Experiment Number : 02 Date: 28/01/2026

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

1. What is input in a program?

Answer:
Input is the data that is given to a program by the user or another source to be processed.

Example:

- Numbers entered using keyboard
- Values read from a file

2. What is output in a program?

Answer:
Output is the result produced by a program after processing the input.

Example:

- Result displayed on the screen
- Data written to a file

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

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

- It belongs to the package: java.util

- It reads input from keyboard using System.in

Example:

```
import java.util.Scanner;
Scanner sc = new Scanner(System.in);
```

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

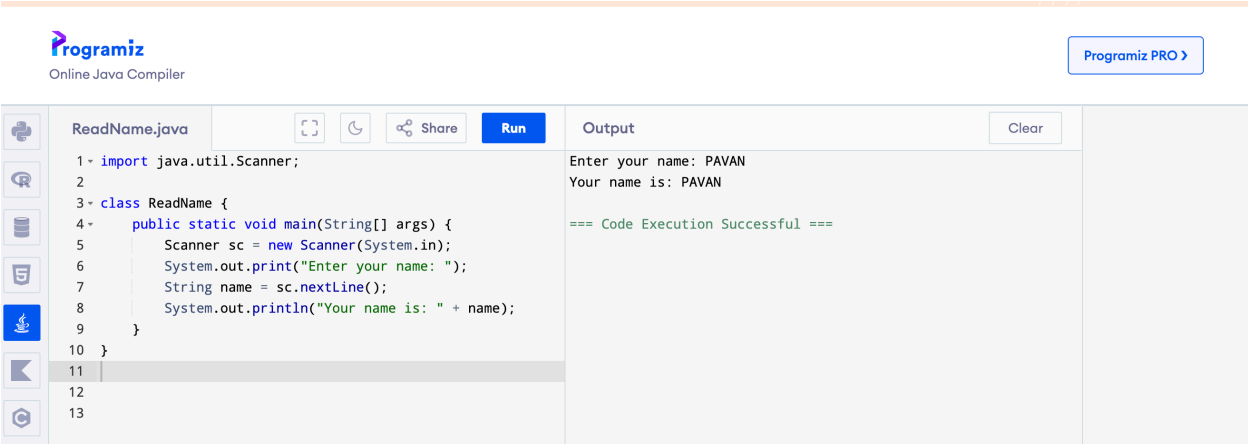
PROGRAMS:

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:



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:

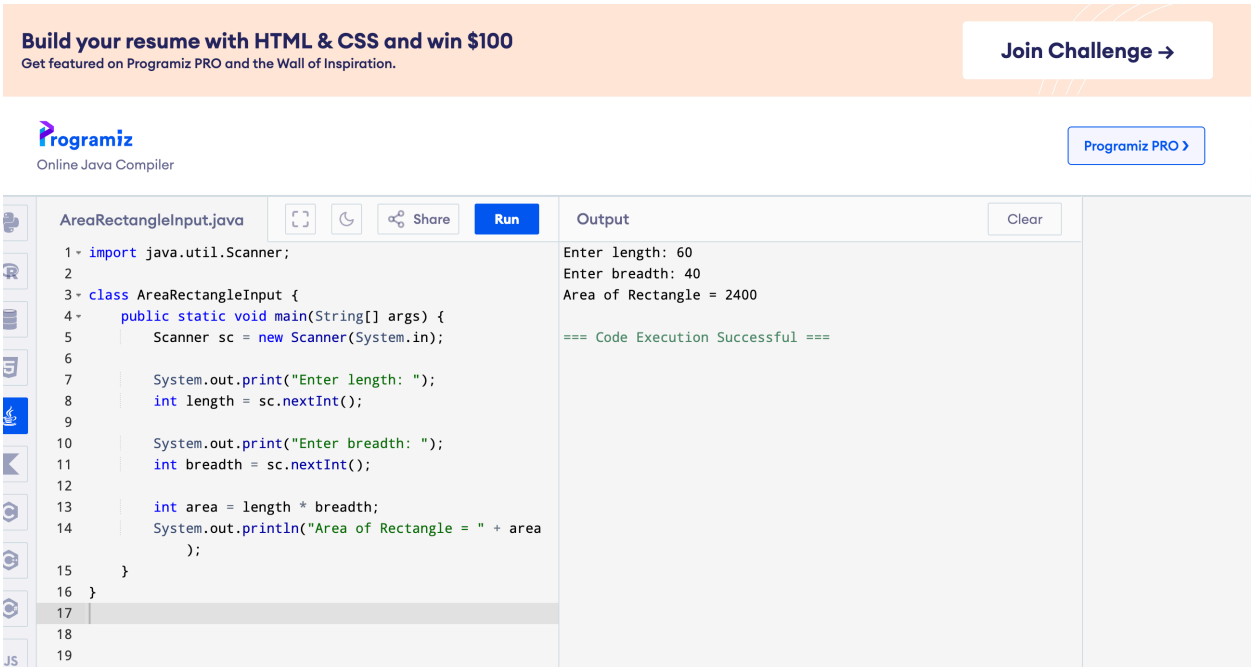
Program 3: Read Length and Breadth and Find Area of Rectangle

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:



POST LAB EXERCISE

1. What is the use of the Scanner class in Java?

Answer:
The Scanner class is used to read input from the user such as numbers, strings, and characters through the keyboard.

2. Which package contains the Scanner class?

Answer:
The Scanner class is present in the java.util package.

3. What does System.in represent?

Answer:
System.in represents the standard input stream, which is usually the keyboard.

4. What does System.out represent?

Answer:
System.out represents the standard output stream, which is usually the monitor (screen).

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

Answer:
Any two Scanner input methods are:

- nextInt() → Reads an integer value
- nextLine() → Reads a full line of text

(Other methods: nextDouble(), next(), nextFloat())

6. What is the difference between next() and nextLine()?

`next()`	`nextLine()`
Reads a single word	Reads a complete line
Stops at space	Reads including spaces
Cannot read full names	Can read full sentences

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	