Input & Output Handling in Java

■ **Introduction** Input and output (I/O) handling in Java allows users to interact with the program by entering data and viewing results. Java provides various classes and methods to handle I/O operations.

■ **Using Scanner Class for Input**

To read input from the user, Java provides the Scanner class from the java.util package.

Syntax:

Scanner sc = new Scanner(System.in);

Common Methods of Scanner:

Method	Description	Example Usage
next()	Reads a single word	String s = sc.next();
nextLine()	Reads a whole line	String line = sc.nextLine();
nextInt()	Reads an integer	int num = sc.nextInt();
nextDouble()	Reads a decimal number	double d = sc.nextDouble();
nextBoolean()	Reads a boolean value (true/false)	boolean b = sc.nextBoolean();

Example:

```
import java.util.Scanner;


public class InputExample {

   public static void main(String[] args) {

      Scanner sc = new Scanner(System.in);


      System.out.print("Enter your name: ");

      String name = sc.nextLine();


      System.out.print("Enter your age: ");

      int age = sc.nextInt();


      System.out.println("Name: " + name);
```

```
        System.out.println("Age: " + age);

    }

}
```

■ **Output Handling with System.out** Java uses System.out.println() and System.out.print() to display output.

Method	Description
System.out.print()	Prints text without a newline
System.out.println()	Prints text followed by a newline

Example:

System.out.print("Hello");

System.out.print(" World");

System.out.println("!");

Output:

Hello World!

■ **Example Program Using Input & Output**

```
import java.util.Scanner;

public class IOExample {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter your name: ");
        String name = sc.nextLine();

        System.out.print("Enter your percentage: ");
        double percent = sc.nextDouble();

        System.out.println("\n--- Result ---");
        System.out.println("Name: " + name);
```

```
        System.out.println("Percentage: " + percent);

    }

}
```

■ Output

Enter your name: Tony

Enter your percentage: 88.75

--- Result ---

Name: Tony

Percentage: 88.75

■ Summary Table

Feature	Description
Scanner class	Used for reading user input
next()	Reads a word
nextLine()	Reads a full line
nextInt()	Reads an integer
System.out	Used to display output
print/println	Methods to print text to the console