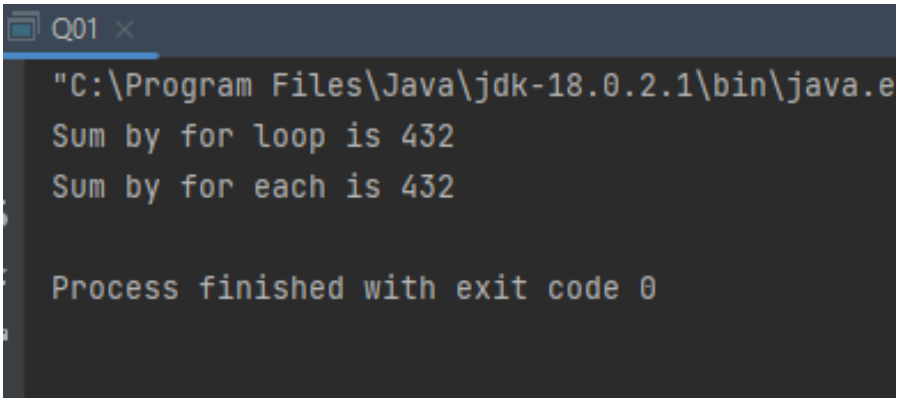
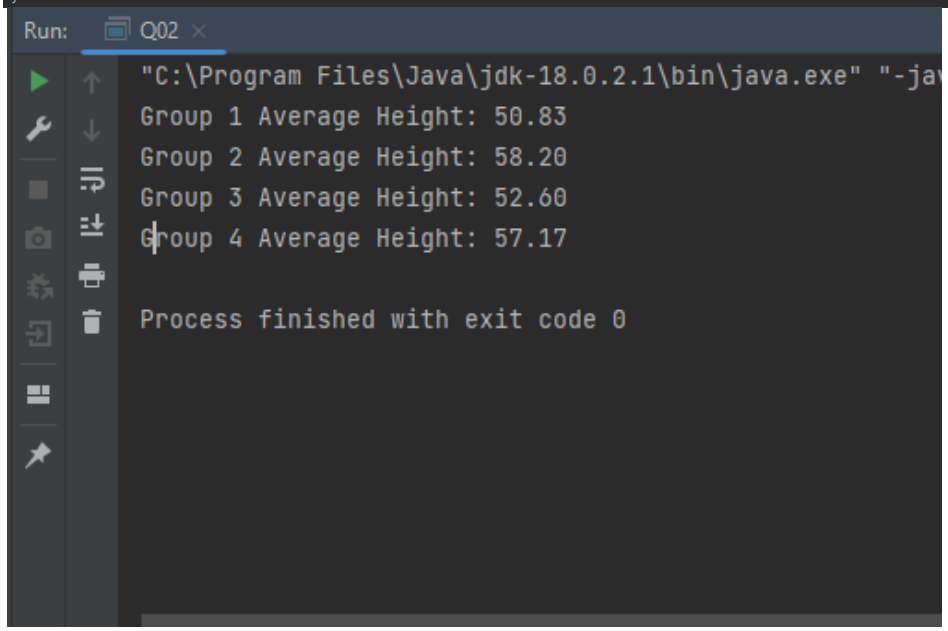
Q01.

```java
public class Q01 {
    public static void main(String[] args) {
//        Print the following array using for loop and foreach loop and get the sum of
all the values
//        stored in the Num array.
        int Num[] = {40, 28, 10, 81, 23, 45, 47, 18, 76, 64};

        int sum = 0;
        for (int i = 0; i < Num.length; i++) {
            sum += Num[i];
        }
        System.out.println("Sum by for loop is " + sum);


        sum = 0;
        for (int i : Num) {
            sum += i;
        }
        System.out.println("Sum by for each is " + sum);

    }
    }
```



Q02.

```
public class Q02 {
    public static void main(String[] args) {
//        2. The two-dimensional array below contains the weights of students in 4
groups:
//        Write a Java program to compute the average weight of students for each group
and display
//        the results in the format:
//        Group 1 Average Weight: 50.83
//        Group 2 Average Weight: 58.20
//        Group 3 Average Weight: 52.20
//        Group 4 Average Weight: 57.17
        double[][] weights = {{54.5, 50, 48}, {43, 56.5, 67, 65.5, 59}, {45, 55, 63,
45.5, 54.5}, {66, 49.5, 56}};
        int groupNo = 1;

        for (double[] group:weights) {
            double sum=0;
            double avg=0;
            for (double s:group) {
                sum +=s;
            }
            System.out.print("Group "+groupNo+" Average Height: " );
            System.out.printf("%.2f\n",(sum/ group.length));
            groupNo++;

        }

    }
}
```



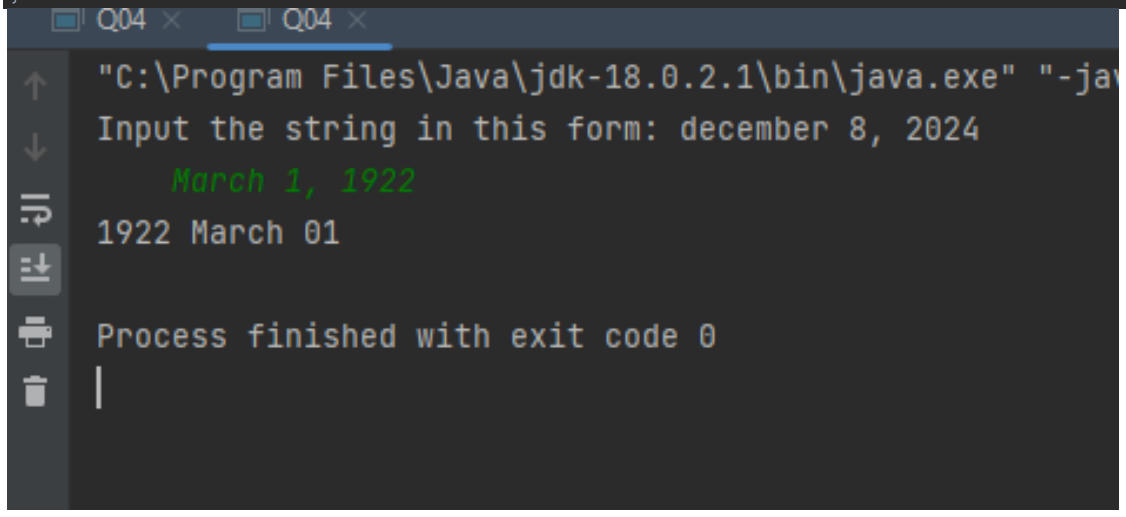
Q03.

```
public class Q03 {
    public static void main(String[] args) {

        String[][] nameRowList = {{"Amali", "Thilina", "Vihara"}, {"Kamal", "Nimal",
"Sunil"}};
        System.out.println("Seat No Student");
        System.out.println("_______ _______");
        int rowNo = 1;
        int colNo = 1;
        for (String[] first : nameRowList) {
            for (String names : first) {
                System.out.println(rowNo +""+ colNo+" "+"\t\t"+names);
                colNo++;
            }
            colNo = 1;
            rowNo++;
        }
    }
}
```

```
"C:\Program Files\Java\jdk-1
Seat No Student

------- -------
11      Amali
12      Thilina
13      Vihara
21      Kamal
22      Nimal
23      Sunil

Process finished with exit c
```

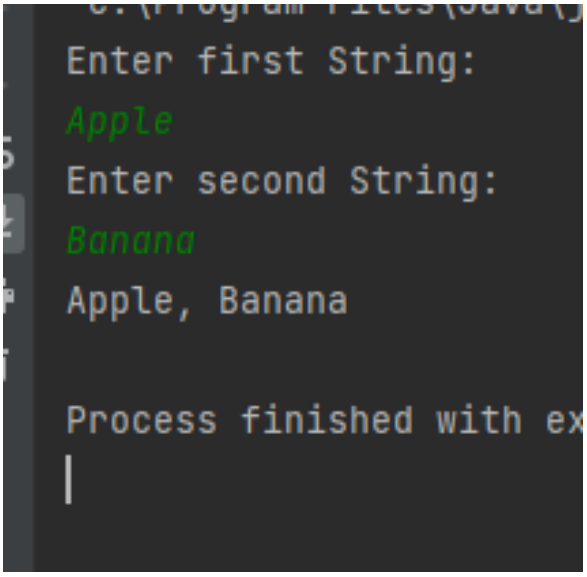
Q04

```java
import java.util.Scanner;

public class Q04 {
    public static void main(String[] args) {


        Scanner newScanObj = new Scanner(System.in);

        System.out.println("Input the string in this form: december 8, 2024");

        // Read the input line from the user
        String dateLine = newScanObj.nextLine();
        // Trim any leading or trailing whitespace from the input
        dateLine = dateLine.trim();
        // Find the position of the first space (separates month from day) and the
first comma (separates day from year)
        int firstSpace = dateLine.indexOf(" ");
        int firstComma = dateLine.indexOf(",");
        // Extract the month substring from the input string (from the start to the
first space)
        String fStr = dateLine.substring(0, firstSpace);
        // Extract the day substring from the input string (between the space and
the comma)
        String secStr = dateLine.substring(firstSpace + 1, firstComma);
        // Extract the year substring from the input string (after the comma)
        String thirdStr = dateLine.substring(firstComma + 2);
        // Get the first character of the month and convert it to uppercase
        char monthFirstCharPosition = fStr.charAt(0);
        String monthFirstChar =
Character.toString(monthFirstCharPosition).toUpperCase();
        // Convert the remaining part of the month to lowercase
        String monthOther = fStr.substring(1).toLowerCase();
        // Combine the uppercase first letter and the rest of the lowercase month
        String month = monthFirstChar + monthOther;
        // Ensure that the day string has two digits by adding a leading zero if
necessary
        String dateNo = (secStr.length() < 2 ? "0" + secStr : secStr);
        // Print the date in the required format: "year month day"
        System.out.println(thirdStr + " " + month + " " + dateNo);
    }
}
```



Q05.

```
import java.util.Scanner;

public class Q05 {
    public static void main(String[] args) {
//        Write a Java program to order two user input strings lexicographically.
Sample input and
//        output are given below:
//
        System.out.println("Enter first String: ");
        Scanner scanObj = new Scanner(System.in);
        String fString = scanObj.nextLine();
 System.out.println("Enter second String: ");
        String secString = scanObj.nextLine();

String Ordered = (fString.compareTo(secString) <0? fString + ", "+secString:secString +
", "+fString);
        System.out.println(Ordered);

    }

}
```



Q06

```
    import java.util.Scanner;
public class Q06 {
            public static void main(String[] args) {
            Scanner scanner = new Scanner(System.in);
            System.out.print("Enter your Name: ");
            String name = scanner.nextLine();
            System.out.print("Enter your Age: ");
            int age = scanner.nextInt();
            scanner.nextLine();
            System.out.print("Enter your Gender: ");
            String gender = scanner.nextLine();
            System.out.print("Enter your Weight in kilograms: ");
            double weight = scanner.nextDouble();
            System.out.print("Enter your Height in meters: ");
            double height = scanner.nextDouble();
            double bmi = (double) weight / (height*height);
            String category;
            if (bmi < 18.5) {
                category = "Underweight";
            } else if (bmi >= 18.5 && bmi < 24.9) {
                category = "Normal weight";
            } else if (bmi >= 25 && bmi < 29.9) {
                category = "Overweight";
            } else {
                category = "Obesity";
            }
            // Print the result
            System.out.println("\nHi " + name + "!");
            System.out.println("Here are your details:");
            System.out.println("Age: " + age);
            System.out.println("Gender: " + gender);
            System.out.println("Weight: " + weight + " kg");
            System.out.println("Height: " + height + " m");
            System.out.println("BMI: " + String.format("%.2f", bmi));  // Format BMI to
2 decimal places
            System.out.println("Category: " + category);
        }
}
```

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\
Enter your Name: kavindu
Enter your Age: 22
Enter your Gender: Male
Enter your Weight in kilograms: 80
Enter your Height in meters: 1.72

Hi kavindu!
Here are your details:
Age: 22
Gender: Male
Weight: 80.0 kg
Height: 1.72 m
BMI: 27.04
Category: Overweight

Process finished with exit code 0
```

Q07.

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe
$
You entered "$", which is not an alphabet.

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe" "-javaagent:
g
You entered a lowercase letter g. Converted to uppercase: G

Process finished with exit code 0
```

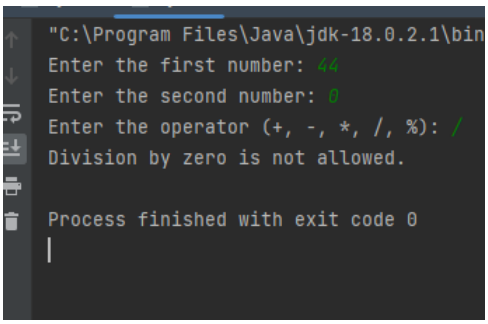
```java
import java.util.Scanner;

public class Q07 {
    public static void main(String[] args) {
//        Write a program to check whether the entered character is a lowercase letter (a to z) or an
//        uppercase letter (A to Z). If the character is lowercase, convert it to uppercase. If it is
//        uppercase, convert it to lowercase. If the input is not an alphabet, display an appropriate
//        message.
//                If the user input is,
//        a - You entered a lowercase letter "a". Converted to uppercase: "A"
//        D - You entered an uppercase letter "D". Converted to lowercase: "d"
//        @ - You entered "@", which is not an alphabet.
        Scanner scanObj = new Scanner(System.in);
        String enteredOne = scanObj.next();
        char newChar = enteredOne.charAt(0);
        if (Character.isUpperCase(newChar)){
            System.out.println("You entered a uppercase letter "+newChar+". Converted to lowercase: "+Character.toLowerCase(newChar));
        }
        else if(Character.isLowerCase(newChar)){
            System.out.println("You entered a lowercase letter "+newChar+". Converted to uppercase: "+Character.toUpperCase(newChar));
        }
        else {
            System.out.println("You entered \""+newChar+"\", which is not an alphabet.");
        }

    }
}
```

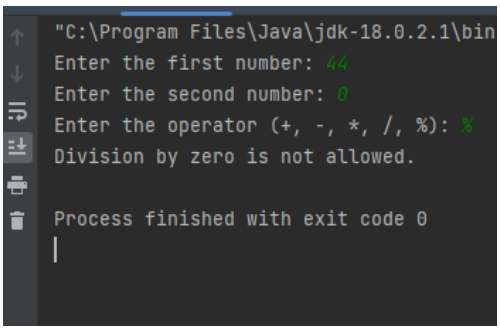
Q08.

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\ja
Enter a number between 1 and 7 =: 5
Friday

Process finished with exit code 0
```

```
        import java.util.Scanner;
public class Q08 {
    public static void main(String[] args) {


                Scanner scanner = new Scanner(System.in);

                System.out.print("Enter a number between 1 and 7 =: ");
                int day = scanner.nextInt();
                switch (day) {
                    case 1:
                        System.out.println("Monday");
                        break;
                    case 2:
                        System.out.println("Tuesday");
                        break;
                    case 3:
                        System.out.println("Wednesday");
                        break;
                    case 4:
                        System.out.println("Thursday");
                        break;
                    case 5:
                        System.out.println("Friday");
                        break;
                    case 6:
                        System.out.println("Saturday");
                        break;
                    case 7:
                        System.out.println("Sunday");
                        break;
                    default:
                        System.out.println("Invalid input! Please enter a number
between 1 and 7.");
                        break;
                }
            }
        }
```

Q09.






```java
import java.util.Scanner;
public class Q09 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the first number: ");
        double num1 = scanner.nextDouble();
        System.out.print("Enter the second number: ");
        double num2 = scanner.nextDouble();
        System.out.print("Enter the operator (+, -, *, /, %): ");
        char operator = scanner.next().charAt(0);
        double result;
        switch (operator) {
            case '+':
                result = num1 + num2;
                System.out.println("Result: " + result);
                break;
            case '-':
                result = num1 - num2;
                System.out.println("Result: " + result);
                break;
            case '*':
                result = num1 * num2;
                System.out.println("Result: " + result);
                break;
            case '/':
                if (num2 == 0) {
                    System.out.println("Division by zero is not allowed.");
                } else {
                    result = num1 / num2;
                    System.out.println("Result: " + result);
                }
                break;
            case '%':
                if (num2 == 0) {
                    System.out.println("Division by zero is not allowed.");
                } else {
                    result = num1 % num2;
                    System.out.println("Result: " + result);
                }
                break;
            default:
                System.out.println("Invalid operator.");
                break;
        }
    }
}
```

Q10.

```java
public class Q10 {
    public static void main(String[] args) {
//        Write a Java program using a while loop to add the first 100 integers.
//                  5050
int i = 1;
int sum = 0;
while (i<=100){
    sum+=i;i++;
}
        System.out.println("The sum of the first 100 integers is: "+sum);
    }
}
```