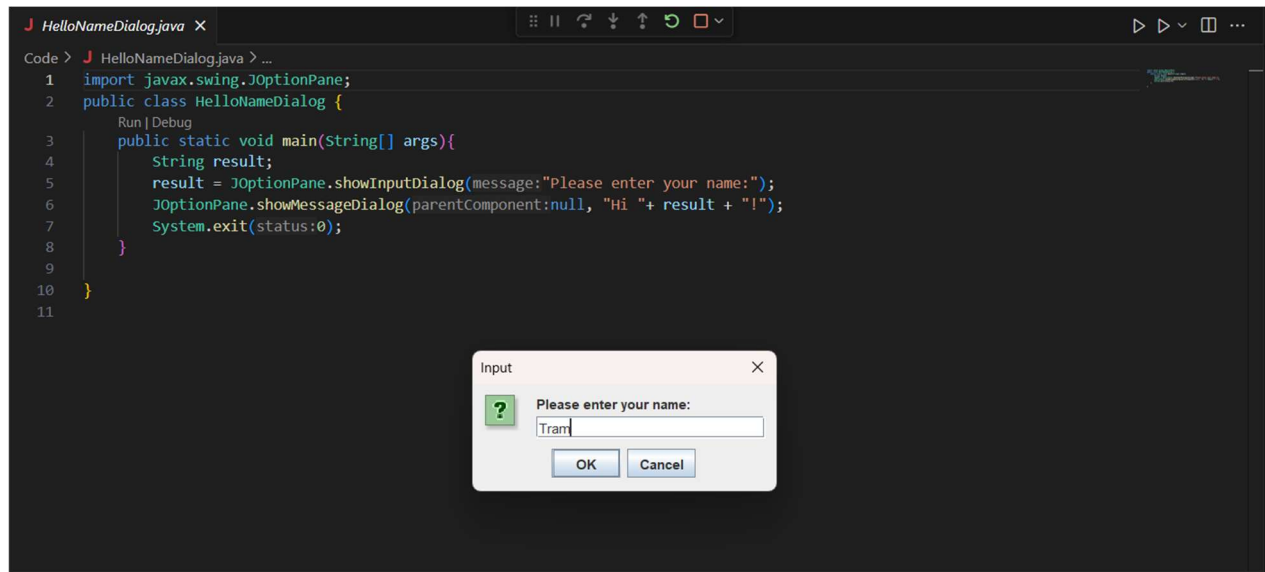


The screenshot shows an IDE with a file named `FirstDialog.java`. The code is as follows:

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

A message dialog box is displayed with the title "Message" and the message "Hello world! How are you?". The dialog box has an "OK" button.

Bài 2.2.3



Bài 2.2.4



Bài 2.2.5

```
Calculate225.java X
Code > J Calculate225.java > ...
3 public class Calculate225 {
4     public static void main(String[] args) {
13         double product = number1 * number2;
14         String quotient;
15
16         if (number2 != 0) {
17             quotient = String.valueOf(number1 / number2);
18         } else {
19             quotient = "khong chia duoc cho 0";
20         }
21
22         String message = "Tong hai so " + number1 + " va " + number2 + " la " + sum + "\n" +
23             "Hieu hai so " + number1 + " va " + number2 + " la " + difference + "\n" +
24             "Tich hai so " + number1 + " va " + number2 + " la " + product + "\n" +
25             "Thuong hai so " + number1 + " va " + number2 + " la " + quotient;
26
27         JOptionPane.showMessageDialog(parentComponent, message);
28     }
29 }
```

Message

Tong hai so 6.0 va 8.0 la 14.0
Hieu hai so 6.0 va 8.0 la -2.0
Tich hai so 6.0 va 8.0 la 48.0
Thuong hai so 6.0 va 8.0 la 0.75

OK

Bài 2.2.6

```
Giaiptbac1.java X
Code > Solve226 > J Giaiptbac1.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaiptbac1 {
4     public static void main(String[] args) {
5         String inputA = JOptionPane.showInputDialog(message:"Nhap he so a (a ≠ 0)");
6         double a = Double.parseDouble(inputA);
7
8         if (a == 0) {
9             JOptionPane.showMessageDialog(parentComponent:null, message:"He so a phai khac 0");
10            return;
11        }
12
13        String inputB = JOptionPane.showInputDialog(message:"Nhap he so b");
14        double b = Double.parseDouble(inputB);
15
16        double x = -b / a;
17
18        String message = "Ket qua cua phuong trinh 2.0x + 6.0 = 0 la x = -3.0";
19        JOptionPane.showMessageDialog(parentComponent, message);
20    }
21 }
22
23
```

Message

Ket qua cua phuong trinh 2.0x + 6.0 = 0 la x = -3.0

OK

```
Giaipt2an.java X
Code > Solve226 > J Giaipt2an.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaipt2an {
4     public static void main(String[] args) {
5         String inputA11 = JOptionPane.showInputDialog(message:"Nhap he so a11");
6         double a11 = Double.parseDouble(inputA11);
7
8         String inputA12 = JOptionPane.showInputDialog(message:"Nhap he so a12");
9         double a12 = Double.parseDouble(inputA12);
10
11        String inputB1 = JOptionPane.showInputDialog(message:"Nhap he so b1");
12        double b1 = Double.parseDouble(inputB1);
13
14        String inputA21 = JOptionPane.showInputDialog(message:"Nhap he so a21");
15        double a21 = Double.parseDouble(inputA21);
16
17        String inputA22 = JOptionPane.showInputDialog(message:"Nhap he so a22");
18        double a22 = Double.parseDouble(inputA22);
19
20        String inputB2 = JOptionPane.showInputDialog(message:"Nhap he so b2");
21        double b2 = Double.parseDouble(inputB2);
22
23        double determinant = a11 * a22 - a12 * a21;
```

Message

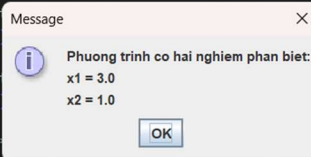
He phuong trinh vo nghiem.

OK

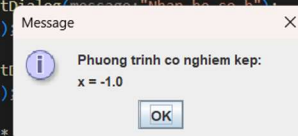
```
J Giaihept2an.java X
Code > Solve226 > J Giaihept2an.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaihept2an {
4     Run | Debug
5     public static void main(String[] args) {
6         String inputA11 = JOptionPane.showInputDialog(message:"Nhap he so a11");
7         double a11 = Double.parseDouble(inputA11);
8
9         String inputA12 = JOptionPane.showInputDialog(message:"Nhap he so a12");
10        double a12 = Double.parseDouble(inputA12);
11
12        String inputB1 = JOptionPane.showInputDialog(message:"Nhap he so b1");
13        double b1 = Double.parseDouble(inputB1);
14
15        String inputA21 = JOptionPane.showInputDialog(message:"Nhap he so a21");
16        double a21 = Double.parseDouble(inputA21);
17
18        String inputA22 = JOptionPane.showInputDialog(message:"Nhap he so a22");
19        double a22 = Double.parseDouble(inputA22);
20
21        String inputB2 = JOptionPane.showInputDialog(message:"Nhap he so b2");
22        double b2 = Double.parseDouble(inputB2);
23
24        double determinant = a11 * a22 - a12 * a21;
```



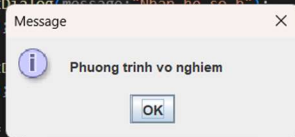
```
J Giaiptybac2.java X
Code > Solve226 > J Giaiptybac2.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaiptybac2 {
4     Run | Debug
5     public static void main(String[] args) {
6         String inputA = JOptionPane.showInputDialog(message:"Nhap he so a (a ≠ 0)");
7         double a = Double.parseDouble(inputA);
8
9         if (a == 0) {
10            JOptionPane.showMessageDialog(parentComponent:null, message:"He so a phai khac 0.");
11            return;
12        }
13
14        String inputB = JOptionPane.showInputDialog(message:"Nhap he so b");
15        double b = Double.parseDouble(inputB);
16
17        String inputC = JOptionPane.showInputDialog(message:"Nhap he so c");
18        double c = Double.parseDouble(inputC);
19
20        double discriminant = b * b - 4 * a * c;
21
22        String message;
23        if (discriminant > 0) {
24            double x1 = (-b + Math.sqrt(discriminant)) / (2 * a);
25            double x2 = (-b - Math.sqrt(discriminant)) / (2 * a);
```



```
J Giaiptybac2.java X
Code > Solve226 > J Giaiptybac2.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaiptybac2 {
4     Run | Debug
5     public static void main(String[] args) {
6         String inputA = JOptionPane.showInputDialog(message:"Nhap he so a (a ≠ 0)");
7         double a = Double.parseDouble(inputA);
8
9         if (a == 0) {
10            JOptionPane.showMessageDialog(parentComponent:null, message:"He so a phai khac 0.");
11            return;
12        }
13
14        String inputB = JOptionPane.showInputDialog(message:"Nhap he so b");
15        double b = Double.parseDouble(inputB);
16
17        String inputC = JOptionPane.showInputDialog(message:"Nhap he so c");
18        double c = Double.parseDouble(inputC);
19
20        double discriminant = b * b - 4 * a * c;
21
22        String message;
23        if (discriminant > 0) {
24            double x1 = (-b + Math.sqrt(discriminant)) / (2 * a);
25            double x2 = (-b - Math.sqrt(discriminant)) / (2 * a);
```

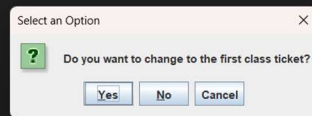


```
J Giaiptbac2.java X
Code > Solve226 > J Giaiptbac2.java > ...
1 import javax.swing.JOptionPane;
2
3 public class Giaiptbac2 {
4     public static void main(String[] args) {
5         String inputA = JOptionPane.showInputDialog(message:"Nhập hệ số a (a ≠ 0)");
6         double a = Double.parseDouble(inputA);
7
8         if (a == 0) {
9             JOptionPane.showMessageDialog(parentComponent:null, message:"Hệ số a phải khác 0.");
10            return;
11        }
12
13        String inputB = JOptionPane.showInputDialog(message:"Nhập hệ số b");
14        double b = Double.parseDouble(inputB);
15
16        String inputC = JOptionPane.showInputDialog(message:"Nhập hệ số c");
17        double c = Double.parseDouble(inputC);
18
19        double discriminant = b * b - 4 * a * c;
20
21        String message;
22        if (discriminant > 0) {
23            double x1 = (-b + Math.sqrt(discriminant)) / (2 * a);
```

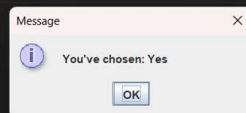


Bài 6.1

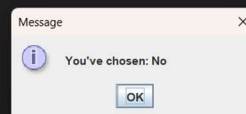
```
J ChoosingOption.java X
C:\Users\Thinkpad\Documents > J ChoosingOption.java > ChoosingOption
1 import javax.swing.JOptionPane;
2 public class ChoosingOption{
3     public static void main(String[] args) {
4         int option = JOptionPane.showConfirmDialog(parentComponent:null, message:"Do you want to change to the first class ticket?");
5         JOptionPane.showMessageDialog(parentComponent:null, "You've chosen: "
6             + (option == JOptionPane.YES_OPTION ? "Yes" : "No"));
7         System.exit(status:0);
8     }
9 }
```



```
J ChoosingOption.java X
C:\Users\Thinkpad\Documents > J ChoosingOption.java > ChoosingOption
1 import javax.swing.JOptionPane;
2 public class ChoosingOption{
3     public static void main(String[] args) {
4         int option = JOptionPane.showConfirmDialog(parentComponent:null, message:"Do you want to change to the first class ticket?");
5         JOptionPane.showMessageDialog(parentComponent:null, "You've chosen: "
6             + (option == JOptionPane.YES_OPTION ? "Yes" : "No"));
7         System.exit(status:0);
8     }
9 }
```



```
J ChoosingOption.java X
C:\Users\Thinkpad\Documents > J ChoosingOption.java > ChoosingOption
1 import javax.swing.JOptionPane;
2 public class ChoosingOption{
3     public static void main(String[] args) {
4         int option = JOptionPane.showConfirmDialog(parentComponent:null, message:"Do you want to change to the first class ticket?");
5         JOptionPane.showMessageDialog(parentComponent:null, "You've chosen: "
6             + (option == JOptionPane.YES_OPTION ? "Yes" : "No"));
7         System.exit(status:0);
8     }
9 }
```



Bài 6.2

```
J InputFromKeyboard.java 1 X
Code > J InputFromKeyboard.java
1 import java.util.Scanner;
2 public class InputFromKeyboard {
3     Run | Debug
4     public static void main(String[] args){
5         Scanner keyboard = new Scanner(System.in);
6
7         System.out.println(x:"What's your name?");
8         String strName = keyboard.nextLine();
9         System.out.println(x:"How old are you?");
10        int iAge = keyboard.nextInt();
11        System.out.println(x:"How tall are you (m)?");
12        double dHeight = keyboard.nextDouble();
13
14        System.out.println("Mrs/Ms. " + strName + ", " + iAge + " years old. " + "Your height is " + dHeight + ".");
15    }
16 }
17

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
PS C:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01> cd "c:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code\" ; if ($?) { javac InputFromKeyboard.java } ; if ($?) { java InputFromKeyboard }
What's your name?
Tram
How old are you?
20
How tall are you (m)?
1.55
Mrs/Ms. Tràm, 20 years old. Your height is 1.55.
PS C:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code> |
```

Bài 6.3

```
J Draw63.java 1 X
Code > J Draw63.java > Draw63 > drawTriangle(int)
3 public class Draw63 {
4     public static void main(String[] args) {
5
6
7         System.out.print(s:"Nhap n: ");
8         int n = scanner.nextInt();
9
10        drawTriangle(n);
11    }
12
13    public static void drawTriangle(int n) {
14        for (int i = 0; i < n; i++) {
15            // Print spaces
16            for (int j = 0; j < n - i - 1; j++) {
17                System.out.print(s:" ");
18            }
19            // Print stars
20            for (int k = 0; k < 2 * i + 1; k++) {
21                System.out.print(s:"*");
22            }
23            // Move to the next line
24            System.out.println();
25        }
26    }
27 }

PROBLEMS 5 OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
*****
*****
*****
PS C:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code> cd "c:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code\" ; if ($?) { javac Draw63.java } ; if ($?) { java Draw63 }
Nhap n: 5
*
***
*****
*****
*****
```

Bài 6.4

```
J Displaydaymonth64.java X
Code > J Displaydaymonth64.java > Displaydaymonth64 > main(String[])
1 import java.util.Scanner;
2
3 public class Displaydaymonth64 {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6         String monthInput;
7         int year;
8
9         while (true) {
10            System.out.print(s:"Nhap thang ");
11            monthInput = scanner.nextLine().trim();
12
13            System.out.print(s:"Nhap nam ");
14            if (scanner.hasNextInt()) {
15                year = scanner.nextInt();
16                scanner.nextLine();
17                if (year >= 0) {
18                    int days = getDaysInMonth(monthInput, year);
19                    if (days != -1) {
20                        System.out.println("Thang " + monthInput + " trong nam " + year + " co " + days + " ngay");
21                        break;
22                    } else {
23                        System.out.println(s:"Nhap sai thang");
24                    }
25                }
26            }
27        }
28    }
29}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
Thang 7 trong nam 2019 co 31 ngay
PS C:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code> cd "c:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code\" ; if ($?) { javac Displaydaymonth64.java } ; if ($?) { java Displaydaymonth64 }
Nhap thang 2
Nhap nam 2023
Thang 2 trong nam 2023 co 28 ngay
PS C:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code> cd "c:\Users\Thinkpad\Documents\GitHub\OOP.Lab.20242.750864.20235848.Dao_Bao_Tram\Lab01\Code\" ; if ($?) { javac Displaydaymonth64.java } ; if ($?) { java Displaydaymonth64 }
Nhap thang 2
Nhap nam 2024
Thang 2 trong nam 2024 co 29 ngay
```

Bài 6.5

```
J Sorting65.java X
Code > J Sorting65.java > Sorting65 > main(String[])
3 public class Sorting65 {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print(s:"Nhap so so hang: ");
8         int n = scanner.nextInt();
9
10        int[] array = new int[n];
11        System.out.println(s:"Nhap day so:");
12        for (int i = 0; i < n; i++) {
13            System.out.print("So thu " + (i + 1) + ": ");
14            array[i] = scanner.nextInt();
15        }
16
17        for (int i = 0; i < n - 1; i++) {
18            for (int j = i + 1; j < n; j++) {
19                if (array[i] > array[j]) {
20                    int temp = array[i];
21                    array[i] = array[j];
22                    array[j] = temp;
23                }
24            }
25        }
26    }
27}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
Nhap day so:
So thu 1: 2
So thu 2: 35
So thu 3: 24
So thu 4: 20
So thu 5: 17
So thu 6: 12
Sap xep:
2 12 17 20 24 35
Tong: 110
Trung binh: 18.333333333333332
```

Bài 6.6

```
J Matrices66.java X
Code > J Matrices66.java > Matrices66 > main(String[])
1 import java.util.Scanner;
2
3 public class Matrices66 {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print(s:"Nhap so hang: ");
8         int rows = scanner.nextInt();
9         System.out.print(s:"Nhap so cot: ");
10        int cols = scanner.nextInt();
11
12        int[][] matrix1 = new int[rows][cols];
13        int[][] matrix2 = new int[rows][cols];
14        int[][] resultMatrix = new int[rows][cols];
15
16        System.out.println(x:"Nhap cac phan tu cua ma tran 1:");
17        for (int i = 0; i < rows; i++) {
18            for (int j = 0; j < cols; j++) {
19                System.out.print("Phan tu [" + (i + 1) + "][" + (j + 1) + "]: ");
20                matrix1[i][j] = scanner.nextInt();
21            }
22        }
23
24        Phan tu [1][1]: 1
25        Phan tu [1][2]: 2
26        Phan tu [2][1]: 3
27        Phan tu [2][2]: 4
28        Nhap cac phan tu cua ma tran 2:
29        Phan tu [1][1]: 5
30        Phan tu [1][2]: 6
31        Phan tu [2][1]: 7
32        Phan tu [2][2]: 8
33        Ket qua:
34        6 8
35        10 12
```