**Q1 : Given an integer, find out the sum of its digits using recursion.**

**Input: n= 1234**

**Output: 10**

**Explanation: 1+2+3+4=10**

Solution: import java.util.Scanner;

public class sumSeries {

    public static int sum(int n){

        if(n==0){

            return 0;

        }

      return sum(n+1)+n;

    }

    public static void main(String[] args) {

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter the element:");

        int n=sc.nextInt();

        System.out.println(sum(n));

    }

}

Output:10

Q2: Given a number n. Find the sum of natural numbers till n but with alternate signs.

That means if n = 5 then you have to return 1-2+3-4+5 = 3 as your answer.

Constraints : 0<=n<=1e6

Input1 : n = 10

Output 1 : -5

Explanation : 1-2+3-4+5-6+7-8+9-10 = -5

Input 2 : n = 5

Output 2 : 3

Solution: import java.util.Scanner;

public class SumOfseries {

    public static int sumSeries(int n){

        if(n==0){

            return 0;

        }

            if(n%2==0){

             return sumSeries(n-1)-n;

            }

            else{

                return sumSeries(n-1)+n;

            }

        }

    public static void main(String[] args) {

        Scanner sc=new Scanner(System.in);

        System.out.println("please enter the elemnt:");

        int n=sc.nextInt();

        System.out.println(sumSeries(n));

    }

    }

Output: -5

**Q3: Print the max value of the array [ 13, 1, -3, 22, 5].**

**Solution:** import java.util.Scanner;

public class MaxInArray {

    public static int max(int arr[],int idx){

        if(idx==arr.length-1){

            return arr[idx];

        }else{

            int SmallAnswer=max(arr, idx+1);

            return Math.max(SmallAnswer, arr[idx]);

        }

    }

   public static void main(String[] args) {

    int arr[]={13,1,-3,22,5};

    System.out.println(max(arr, 0));

   }

}

**Output:**

**PS C:\Users\DELL\Desktop> cd "c:\Users\DELL\Desktop\pwjava\java\name.java\name.java\" ; if ($?) { javac MaxInArray.java } ; if ($?) { java MaxInArray }**

**22**

**PS C:\Users\DELL\Desktop\pwjava\java\name.java\name.java>**

**Q4 : Find the sum of the values of the array [92, 23, 15, -20, 10].**

**Solution:** import java.util.Scanner;

public class MaxInArray {

    public static int sum(int arr[],int idx){

        if(idx==arr.length){

            return arr[idx];

        }else{

            int SmallAnswer=sum(arr, idx+1);

            return sum+arr[idx];

        }}

   public static void main(String[] args) {

    int arr[]={**92, 23, 15, -20, 10**};

    System.out.println(max(arr, 0));

   }

}

**Output:120**