Loops one shot

Loops Introduction:

If we want to perform a similar operation repeatedly then we will use loop there.

Example : If we want to listen a same song repeatedly then we will loop it .

If we want to print a name say "NAZEER" some 1000 times we cannot copy and paste this 1000 times right so, loops have many applications in our day-to-day life.

Types of loops :- 1) for loop 2) while loop 3) do while loop.

While Loop:

while loop, this will be useful mostly when we know the termination condition .

Example :- If I say drive the bike till fuel tank in not emptied , here I am giving a termination condition that you should stop when fuel tank is empty so , here we will use while loop.

Syntax:

//loop iterator initialization

while(condition) {

//statements to execute in while loop

//loop iterator increment or decrement part

}

# Note: It is mandatory that at a point the condition should fail else it will be an infinite loop , which keeps on running until the memory gets filled.

As a good programmer it is our duty to avoid these infinite loops in our program.

Program: Write code in java to print numbers from 1 to n using while loop.

import java.util.\*;

public class loops\_3\_print\_one\_to\_n\_numbers {

    public static void main(String *args*[]) {

        Scanner sc = new Scanner(System.in);

*// creating object to scanner  class to take inputs.*

        System.out.println("Enter value of n ");

        int n = sc.nextInt();

*// taking input from the user.*

        int i = 1;

*// loop iterator initialization starts with 1 as we are printing from 1 to  n.*

        while(i<=n){

*// condition is iterate till i is less then or equal to n*

            System.out.print(i+" ");

*// at each iteration output the value of iterator i.e i*

            i++;    *// incrementing the iterator.*

        }

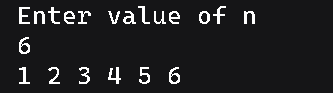
        sc.close();

*// closing the scanner object to prevent data leak.*

    }

}

Sample output:



Code available [here](https://github.com/nazeer-18/java/blob/master/loops/loops_3_print_one_to_n_numbers.java)

Program: Write code in java to print sum of first n natural numbers.

import java.util.\*;

public class loops\_4\_sumOf\_n\_naturalNumbers {

    public static void main(String *args*[]) {

        Scanner sc = new Scanner(System.in);

*// creating object to scanner  class to take inputs.*

        System.out.println("Enter value of n ");

        int n = sc.nextInt();

*// taking input from the user.*

        int sum = 0, i = 1;

*// loop iterator initialization starts with 1 as we are finding sum from 1 to  n. Sum is initialized to 0 as we are adding values to it.*

        while(i<=n){

*// condition is iterate till i is less then or equal to n*

            sum+=i; *// adding the value of i to sum*

            i++;    *// incrementing the iterator.*

        }

        System.out.println("Sum of first "+ n + " natural numbers is : "+ sum);

*// printing the sum of first n natural numbers.*

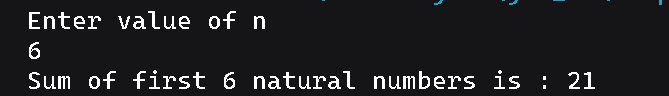
        sc.close();

*// closing the scanner object to prevent data leak.*

    }

}

Sample output:



Code available [here](https://github.com/nazeer-18/java/blob/master/loops/loops_4_sumOf_n_naturalNumbers.java)

.