Problem A. 72477. Oddlover

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which outputs all odd elements of array.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Print all odd elements.

Examples

standard input	standard output
3 4 7 6	7
5 4 4 6 9 5	9 5
5 17 13 15 25 2	17 13 15 25
5 13 2 5 7 17	13 5 7 17
4 20 8 18 23	23

Problem B. 72485. Positive numbers

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which outputs count of positive numbers in array.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($-10^9 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Single integer, positive numbers count.

Examples

standard input	standard output
3 -8 -14 2	1
1 14	1
4 8 -13 -9 7	2
2 8 -2	1
3 -3 -12 -15	0

Problem C. 72568. Maxmimum in array

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which outputs maximum in array.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($-10^9 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Single integer, maximum in array.

Examples

standard input	standard output
4 2 7 3 3	7
1 3	3
3 -1 9 5	9
4 -10 -2 -5 -8	-2
2 1 8	8

Problem D. 72569. Position of maximum

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which finds position of maximum element of array. If maximums is two or more you should output first position.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($-10^9 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Single integer, position of maximum in array.

Examples

standard input	standard output
4 2 7 3 3	2
1 3	1
3 -1 9 5	2
4 -10 -2 -5 -8	2
2 1 8	2

Problem E. 72763. Sum of array

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which finds sum of all elements.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($-10^9 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Single number, sum of elements.

Examples

standard input	standard output
4 2 7 3 3	15
1 3	3
3 -1 9 5	13
4 -10 -2 -5 -8	-25
2 1 8	9

Note

Sum can be big number use your mind.)

Problem F. 72768. Reverse

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Print all array in reverse order.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($-10^9 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Reversed array.

Examples

standard input	standard output
4 -13 5 -7 -15	-15 -7 5 -13
5 -1 -2 6 14 11	11 14 6 -2 -1
2 8 14	14 8
5 9 1 -14 13 -8	-8 13 -14 1 9
5 -11 -13 14 -2 7	7 -2 14 -13 -11

Problem G. 72780. MaxToMin

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write a program, which will change all maximal elements to minimal elements of the array. Look to sample to better understand the conditions.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Array with changed elements.

Examples

standard input	standard output
3 9 5 5	5 5 5
4 1 4 14 6	1 4 1 6
5 3 1 2 2 5	3 1 2 2 1
5 1 7 6 15 5	1 7 6 1 5
3 1 14 7	1 1 7

Problem H. 72783. Sum l...r

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write program, which will get sum of elements a[i], where i ($l \leqslant i \leqslant r$).

Input

The first line contains three integers n, l, r, ($1 \leqslant n \leqslant 10^5, 1 \leqslant l \leqslant r \leqslant n$) — array size and integrals. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Sum of elements.

Examples

standard input	standard output
1 1 1 12	12
2 2 2 12 15	15
5 4 5 7 5 8 11 7	18
3 3 3 15 13 5	5
5 3 5 15 12 13 10 3	26

Problem I. 72871. Reverse elements on l...r

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array consisting of integers. Write program, which will reverse elements in interval l, r.

Input

The first line contains three integers n, l, r, ($1 \leqslant n \leqslant 10^5, 1 \leqslant l \leqslant r \leqslant n$) — array size and integrals. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Array with changed elements.

Examples

standard input	standard output
5 4 5 2 8 10 5 12	2 8 10 12 5
6 4 6 8 12 8 12 2 2	8 12 8 2 2 12
6 4 5 12 13 15 5 12 13	12 13 15 12 5 13
9 8 9 5 12 10 11 14 3 14 1 11	5 12 10 11 14 3 14 11 1
5 1 5 11 2 13 9 1	1 9 13 2 11

Problem J. 73239. Upper bound -1?

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given a sorted array and a target value, return the index if the target is found. If not, return the index where it would be if it were inserted in order.

You may assume no duplicates in the array.

Input

The first line contains two integers n, m ($1 \leqslant n \leqslant 10^5, 1 \leqslant m \leqslant 10^9$) — array size and target value. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^9$) — elements of array.

Output

Single integer, answer of problem.

Examples

standard input	standard output
5 15 1 3 5 12 14	5
2 13 6 12	2
2 12 7 11	2
5 12 1 6 7 12 13	4
3 9 7 10 11	1

Problem K. 73242. Duplicates

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given a sorted array, write a program which will delete all duplicates of elements and just save one of them.

Input

The first line contains one integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^5$) — elements of array.

Output

Array of the unique and sorted elements

Examples

standard input	standard output
3 1 1 4	1 4
2 1 5	1 5
5 1 2 3 4 5	1 2 3 4 5
3 2 3 4	2 3 4
3 1 4 4	1 4

Problem L. 73247. Merge two arrays

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given two sorted integer arrays a and b, merge a into b as one sorted array.

Input

The first line contains one integer n ($1 \leqslant n \leqslant 10^5$) — a size. The second line contains n integers a_i ($1 \leqslant a_i \leqslant 10^5$) — elements of array. The third line contains one integer m ($1 \leqslant m \leqslant 10^5$) — b size. The next line contains m integers b_i ($1 \leqslant b_i \leqslant 10^5$) — elements of array.

Output

Array B into sorted order.

Examples

standard input	standard output
5 4 5 6 7 10 5 2 4 6 7 8	2 4 4 5 6 6 7 7 8 10
3 1 4 7 1 6	1 4 6 7
4 2 5 7 8 3 2 4 9	2 2 4 5 7 8 9
2 3 10 4 1 3 6 8	1 3 3 6 8 10
1 4 4 1 1 5 6	1 1 4 5 6

Problem M. 73257. Infinite?

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

You are given an array, find the sum of all elements. But you don't know size of the array.

Input

In the first line elements of array a_i ($1 \leqslant a_i \leqslant 10^5$).

Output

Sum of all elements.

Examples

standard input	standard output
50 18 81	149
27 12	39
16 24 7 72	119
10 66 91	167
34 61 90 24 44 46 3 73 37 34 4 7 14 76 20 48 58 80 17 71	841

Problem N. 73261. Square

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array, output the square value of each element.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^5$) — array size. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^4$) — elements of array.

Output

Changed array.

Examples

standard input	standard output
5 6 7 15 6 11	36 49 225 36 121
4 7 14 9 3	49 196 81 9
5 3 4 3 13 5	9 16 9 169 25
2 3 5	9 25
3 6 12 4	36 144 16

Problem O. 73266. Sort

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given an array. Sort it. And reverse it.

Input

The first line contains integer n ($1 \leqslant n \leqslant 10^3$) — array size. The next line contains n integers a_i ($1 \leqslant a_i \leqslant 10^4$) — elements of array.

Output

Sorted array in reversed order.

Examples

standard input	standard output
9 4 11 1 7 5 1 6 10 8	11 10 8 7 6 5 4 1 1
4 10 10 11 13	13 11 10 10
6 2 15 3 13 5 13	15 13 13 5 3 2
4 3 4 3 6	6 4 3 3
3 6 3 2	6 3 2

Problem P. 73270. Is it square?

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given a single number x check is it perfect square or not? Perfect square is numbers like 4, 9, 25.

Input

Single integer x ($1 \leqslant x \leqslant 10^9$).

Output

"Yes"if is it perfect square, "No"in other case.

Examples

standard input	standard output
525	No
273	No
101	No
36	Yes
4	Yes

Problem Q. 73273. Is it Prime?

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given a single number x check if it is prime number or not. A prime number (or a prime) is a natural number greater than 1 that cannot be formed by multiplying two smaller natural numbers.

Input

Single integer x ($1 \leqslant x \leqslant 10^6$).

Output

"Yes"if it is prime. "No"in other cases

Examples

standard input	standard output
48	No
61	Yes
93	No
19	Yes
59	Yes
67	Yes