

Programming Language II

CSE-215

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Read Input From Console

System.console().readLine()

- The simplest way to read user input is by using **System.console()**. Here is an example:

```
public class Sample {  
    public static void main(String[] args) {  
        System.out.print("Please enter your name: ");  
        String name = System.console().readLine();  
        System.out.println("Your name is: " + name);  
    }  
}
```

```
Please enter your name: John  
Your name is: John
```

java.util.Scanner and System.in

- Scanner class is present in **java.util package** so we import this package in our program. We first create an object of Scanner class and then we use the methods of **Scanner class**. Consider the statement

Scanner a = new Scanner(System.in);

- Here Scanner is the class name, a is the name of object, new keyword is used to allocate the memory and System.in is the input stream. Following methods of Scanner class are used in the program below :-
 - 1) nextInt to input an integer
 - 2) nextFloat to input a float
 - 3) nextLine to input a string

- The Scanner class has several methods which are used to take different types of inputs.
- Combining **System.in** and **java.util.Scanner** provides a way to read user input.
- It also provides a way to read different data types.

Method	Description
nextByte()	Accept a byte
nextShort()	Accept a short
nextInt()	Accept an int
nextLong()	Accept a long
next()	Accept a single word
nextLine()	Accept a line of String
nextBoolean()	Accept a boolean
nextFloat()	Accept a float
nextDouble()	Accept a double

java.util.Scanner and System.in

read string input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("What is your favorite color? ");
        String name = scanner.next();
        System.out.println("Your favorite color is: " + name);
    }
}
```

Sample output:

```
What is your favorite color? blue
Your favorite color is: blue
```

java.util.Scanner and System.in

Read input string :

```
System.out.println("Enter your username: ");  
Scanner scanner = new Scanner(System.in);  
String username = scanner.nextLine();  
System.out.println("Your username is " + username);
```

java.util.Scanner and System.in

read byte input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a small number: ");
        byte number = scanner.nextByte();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter a small number: 5
The number is: 5
```


java.util.Scanner and System.in

read short input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a short integer: ");
        short number = scanner.nextShort();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter a short integer: 1000
The number is: 1000
```

java.util.Scanner and System.in

read int input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter an integer: ");
        int number = scanner.nextInt();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter an integer: 211555777
The number is: 211555777
```

java.util.Scanner and System.in

read long input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a long number: ");
        long number = scanner.nextLong();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter a long number: 12345678912
The number is: 12345678912
```

java.util.Scanner and System.in

read float input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a float number: ");
        float number = scanner.nextFloat();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter a float number: 1.25
The number is: 1.25
```

java.util.Scanner and System.in

read double input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a double number: ");
        double number = scanner.nextDouble();
        System.out.println("The number is: " + number);
    }
}
```

Sample output:

```
Enter a float number: 55.11
The number is: 55.11
```

java.util.Scanner and System.in

read boolean input:

```
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a boolean value (true or false): ");
        boolean bool = scanner.nextBoolean();
        System.out.println("You entered: " + bool);
    }
}
```

Sample output:

```
Enter a boolean value (true or false): true
You entered: true
```

```
import java.util.Scanner;

class GetInputFromUser
{
    public static void main(String args[])
    {
        int a;
        float b;
        String s;

        Scanner in = new Scanner(System.in);

        System.out.println("Enter a string");
        s = in.nextLine();
        System.out.println("You entered string "+s);

        System.out.println("Enter an integer");
        a = in.nextInt();
        System.out.println("You entered integer "+a);

        System.out.println("Enter a float");
        b = in.nextFloat();
        System.out.println("You entered float "+b);
    }
}
```

Example 1: input
from user

```
import java.util.Scanner;

public class Average Marks {

    public static void main(String[] args) {
        Scanner s = new Scanner ( System.in);
        System.out.print("Enter your name: ");
        String name=s.next();
        System.out.print("Enter marks in three subjects: ");
        int marks1=s.nextInt();
        int marks2=s.nextInt();
        int marks3=s.nextInt();
        double average = ( marks1+marks2+marks3)/3.0;
        System.out.println("\nName: "+name);
        System.out.println("Average: "+average);
    }
}
```

Example 2: input
from user

Example 1: How to put a Scanner input into an array

```
public static void main (String[] args)
{
    Scanner input = new Scanner(System.in);
    double[] numbers = new double[5];

    for (int i = 0; i < numbers.length; i++)
    {
        System.out.println("Please enter number");
        numbers[i] = input.nextDouble();
    }
}
```

```

import java.util.Scanner;

public class Main {
    /**
     * @param args
     */
    public static void main(String[] args) {
        Scanner in=new Scanner (System.in);
        int num[]=new int[10];
        int average=0;
        int i=0;
        int sum=0;

        for (i=0;i<num.length;i++) {
            System.out.println("enter a number");
            num[i]=in.nextInt();
            sum=sum+num[i];
        }
        average=sum/10;
        System.out.println("Average="+average);
    }
}

```

Example 2: How to
put a Scanner input
into an array

Input values into a 2d array

```
double a[][]=new double[3][3];
    Scanner input = new Scanner(System.in);

    for(int row=0;row<3;row++){

        for(int col=0;col<3;col++){
            System.out.println("Enter value: ");
            a[row][col]=input.nextDouble();
        }
    }
```

Input and storing Strings in two-dimensional arrays

```
public static void main(String[] args)throws IOException {  
  
    //create array  
    String[][] Criminals = new String[10][3]; // create 3 columns, 10 rows  
  
    int i, j;  
    int smallest; //smallest is the current smallest element  
    int temp; //make an element swap  
    String line;  
  
    //loop to request to fill array  
    for (int row = 1; row < Criminals.length; row++){  
        for (int col = 1; col < Criminals[row].length; col++){  
            System.out.print("Enter a criminal name: ");  
            Criminals[row][col] = br.readLine();  
        }  
    }  
}
```

Thank you