Experiment Number : 02 Date:

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?

Input in a program: Data or values given to a program by the user or another source for processing.

What is output in a program?

Output in a program: The result or information produced by a program after processing the input.

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

Class used to read input from the user in Java: The Scanner class (from java.util package) is used to read user input.

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

```
Enter your name: Anitha
Your name is: Anitha
```

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

POST LAB EXERCISE

- ✓ **What is the use of the Scanner class in Java?**
  Use of Scanner class in Java: It is used to read input from the user or other input sources.
- ✓ **Which package contains the Scanner class?**
  Package containing Scanner class: The java.util package.

- ✓ **What does System.in represent?**
  System.in represents: The standard input stream (keyboard input).

- ✓ **What does System.out represent?**
  System.out represents: The standard output stream (console output).

- ✓ **Name any two methods used to read input using Scanner.**
  Two Scanner input methods: nextInt() and nextLine().

- ✓ **What is the difference between next() and nextLine()?**
  Difference between next() and nextLine(): next() reads a single word, while 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	