

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?

Ans: Input is a information we give to a program.

What is output in a program?

Ans: Output is the result that the program gives back.

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

Ans: Scanner class is used to take input 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:

```
ReadName
Enter your name: Prawin
Your name is: Prawin
PS C:\Users\prawin H\OneDrive\Desktop\educat>
```

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:

```
g\Code\User\workspaceStorage\99647c62e51d2da129ede
'SumInput'
Enter first number: 10
Enter second number: 25
Sum = 35
PS C:\Users\prawin H\OneDrive\Desktop\educat> █
```

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:

```
g:\Code\USER\workspaceStorage\99047\code51dzua
  'AreaRectangleInput'
Enter length: 9
Enter breadth: 8
Area of Rectangle = 72
PS C:\Users\prawin H\OneDrive\Desktop\educat
```

POST LAB EXERCISE

- ✓ What is the use of the Scanner class in Java?
Ans: It is used to input from the user.
- ✓ Which package contains the Scanner class?
Ans: java.util package
- ✓ What does System.in represent?
Ans: It is used to input from the keyboard.
- ✓ What does System.out represent?
Ans: It is used to display output on the screen.
- ✓ Name any two methods used to read input using Scanner.
Ans: nextInt() and nextLine().
- ✓ What is the difference between next() and nextLine()?
Ans: next() reads only one word.
nextLine() reads the whole line.

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		