Q.1) Given an Integer, find out the sum of its digits using recursion

→ Input: n = 1234
Output: 10

1 2 3 4
n
n-1

→
```
public Class Demo{
    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 your element:");
        int n= Sc.nextInt();
        System.out.println(Sum(n));
    }
}
```

output = 10

2.) Given a number n. find the sum of Natural numb 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 <= 10^6

Code:

```
public Class SeriesSum {
    public static int Series(int n) {
        if (n==0) {
            return 0;
        } if (n%=0) {
            return Series(n-1)-n;
        }
        else {
            return Series(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(Series(n));
    }
}
```

output: 3

3) Print the Max value of the array [13, 1, -3, 22, 5

→

```
public Class MaxInArray {
    public static int Max(int [] arr, int idx) {
        if (idx == arr.length-1) {
            return arr[idx];
        }
```

```
int SmallAns = Max(arr, idx+1);
return Math.Max(SmallAns, arr[idx]);
}
public static void main(String args[]){
int arr[] = {13, 1, -3, 22, 5};

Max(arr, 0);
System.out.println(Max(idx));
}
}
```

output: 22.

4) find the sum of the values of the array [92, 23, 15, -20, 10].

⇒

```
public class demo{
public static int Sum(int arr[], int idx){
if(idx == arr.length){
return 0;
}
else{
int ans = Sum(arr, idx+1);
return ans + arr[idx];
}
}
public static void main(String[] args){
int arr[] = {92, 23, 15, -20, 10};

System.out.println(Sum(arr, 0));
}
}
```

output: 120