

SKIP

(Input and output)

A stream is required to accept input from the Keyboard.

There are two types of streams: input stream and output streams.

- JAVA.io (all streams are represented by classes)

There are two streams that is input & output stream.

- System.in \Rightarrow represent InputStream i.e. Keyboard.

- System.out \Rightarrow represent PrintStream i.e. monitor.

- System.err \Rightarrow also represent PrintStream (used to display error message).

- To take input from Keyboard use \Rightarrow

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

① char data (input)

\rightarrow char ch = (char) br.read();

② String from Keyboard?

\rightarrow String str = br.readLine();

③ Integer value from Keyboard?

\rightarrow int n = Integer.parseInt(br.readLine());

④ Float?

\rightarrow float n = Float.parseFloat(br.readLine());

⑤ Double value?

\rightarrow double n = Double.parseDouble(br.readLine());

① Program to accept & display employee details:-

```
import java.io.*;
```

```
class employee
```

```
{
```

```
    public static void main(String args[]) throws IOException
```

```
    {
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
```

```
        System.out.print("Enter id");
```

```
        int id = Integer.parseInt(br.readLine());
```

```
        System.out.print("Enter sex (M/A):");
```

```
        char sex = (char) br.read(); // or (br.readLine().charAt(0));
        // or (br.skip(2));
```

```
        System.out.println("Enter name");
```

```
        String name = br.readLine();
```

```
        System.out.println("id = " + id);
```

```
    }
```

```
}
```

① Reading input using Java.util.Scanner class.

Scanner class of Java.util package used to read input from keyboard or a text file.

- next() → to read a string
- nextLine() → to read a string till the end of a line.
- nextChar() → to read a single char
- nextByte() → to read a byte value.
- nextInt() → to read an integer value.
- nextFloat() → to read float value.
- nextLong() → to read long value
- nextDouble() → to read double value.

methods

Scanner class can be used as:

→ Scanner sc = new Scanner(System.in);

② eg → Program to use Scanner class:

```
import java.util.Scanner;
class ex3
```

```
    public static void main(String args[])
```

```
    {
        System.out.println("Enter your name:");
```

```
        Scanner sc = new Scanner(System.in);
```

```
        String name = sc.next();
```

```
        System.out.println("Your name is " + name);
```

```
    }
```


Formatted I/O

(iii) Displaying output using `System.out.println()`.

To display the formatted output we can use `println()` available in `PrintStream` class.

For using `println()` in java we use format specifiers.

- `%s` → string
- `%c` → char
- `%d` → decimal integer
- `%f` → float number
- `%o` → octal no
- `%b` → boolean value
- `%n` → newline character.

eg →

```
System.out.println("your salary is %d", sal);
```