A. Summation time

Given a number N and an array A of N numbers.
Print the absolute summation of these numbers.
absolute value : means to remove any negative sign in front of a number .
EX : |-5| = 5 , |7| = 7
Input First line contains a number N ($1 \leq N \leq 105$) number of elements. Second line contains N numbers ($-109 \leq Ai \leq 109$).
Output Print the absolute summation of these numbers.

Examples
Input
4
7 2 1 3
Output
13
Input
3
-1 2 -3
Output
2
Note Second Example : -1 + 2 + -3 = -2 and it absolute is 2 so the answer is 2.

B. Searching

Given a number N and an array A of N numbers. Determine if the number X exists in array A or not and print its position (0-index).
Note: X may be found once or more than once and may not be found.

Input First line contains a number N ($1 \le N \le 105$) number of elements. Second line contains N numbers ($0 \le Ai \le 109$). Third line contains a number X ($0 \le X \le 109$).

Output Print the position of X in the first time you find it. If it doesn't exist print -1.

Examples

Input
3
3 0 1
0
Output
1
Input
5
1 3 0 4 5
10
Output
-1
Input
4
2 3 2 1
2
Output
0

C. Replacement

Given a number N and an array A of N numbers. Print the array after doing the following operations:
Replace every positive number by 1.
Replace every negative number by 2.

Input First line contains a number N ($2 \leq N \leq 1000$) number of elements. Second line contains N numbers ($-105 \leq Ai \leq 105$).

Output Print the array after the replacement and it's values separated by space.

Example
Input
5
1 -2 0 3 4
Output
1 2 0 1 1

D.Positions in array

Given a number N and an array A of N numbers. Print all array positions that store a number less than or equal to 10 and the number stored in that position.

Input First line contains a number N ($2 \leq N \leq 1000$) number of elements. Second line contains N numbers ($-105 \leq Ai \leq 105$).

it's guaranteed that there is at least one number in array less than or equal to 10.
Output For each number in the array that is equal to or less than 10 print a single line contains "A[i] = X", where i is the position in the array and X is the number stored in the position.

Example
Input
5
1 2 100 0 30
Output
A[0] = 1
A[1] = 2
A[3] = 0

Problem E - Array Editing

You are given a number N and an array A of N integers. Your task is to perform the following operations: (1) Remove all elements that are greater than 100 from the array. (2) Then, extract a sub-array that contains the first K remaining elements after removal. (3) Print the final sub-array.

Input: The first line contains two integers N and K ($2 \le N \le 1000$, $1 \le K \le N$). The second line contains N integers $A_1, A_2, ..., A$□ ($-10^5 \le A_i \le 10^5$).

Output: Print the final sub-array after removing all values greater than 100, and taking the first K elements. The output should be values separated by spaces.

Example

Input

7 3

5 200 15 300 8 100 55

Output

5 15 8

Explanation: First, we remove the numbers greater than 100 → [5, 15, 8, 100, 55]. Then, take the first 3 elements → [5, 15, 8]. So the output is: 5 15 8.

Problem F - Filter and Modify

You are given a number N and an array A of N integers. Your task is to perform the following operations: (1) Keep only the even numbers in the array. (2) Then, multiply each remaining number by 2. (3) Finally, print the modified array.

Input: The first line contains an integer N ($2 \le N \le 1000$). The second line contains N integers $A_1, A_2, ..., A$□ ($-10^5 \le A_i \le 10^5$).

Output: Print the modified array after filtering even numbers and doubling them. The output should be values separated by spaces.

Example

Input

6

3 4 7 10 9 2

Output

8 20 4

Explanation: First, filter the even numbers → [4, 10, 2]. Then, multiply each by 2 → [8, 20, 4]. So the output is: `8 20 4`.