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 is the data or instructions provided to a program from the user or another source, which the program uses for processing and decision making.

What is output in a program?

. Output is the processed result or information produced by a program after executing instructions, usually displayed on the screen or stored.

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

The **Scanner** class from the **java until** package is used to read different types of input (int, float, string, etc.) from the user.

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: PARTHIPAN

Your name is:PARTHIPAN

```java
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);
}
}
```

```
Enter your name: PARTHIPAN
Your name is: PARTHIPAN

=== Code Execution Successful
```

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: 7
Enter second number: 8
Sum = 15
```

```
1  import java.util.Scanner;
2  class SumInput {
3  public static void main(String[] args) {
4  Scanner sc = new Scanner(System.in);
5  System.out.print("Enter first number: ");
6  int a = sc.nextInt();
7  System.out.print("Enter second number: ");
8  int b = sc.nextInt();
9  int sum = a + b;
10 System.out.println("Sum = " + sum);
11 }
12 }
```

```
Enter first number: 7
Enter second number: 8
Sum = 15

=== Code Execution Successful
```

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: 15

Enter breadth: 5

Area of Rectangle = 180

```
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);
}
}
```

```
Enter length: 15
Enter breadth: 12
Area of Rectangle = 180

=== Code Execution Successful
```

POST LAB EXERCISE

- ✓ **What is the use of the Scanner class in Java?**
  The Scanner class in Java is used to take input from the user through the keyboard and to read different types of data such as integers, decimals, and strings
- ✓ **Which package contains the Scanner class?**

  He Scanner class is available in the java.util package.

- ✓ **What does System.in represent?**

  System.in represents the standard input stream and is used to receive

  input from the keyboard

- ✓ **What does System.out represent?**

  System.out represents the standard output stream and is used to display output on the screen.

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

  Two methods used to read input using Scanner are nextInt() and

  nextLine().

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

  The next() method reads only a single word and stops when it finds a space, whereas the nextLine() method reads the entire line including spaces until the Enter key is pressed.

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	