## Factorial of a Number

Write a program to compute the factorial of a number using recursion.

**Input Format**

Input consists of an integer.

**Output Format**

The output consists of an integer that corresponds to the factorial value.

**Sample Input 0**

5

**Sample Output 0**

The factorial of 5 is 120

//SOURCE CODE

import java.io.\*;

import java.util.\*;

public class Solution {

public static void main(String[] args) {

Scanner sc=new Scanner (System.in);

int n=sc.nextInt();

System.out.println("The factorial of "+n+" is "+fact(n));

}

public static int fact(int n) {

if(n<1)

return 1;

return n\*fact(n-1);

}

}

## Number of digits

Write a program to find the number of digits in a number using recursion.

**Input Format**

Input consists of a non-negative integer.

**Constraints**

NA

**Output Format**

Refer sample output for formatting specifications.

**Sample Input 0**

432

**Sample Output 0**

The number of digits in 432 is 3

//SOURCE CODE

import java.io.\*;

import java.util.\*;

public class Solution {

public static void main(String[] args) {

Scanner sc=new Scanner (System.in);

int n=sc.nextInt();

int count=countdigit(n);

System.out.println("The number of digits in "+n+" is "+count);

}

public static int countdigit(int n) {

int temp=0;

if(n<9)

return 1;

temp++;

return temp+countdigit(n/10);

}

}

## Sum of Array Elements

Write a program to find the sum of array elements using recursion.

**Input Format**

* The Input consists of one integer and a set of integers.
* The first integer corresponds to the number of array elements.
* The second Input corresponds to the array elements.

**Output Format**

The output consists of one integer that corresponds to the sum of the array elements.

**Sample Input 0**

5

1

2

3

4

5

**Sample Output 0**

15

//SOURCE CODE

import java.util.Scanner;

public class Main {

public static int sum(int[] a, int n) {

if (n <= 0)

return 0;

return (sum(a, n - 1) + a[n - 1]);

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

int[] a = new int[n];

for (int i = 0; i < n; i++)

a[i] = sc.nextInt();

System.out.println(sum(a, n));

}

}