**Count odd and even**

Write a program to count the number of even and odd elements in an array.

**INPUT & OUTPUT FORMAT:**

Input consists of 1 integer and 1 array.

Integer corresponds to the size of the array.

The output consists of integers

**Case 1**

**Input (stdin)**

3

31

28

13

**Output (stdout)**

Odd: 44

Even: 28

**Maximum value**

Write a program to find the maximum element in an array.

**INPUT FORMAT:**

Input consists of 1 integer and 1 array.

Integer corresponds to the size of the array.

**Case 1**

**Input (stdin)**

5

1

2

33

4

5

**Output (stdout)**

33

**Case 2**

**Input (stdin)**

3

101

210

90

**Output (stdout)**

210

**Sum of elements**

QUESTION: Write a program to find the sum of elements in an array.

**INPUT & OUTPUT FORMAT:**

Input consists of 1 integer and 1 array.

Integer corresponds to the size of the array

The output consists of an integer.

**Case 1**

**Input (stdin)**

3

1

2

3

**Output (stdout)**

6

**Case 2**

**Input (stdin)**

5

1

2

3

4

5

**Output (stdout)**

15

**Same or Not**

Write a program to find whether the two arrays are the same or not. Two arrays are said to be the same if the sum of both the arrays is the same and the size of arrays is the same.

**INPUT FORMAT:**

Input consists of 2 integers and 2 arrays.

Integers correspond to the size of arrays.

If two arrays are same, display "Same" else display "Not Same"

**Case 1**

**Input (stdin)**

3

3

1

2

3

1

2

3

**Output (stdout)**

Same

**Case 2**

**Input (stdin)**

3

3

1

2

1

2

3

6

**Output (stdout)**

Not Same

**Ascending order**

Write a program to sort the given array in ascending order.

**INPUT FORMAT:**

Input consists of 1 integer and 1 array.

Integer corresponds to the size of the array.

**Case 1**

**Input (stdin)**

5

54

68

25

14

74

**Output (stdout)**

Sorted array is:

14

25

54

68

74

**Case 2**

**Input (stdin)**

4

51

-3

5

-6

**Output (stdout)**

Sorted array is:

-6

-3

5

51

**Insert an element**

Write a program to insert an element in an array at the given position. If the position where the element is to be inserted is greater than the size of the array display “Invalid Input”.

**INPUT FORMAT:**

Input consists of 3 integers and 1 array.

The first integer corresponds to the size of the array.

The second integer corresponds to the position where the element is to be inserted.

The third integer corresponds to the element to be inserted.

**Case 1**

**Input (stdin)**

5

1

2

3

4

5

4

10

**Output (stdout)**

Array after insertion is:

1

2

3

10

4

5

**Delete an element**

Write a C program to delete an element from the given location in an array..

**Case 1**

**Input (stdin)**

5

1

2

3

4

5

4

**Output (stdout)**

Array after deletion is:

1

2

3

5

**Wipro 2022**

A company wishes to provide cab service for their N employees. The employees have distance ranging from 0 to N-1. The company has calculated the total distance from an employee’s residence to the company, considering the path to be followed by the cab is a straight path. The distance of the

side of the company is represented with a negative sign. The distance for the employees who live to the right side of the company is represented with a positive sign. The cab will be allotted a range of distance. The company wishes to find the distance for the employees who live within the particular distance range. Write an algorithm to find the distance for the employees who live within the distance range.

Input  
The first line of the input consists of three space-separated integers-num, start and end representing the size of the list (N); the starting value of the range: and the ending value of the range, respectively. The second line of the input consists of N space-separated integers representing the distances of the employees from the company.

Output  
Print space-separated integers representing the distance for employees whose distance lies within the given range else return -1.

Constraints  
NA

**Example**

**Input:**6 size of the list

29 38 12 48 39 55 list elements

30 low limit

50 high limit

**Output:**38 48 39

**Explanation:**There are three employees with distances 38, 48 and 39 whose distance from the office lies within the given range.

**Wipro 2022**

In an online maths tutorial a student is given a list of N numbers. From this list, the student is required to sum each element in the list such that the ith element in the output list will be equal to the sum to the first element until the ith element in the list.

Input:

The first line of input consists of an integer – numSize representing the count of total numbers in the list(N).

The next line consists of N space separated integers.

element1, element2,…… element-n

representing the numeric value in the list.

**Example:**

**Input:**

5

1 4 2 6 3

**Output:**

1 5 7 13 16

**Explanation:**

The sum of each element 1, (1+4=5), (1+4+2=7), (1+4+2+6=13), (1+4+2+6+3=16). Hence the output is 1 5 7 13 16.

**Wipro 2022**

Write a program to calculate and return the sum of distances between the adjacent numbers In an array of positive integers.

Note:  
You are expected to write code in the find Total distance function only which receive the first parameter as the number of items in the array, and second parameter as the array itself. You are not requested to take input from the console.

Constraints  
NA

Example

Finding the total distance between adjacent items of a list of 5 numbers

**Input:**5  
10 11 7 12 14

**Output:**12

Explanation  
The first parameters (5) is the size of the array next is an array of integers the total of distance is 12 as per the calculation below.  
10-11=1  
11-7=4  
7-12=5  
12-14=2  
Total distance-1+4+5+2=12

**Wipro 2022**

Andrew is a stock trader who trades in N selected stocks. He has calculated the relative stock price changes in the N stocks from the previous day stock prices. Now, his lucky number is K, so he wishes to invest in the particular stock that has Kth smallest relative stock value. Write an algorithm for Andrew to find the Kth smallest stock price out of the selected N stocks.

Input  
The first line of the input consists of two space-separated integers – numOfStocks and valuek, representing the number of selected stocks (N) And the value K for which he wishes to find the stock price, respectively. The second line consists of N space-separated integers – stock1, stock2, ……, stock N  
representing the relative stock prices of the selected stocks.

Output  
Print an integer representing the Kth smallest stock price of selected N stocks.

Constraints  
0 <valueK ≤ numOfStocks ≤ 106  
0 ≤ stocki ≤ 106  
0 ≤ i<numOfStocks

**Example**

**Input:**7 5  
9 -3 8 -6 -7 18 10

**Output:**9

Explanation:  
The sorted relative stock prices are [-7, -6, -3, 8, 9, 10, 18]  
So, the 5th smallest stock price is 9.

**Wipro 2022**

In a science research lab, combining two nuclear chemicals produces a maximum energy that is the product of the energy of the two chemicals. The energy values of the chemicals can be negative or positive. The scientist wishes to calculate the sum of the maximized energies of the two elements when the reaction happens. Write an algorithm to find the total energy produced by the chemicals when the reaction happens.

Input  
The first line of the input consists of an integer numOfChem, representing the number of chemicals (N). The second line consists of N space-separated integers – enerp ener2, , enerN representing the energies of the chemicals.

Output  
Print an integer representing the total energy produced by the chemicals when the reaction happens.

Constraints  
0 <\_ num0fChem 106  
-106<ener<106  
0 < i<numOfChem

**Example**

**Input:**7  
9-3 8-6-7 8 10

**Output:**19

Explanation:  
NA

**Wipro 2022**

The garments company Apparel wishes to open outlets at various locations. The company shortlisted several plots in these locations and wishes to select only plots that are square- shaped. Write an algorithm to help Apparel find the number of plots that it can select for its outlets.

Input  
The first line of the input consists of an integer num0fMots, representing the number of plots shortlisted by the company for outlets (N). The second line consists of N space-separated integers – areal, areal, ….., areaN representing the area of the N plots selected for outlets.

Output  
Print an integer representing the number of plots that will be selected for outlets.

Constraints:  
0 < num0fPlots < 106  
0 < area < 106  
0 < i < num0fPlots

**Example**

**Input:**8  
79 77 54 81 48 34 25 16

**Output:**3

**Explanation:**The areas that are in square form are 81, 25 and 16. So, the output is 3.

**Students ID’s Wipro 2022**

Students in a class have been assigned a unique ID. As part of a quiz competition, the class teacher wishes to form two different groups from the N number of students who are participating the quiz. All participants are currently sitting a random manner, but teacher wishes all of them to sit according their ID’s. Two groups will be formed in such a way that students whose seat number in an odd number will be the first group and students whose seat number is an even number will be in the second group.

Write an algorithm to find the list of which students IDs should be in the first group, followed by the student ID’s which should be in the second group as per the teacher’s instructions.

Input:

First line n denotes number of students

Second line n elements representing students IDs for all the participants.

Output:

Print N space separated integers representing the students IDs of first group followed by the student’s IDs of the second group.

Note:

Students sit according to their IDs starting from seat number 1.

**Example:**

**Input:**

6

6 9 10 4 2 11

**Output:**

2 6 10 4 9 11

**Explanation:**

Step 1: Students should sit according to their IDs. So we get {2,4,6,9,10,11}

Step 2: Students with an odd numbered seat

**TCS Ninja 2022**

A chocolate factory is packing chocolates into the packets. The chocolate packets here represent an array arrt of N number of integer values. The task is to find the empty packets(0) of chocolate and push it to the end of the conveyor belt(array).

For Example:

N=7 and arr = [4,5,0,1.9,0,5,0].

There are 3 empty packets in the given set. These 3 empty packets represented as O should be pushed towards the end of the array

**Example 1:**

**Input:**

7  - Value of N

[4,5,0,1,9,0,5] - Element of arr[O] to arr[N-1],While input each element is separated by newline

**Output:**

4 5 1 9 5 0 0

**Example 2:**

**Input:**

6

— Value of N.

[6,0,1,8,0,2] - Element of arr[0] to arr[N-1], While input each element is separated by newline

**Output:**

6 1 8 2 0 0

**TCS Ninja 2022**

Airport security officials have confiscated several item of the passengers at the security check point. All the items have been dumped into a huge box (array). Each item possesses a certain amount of risk[0,1,2]. Here, the risk severity of the items represent an array[] of N number of integer values. The task here is to sort the items based on their levels of risk in the array. The risk values range from 0 to 2.

**Example :**

**Input :**

7  -> Value of N

[1,0,2,0,1,0,2]-> Element of arr[0] to arr[N-1], while input each element is separated by new line.

**Output :**

0 0 0 1 1 2 2  -> Element after sorting based on risk severity

**Example 2:**

**input : 10  -> Value of N**

[2,1,0,2,1,0,0,1,2,0] -> Element of arr[0] to arr[N-1], while input each element is separated by a new line.

**Output :**

0 0 0 0 1 1 1 2 2 2  ->Elements after sorting based on risk severity.

**Explanation:**

In the above example, the input is an array of size N consisting of only 0’s, 1’s and 2s. The output is a sorted array from 0 to 2 based on risk severity.

**TCS Ninja 2022**

A party has been organised on cruise. The party is organised for a limited time(T). The number of guests entering (E[i]) and leaving (L[i]) the party at every hour is represented as elements of the array. The task is to find the maximum number of guests present on the cruise at any given instance within T hours.

**Example 1:**

**Input :**

5    -> Value of T

[7,0,5,1,3]  -> E[], Element of E[0] to E[N-1], where input each element is separated by new line

[1,2,1,3,4]   -> L[], Element of L[0] to L[N-1], while input each element is separate by new line.

**Output :**

8     -> Maximum number of guests on cruise at an instance.

**Explanation:**

1st hour:

Entry : 7 Exit: 1

No. of guests on ship : 6

2nd hour :

Entry : 0 Exit : 2

No. of guests on ship : 6-2=4

Hour 3:

Entry: 5 Exit: 1

No. of guests on ship : 4+5-1=8

Hour 4:

Entry : 1 Exit : 3

No. of guests on ship : 8+1-3=6

Hour 5:

Entry : 3 Exit: 4

No. of guests on ship: 6+3-4=5

Hence, the maximum number of guests within 5 hours is 8.

**Example 2:**

**Input:**

4  -> Value of T

[3,5,2,0]   -> E[], Element of E[0] to E[N-1], where input each element is separated by new line.

[0,2,4,4]    -> L[], Element of L[0] to L[N-1], while input each element in separated by new line

**Output:**

6

Cruise at an instance

**Explanation:**

Hour 1:

Entry: 3 Exit: 0

No. of guests on ship: 3

Hour 2:

Entry : 5 Exit : 2

No. of guest on ship: 3+5-2=6

Hour 3:

Entry : 2 Exit: 4

No. of guests on ship: 6+2-4= 4

Hour 4:

Entry: 0  Exit : 4

No. of guests on ship : 4+0-4=0

Hence, the maximum number of guests within 5 hours is 6.

The input format for testing

The candidate has to write the code to accept 3 input.

First input- Accept  value for number of T(Positive integer number)

Second input- Accept T number of values, where each value is separated by a new line.

Third input- Accept T number of values, where each value is separated by a new line.

The output format for testing

The output should be a positive integer number or a message as given in the problem statement(Check the output in Example 1 and Example 2)

Constraints:

1<=T<=25

0<= E[i] <=500

0<= L[i] <=500