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 given to a program by the user.

The program uses this data to perform operations.

Example:
Entering a number using the keyboard.

What is output in a program?

Output is the result produced by the program after processing the input.

It is shown to the user.

Example:
Displaying the result on the screen.

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

The Scanner class is used to read input from the user.

It is present in the java.util package.

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:

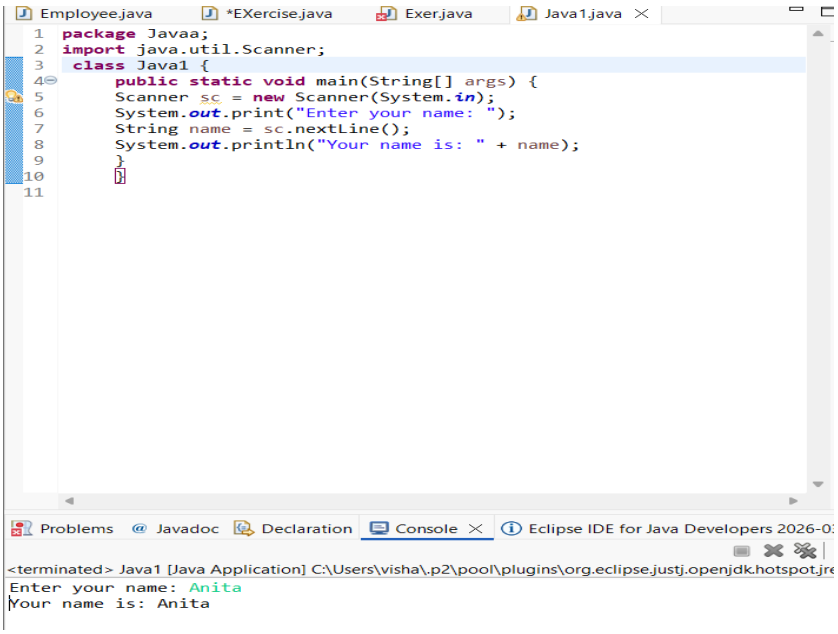
Program 1: Read and Display Name

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
```



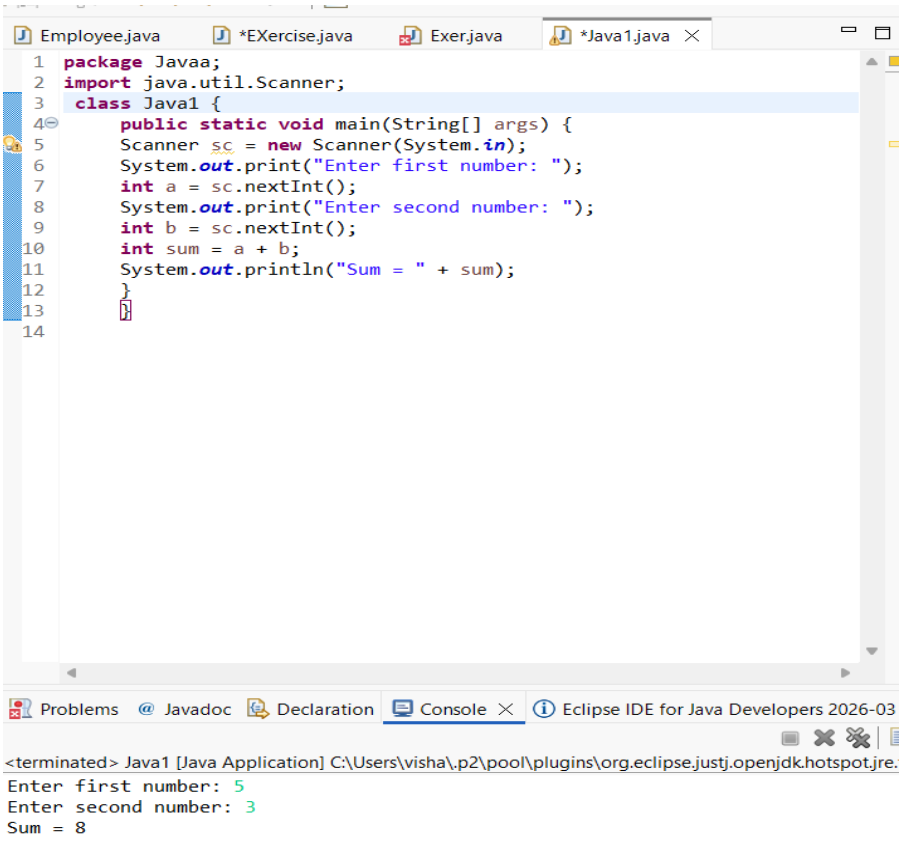
Program 2: Read Two Numbers and Print Sum

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);

}
```

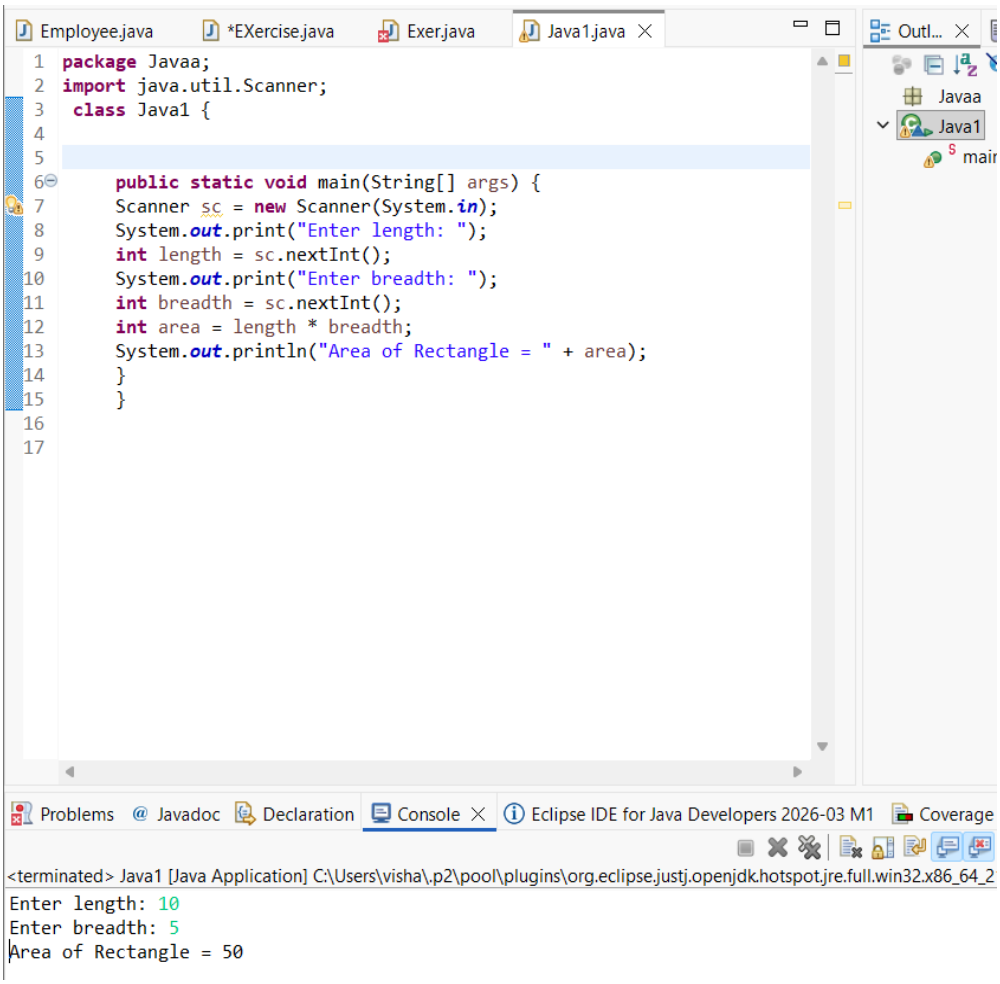
}

Output:

Enter length: 10

Enter breadth: 5

Area of Rectangle = 50



POST LAB EXERCISE

- ✓ What is the use of the Scanner class in Java?

  The Scanner class is used to read input from the user.
  It can read different types of data like int, float, double, String, etc.

- ✓ Which package contains the Scanner class?
  The Scanner class is present in the java.util package.

- ✓ What does System.in represent?
  System.in represents standard input.
  It is used to take input from the keyboard

- ✓ What does System.out represent?
  System.out represents standard output.
  It is used to display output on the screen.

- ✓ Name any two methods used to read input using Scanner.
  nextInt() – reads an integer
  nextLine() – reads a full line of text

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

Feature	**next()**	**nextLine()**
Reads	One word	Full line
Stops at	Space	New line (Enter key)
Input example	Hello	Hello World

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		