

Scanner class

1. Easiest way to read input in a Java program but not so efficient.
2. Used for obtaining the input of the primitive types like int, double, etc. and strings
3. To read numerical values of a certain data type XYZ, the function to use is `nextXYZ()`.
4. To read strings, we use `nextLine()`.
5. To read a single character, we use `next().charAt(0)`. `next()` function returns the next token/word in the input as a string and `charAt(0)` function returns the first character in that string.

`nextBoolean()`

Reads a boolean value from the user

`nextByte()`

Reads a byte value from the user

`nextDouble()`

Reads a double value from the user

`nextFloat()`

Reads a float value from the user

`nextInt()`

Reads a int value from the user

`nextLine() / next()`

Reads a String value from the user

`nextLong()`

Reads a long value from the user

`nextShort()`

Reads a short value from the user

Difference between next() and nextLine()

Next()

It read input from the input device till the space character.

It cannot read those words having space in it.

It places the cursor in the same line after reading the input.

The escaping sequence of next() is space.

Syntax to scan input:

Scanner.next()

NextLine()

It read input from the input device till the line change.

It can read those words having space in it.

It places the cursor in the next line after reading the input.

The escaping sequence of nextLine() is '\n'.

Syntax to scan input:

Scanner.nextLine()

Scanner class – Object creation

<class name> <object name> = new <constructor(System.in)>;

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

Scanner – Scanner is a class that you create for getting input

sc – Object what we create for scanner class

new – dynamically allocate memory for the object

Scanner() – Constructor to initialize object

System.in – System is the class and in is the object

Write a JAVA program to get the basic details of a student and display it

Example 1 : Solution

```
import java.util.Scanner;
public class Main{
public static void main(String[] args)
{
    Scanner sc = new Scanner(System.in);
    String name = sc.nextLine();
    char gender = sc.next().charAt(0);
    int age = sc.nextInt();
    long mobileNo = sc.nextLong();
    double cgpa= sc.nextDouble();
    System.out.println("Name: "+name);
    System.out.println("Gender: "+gender);
    System.out.println("Age: "+ age);
    System.out.println("Mobile Number: "+mobileNo);
    System.out.println("CGPA: "+cgpa);
}
}
```

Write a JAVA Program to read some numbers from console and print their mean.

Example 2 : Solution

```
import java.util.Scanner;
public class Demo
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        int sum = 0, count = 0;
        while (sc.hasNextInt())
        {
            // Read an int value
            int num = sc.nextInt();
            sum += num;
            count++;
        }
        int mean = sum / count;
        System.out.println("Mean: " + mean);
    }
}
```