

Theeran

24BCS298

CSE-A1

## **Input and Output Statements in Java**

### **Aim:**

To understand and use input and output statements in Java using the Scanner class.

### **PRE LAB EXERCISE**

#### **QUESTIONS**

##### **What is input in a program?**

Data or values given to a program to be processed.

##### **What is output in a program?**

The result produced by a program after processing the input.

##### **Which class is used to read input from the user in Java?**

Scanner class is used to read input from the user in Java.

### **IN LAB EXERCISE**

#### **Objective:**

To read input from the user and display the output using Java input and output statements.

#### **INPUT STATEMENT:**

#### **SCANNER CLASS**

- The Scanner class in Java is used to read input from the user through the keyboard.  
It is available in the package java.util.
- The Scanner object reads different types of input such as integer, float, double, and string and stores them in variables.
- To use the Scanner class, it must be imported before using it in the program.

#### **SYNTAX:**

- Scanner sc = new Scanner(System.in);

#### **Commonly Used Scanner Methods:**

- `nextInt()` – reads an integer value
- `nextFloat()` – reads a float value
- `nextDouble()` – reads a double value
- `next()` – reads a single word
- `nextLine()` – reads a complete line of text

## PROGRAMS:

### Program 1: Read and Display Name

#### Source Code:

```
import java.util.Scanner;

class ReadName {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter your name: ");
        String name = sc.nextLine();
        System.out.println("Your name is: " + name);
    }
}
```

#### Output:

Enter your name: Anitha

Your name is: Anitha

The screenshot shows the IntelliJ IDEA interface with the 'Run' tool window open. The title bar says 'Run' and 'ReadName'. The main area of the window displays the Java command being run: 'C:\Users\user.jdk\openjdk-25.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.2\lib\idea\_rt.jar@6500"'. Below this, the console output is shown, with the user input 'Enter your name: Anitha' and the program's response 'Your name is: Anitha'. At the bottom of the window, a status bar indicates 'Process finished with exit code 0'. To the right of the console, there are performance monitoring tabs for 'CPU' and 'Heap Memory'.

### Program 2: Read Two Numbers and Print Sum

#### Source Code:

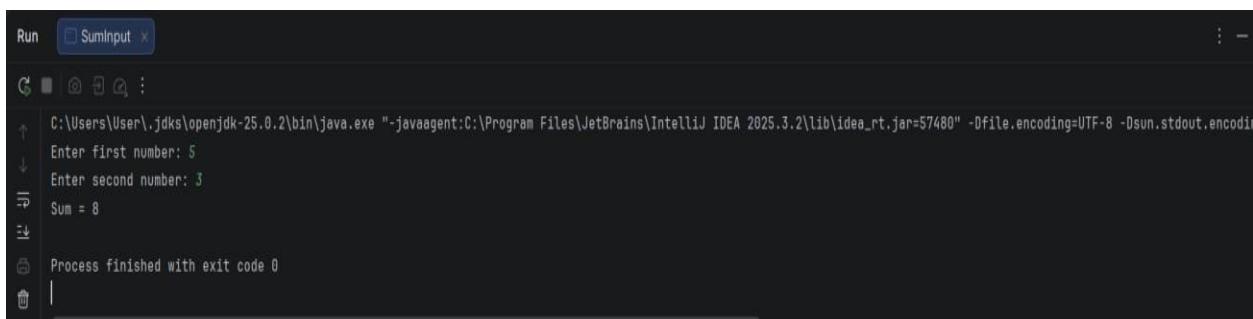
```
import java.util.Scanner;  
  
class SumInput {  
  
    public static void main(String[] args) {  
  
        Scanner sc = new Scanner(System.in);  
  
        System.out.print("Enter first number: ");  
  
        int a = sc.nextInt();  
  
        System.out.print("Enter second number: ");  
  
        int b = sc.nextInt();  
  
        int sum = a + b;  
  
        System.out.println("Sum = " + sum);  
  
    }  
}
```

## Output:

Enter first number: 5

Enter second number: 3

Sum = 8



### **Program 3: Read Length and Breadth and Find Area of Rectangle**

### Source Code:

```
import java.util.Scanner;
```

```
class AreaRectangleInput {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);
```

```
System.out.print("Enter length: ");

int length = sc.nextInt();

System.out.print("Enter breadth: ");

int breadth = sc.nextInt();

int area = length * breadth;

System.out.println("Area of Rectangle = " + area);

}

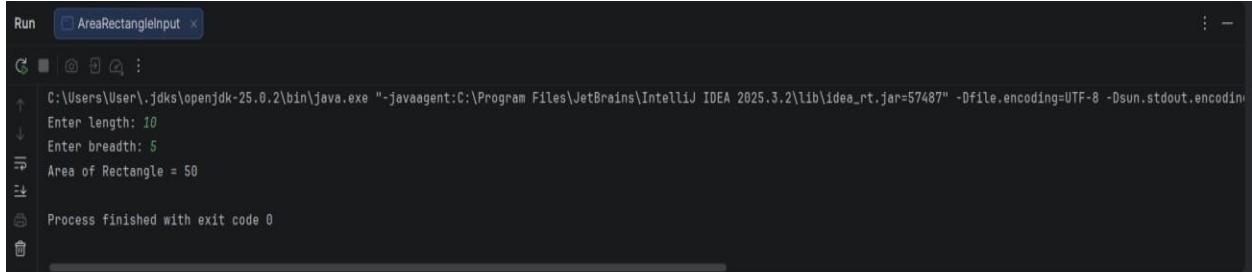
}
```

### Output:

Enter length: 10

Enter breadth: 5

Area of Rectangle = 50



```
Run AreaRectangleInput ×
C:\Users\USER\jdks\openjdk-25.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.2\lib\idea_rt.jar=57487" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8
Enter length: 10
Enter breadth: 5
Area of Rectangle = 50
Process finished with exit code 0
```

## POST LAB EXERCISE

### What is the use of the Scanner class in Java?

- It is used to read input from the user (keyboard) in Java.

### Which package contains the Scanner class?

- java.util package.

### What does System.in represent?

- Represents standard input stream (keyboard input).

### What does System.out represent?

- Represents standard output stream (screen/console output).

**Name any two methods used to read input using Scanner.**

- `nextInt()`, `nextLine()`

**What is the difference between `next()` and `nextLine()`?**

- `next()` reads a single word (stops at space).
- `nextLine()` reads the entire line including spaces.

**Result:**

Thus the input was successfully read from the user and the corresponding output was displayed using Java input and output statements.

**ASSESSMENT**

Description	Max Marks	Marks Awarded
Pre Lab Exercise	5	
In Lab Exercise	10	
Post Lab Exercise	5	
Viva	10	
Total	30	
Faculty Signature		