BÁO CÁO THỰC HÀNH LAB 11
Lập trình hướng đối tượng

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The Very First Java Programs

2.2.1 Write, compile the first Java application:

```java
//Example 1: HelloWorld.java
//Text-printing program
public class HelloWorld {

   public static void main(String args[]){
        System.out.println("Xin chao \n cac ban!");
        System.out.println("Hello \t world!");

   } // end of method main
}
```

Hình 1: đề bài 2.2.1

```java
// //Nguyen Xuan Tung -20215162
//Example 1: Hello World.java
//Text-printing program
tung2711
public class HelloWorld {
    tung2711
    public static void main(String[] args) {
        System.out.println("Nguyen Xuan Tung - 20215612");
        System.out.println("Xin chao \n cac ban!");
        System.out.println("Hello \t World!");

    } //end of method main
}
```

```
HelloWorld
"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.1\l
Nguyen Xuan Tung - 20215612
Xin chao
 cac ban!
Hello 	 World!

Process finished with exit code 0
```

Hình 2: Mã nguồn và kết quả 2.2.1

2.2.2 Write, compile the first dialog Java program

```java
// Example 2: FirstDialog.java
import javax.swing.JOptionPane;
public class FirstDialog{
    public static void main(String[] args){
        JOptionPane.showMessageDialog(null,"Hello world! How are you?");
        System.exit(0);
    }
}
```

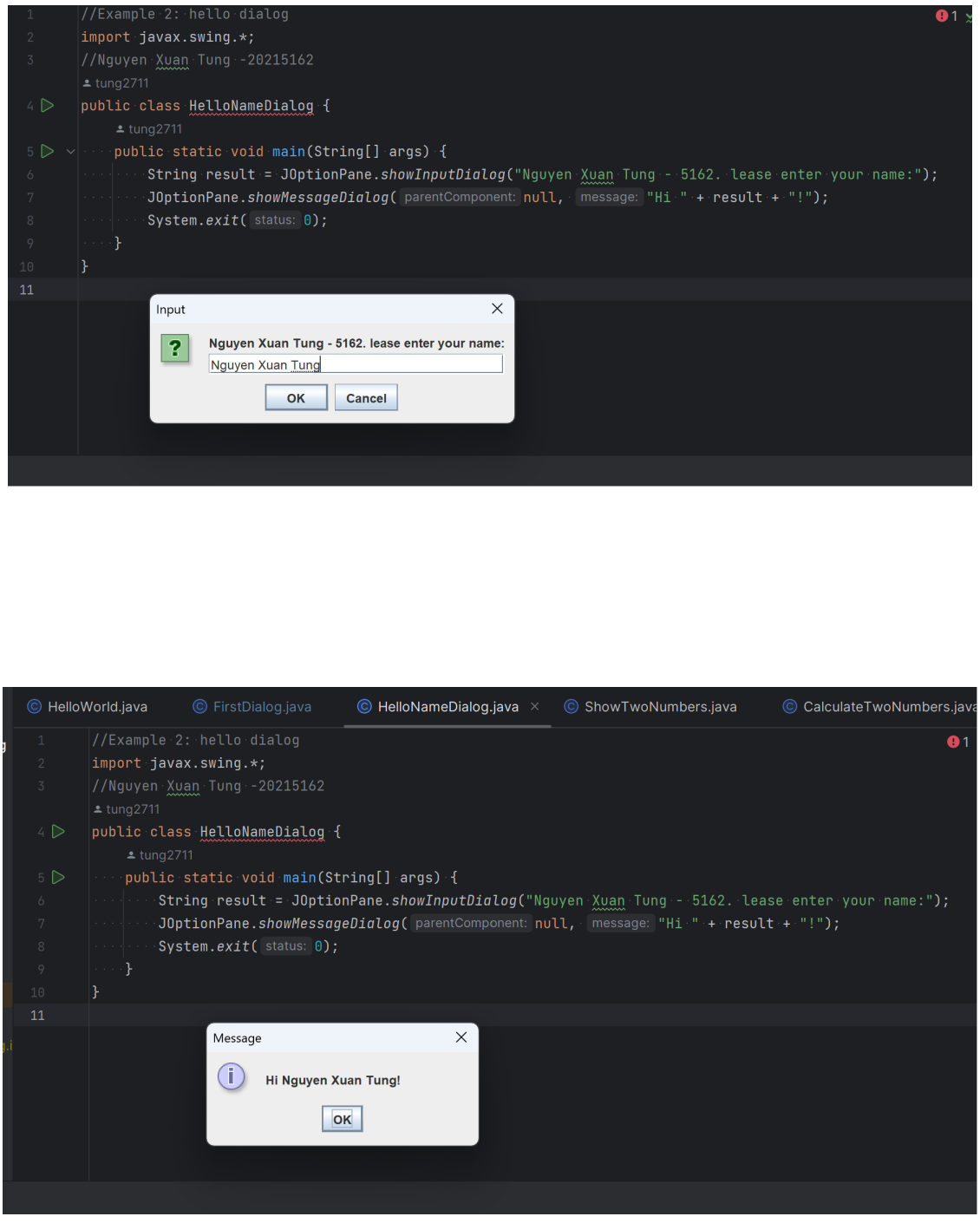
Hình 3: Đề bài 2.2.2

Hình 4: Mã nguồn và kết quả 2.2.2

2.2.3 Write, compile the first input dialog Java application

```java
// Example 3: HelloNameDialog.java
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);
  }
}
```

Hình 5: Đề bài 2.2.3

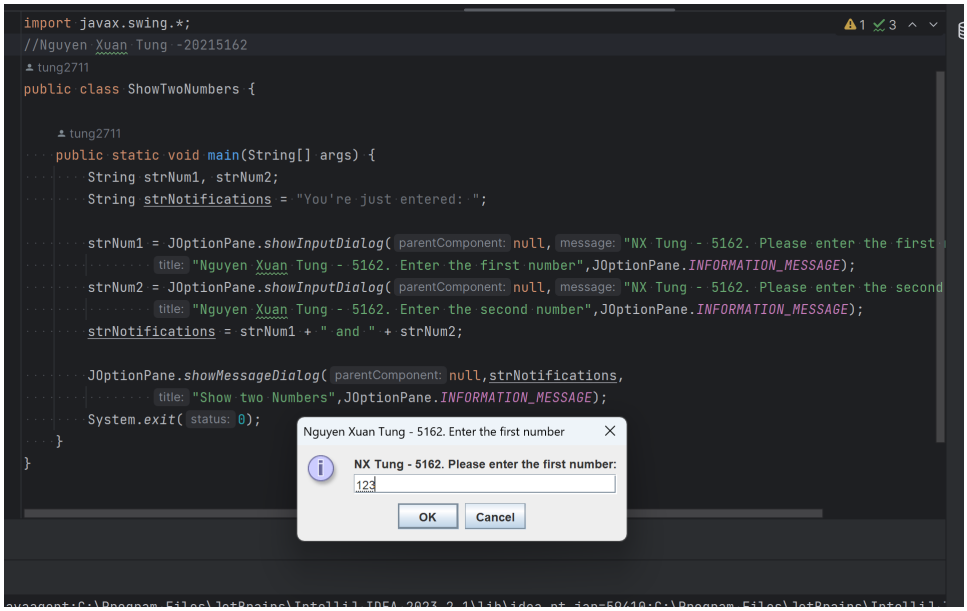


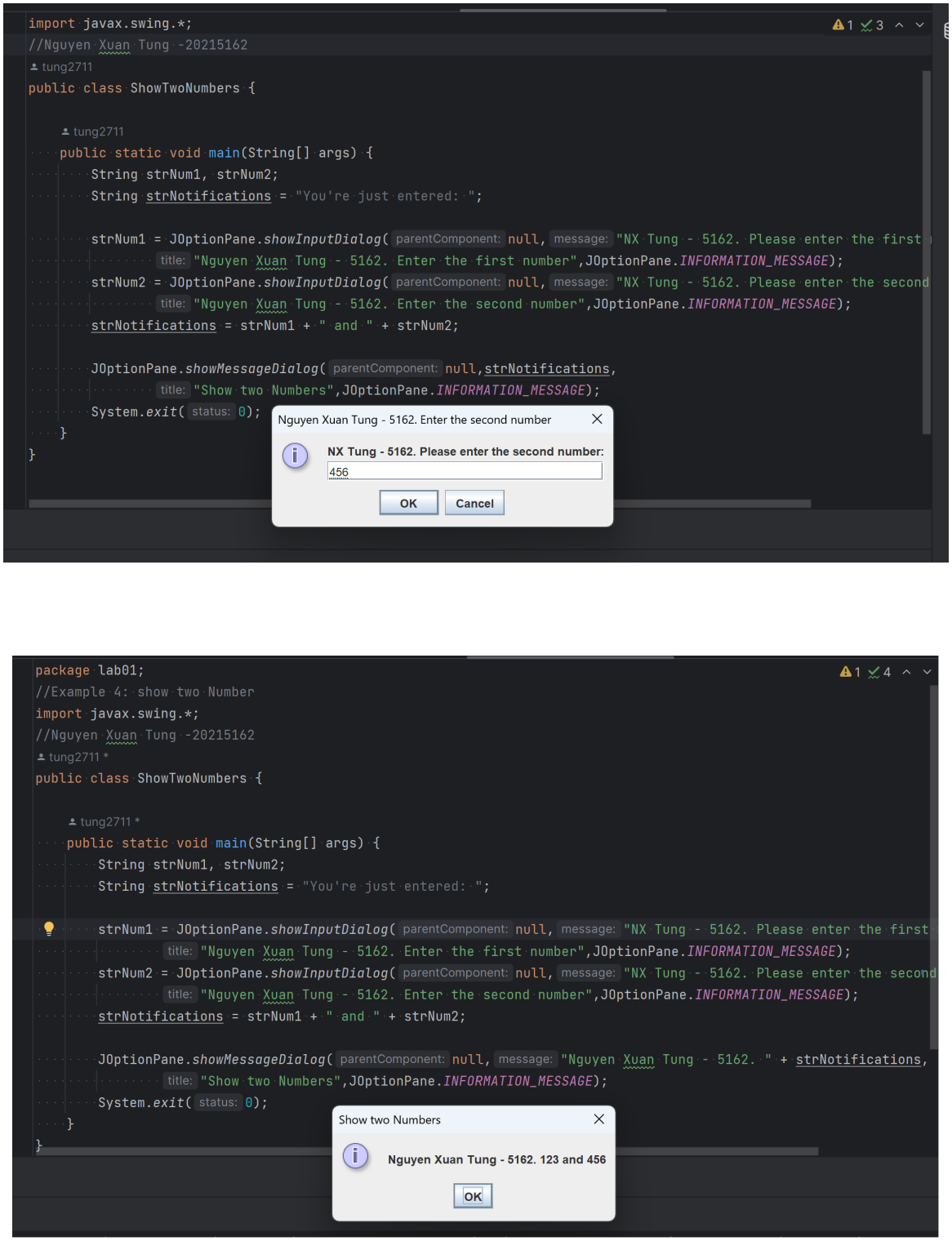
Hình 6: Kết quả 2.2.3

2.2.4 Write, compile, and run the following example:

```java
// Example 5: ShowTwoNumbers.java
import javax.swing.JOptionPane;
public class ShowTwoNumbers {
  public static void main(String[] args){
    String strNum1, strNum2;
    String strNotification = "You've just entered: ";

    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 second number",
                JOptionPane.INFORMATION_MESSAGE);
    strNotification += strNum2;

    JOptionPane.showMessageDialog(null,strNotification,
                "Show two numbers", JOptionPane.INFORMATION_MESSAGE);
    System.exit(0);
  }
}
```

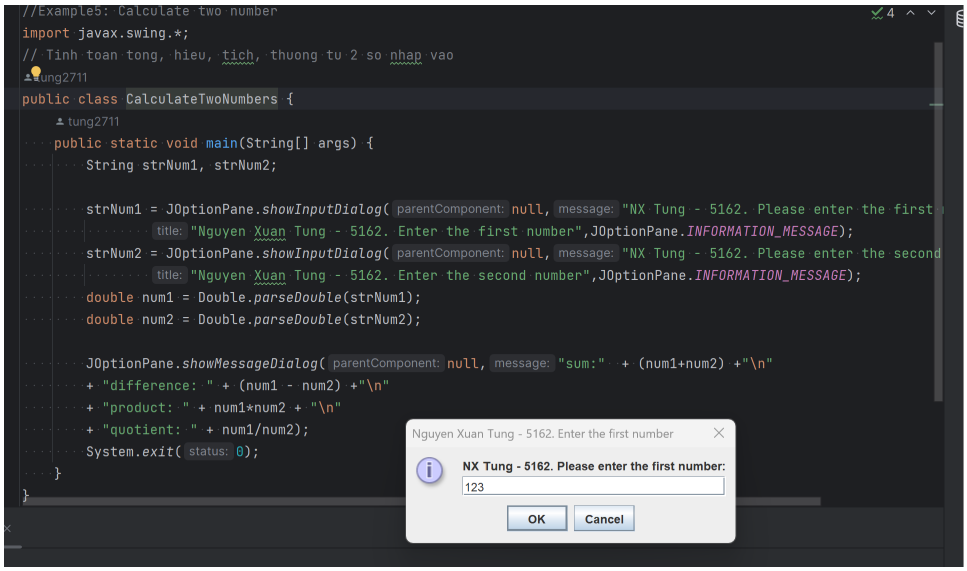
Hình 7: Đề bài 2.2.4

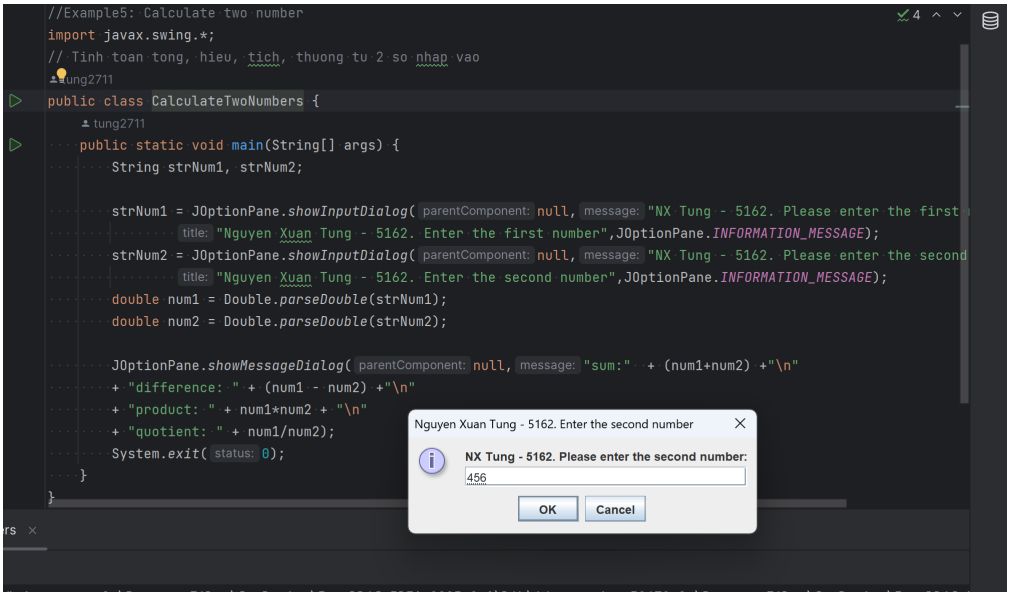


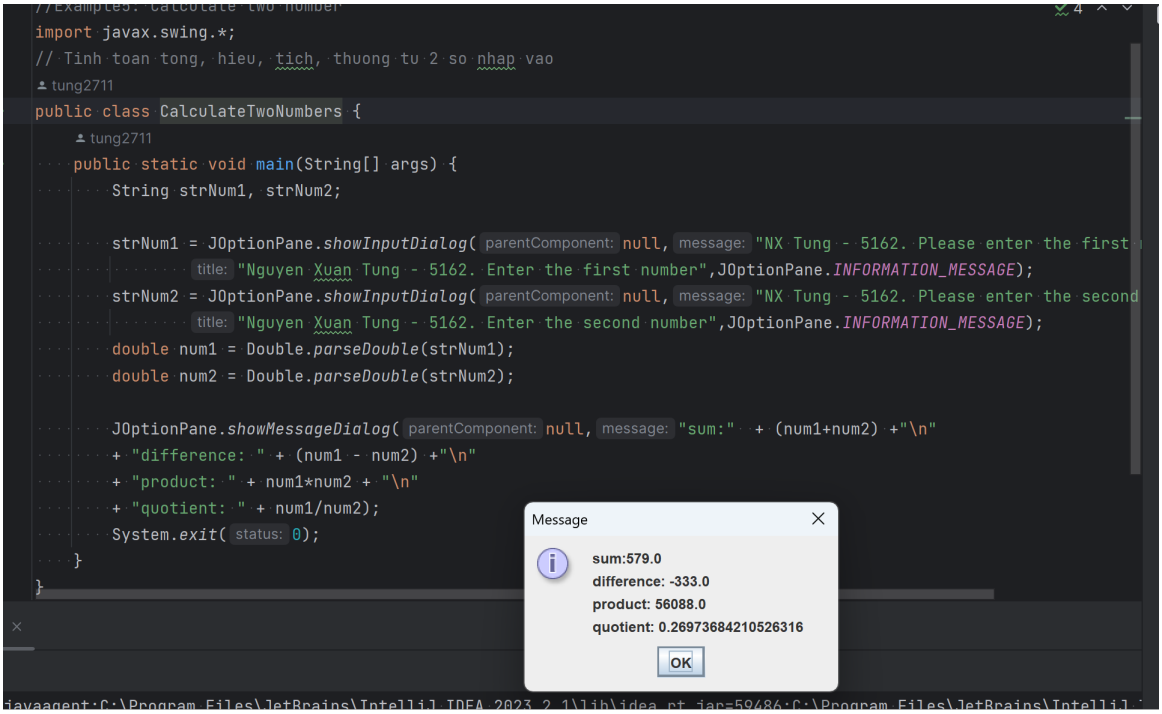


Hình 8: Mã nguồn và kết quả 2.2.4

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

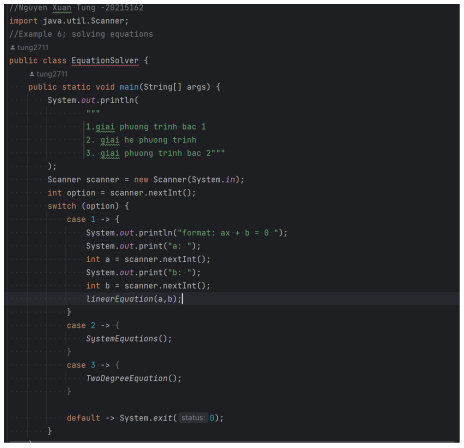






Hình 9: Mã nguồn và kết quả 2.2.5

2.2.6 Write a program to solve equation



```java
1 usage  tung2711
public static void linearEquation(int a, int b) {
    System.out.print("result: ");
    System.out.println((a==0 && b == 0) ?"Infinite result":((a == 0) ?"no solution": (double) -a/b));

}

1 usage  tung2711
public static void SystemEquations() {
    System.out.println("Format: \na11*x1+ a12*x2 = b1 \na21*x1 + a22*x2 = b2\n");
    Scanner scanner = new Scanner(System.in);
    System.out.print("a11: ");
    int a11 = scanner.nextInt();
    System.out.print("a12: ");
    int a12 = scanner.nextInt();
    System.out.print("b1: ");
    int b1 = scanner.nextInt();
    System.out.print("a21: ");
    int a21 = scanner.nextInt();
    System.out.print("a22: ");
    int a22 = scanner.nextInt();
    System.out.print("b2: ");
    int b2 = scanner.nextInt();

    int D = a11*a22 - a21*a12;
    int D1 = b1*a22 - b2*a12;
    int D2 = b2*a11 - b1*a21;

    System.out.println("x1: " + (double) D1/D);
    System.out.println("x1: " + (double) D2/D);


}
```

```java
1 usage  tung2711 *
public static void TwoDegreeEquation() {
    System.out.println("Format: a*x^2 + b*x c = 0");
    Scanner scanner = new Scanner(System.in);
    System.out.print("a b c: ");
    int a = scanner.nextInt();
    int b = scanner.nextInt();
    int c = scanner.nextInt();

    int delta = b*b - 4*a*c;

    int x1 = 0, x2 = 0;

    if(delta < 0) {
        System.out.println("No solution");
    } else if(delta == 0) {
        System.out.println("x: " + (double) -b/(2*a));
    } else {
        System.out.println("x1: " + (double) ((-b + Math.sqrt(delta))/(2*a)) + " x2: " +
                (double) ((-b - Math.sqrt(delta))/(2*a)));
    }

}
}
```

Hình 10: Mã nguồn 2.2.6

The first-degree equation (linear equation) with one variable

```
1.giai phuong trinh bac 1
2. giai he phuong trinh
3. giai phuong trinh bac 2
1
format: ax + b = 0
a: 5
b: 5
result: -1.0
```

The system of first-degree equations (linear system) with two variables

```
1.giai phuong trinh bac 1
2. giai he phuong trinh
3. giai phuong trinh bac 2
2
Format:
a11*x1+ a12*x2 = b1
a21*x1 + a22*x2 = b2

a11: 1
a12: 1
b1: 0
a21: 1
a22: -1
b2: 2
x1: 1.0
x1: -1.0
```

The second-degree equation with one variable

```
1.giai phuong trinh bac 1
2. giai he phuong trinh
3. giai phuong trinh bac 2
3
Format: a*x^2 + b*x c = 0
a b c: 1 2 1
x: -1.0

Format: a*x^2 + b*x c = 0
a b c: 1 1 1
No solution

Format: a*x^2 + b*x c = 0
a b c: 1 3 2
x1: -1.0 x2: -2.0
```