Problem A. 76946.Points

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

You are given n points on the euclidean plane.Sort them firstly by x coordinate,and if x's of some two points are equal sort them by y coordinate.

Input

First line contains one integer number n - number of points.(1<=n<=2000) Next n lines contain points, every point has x and y coordinate.(abs(x),abs(y) <=1000)

Output

Output n points in sorting order

Example

standard input	standard output
4 1 4 1 6 2 3 3 -1	1 4 1 6 2 3 3 -1

Problem B. 76945.Sorting again

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

You have an array which consists of n integer numbers. Your task is to output all even numbers in decreasing order and then all odd numbers in increasing order.

Input

In first line you have n - size of the array.(1<=n<=20) Second line contains elements of the array.

Output

Print even numbers in decreasing order then odd numbers in increasing order.

Example

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

Problem C. 76931.At least 2 times

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

Given n positive integer numbers.Print how many numbers occurs at least 2 times in this array.

Input

First line of input contains one integer n. Second line of input contains n integer numbers less than 1000000000.(1 <= n <= 1000)

Output

Print answer

Examples

standard input	standard output
4 1 2 2 3	1
3 2 2 2	1
1 2	0

Problem D. 76925.Number of entries

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

Given n integer numbers and the number k. You need to count how many times k occurs in the given array.

Input

First line of input contains two integer n and k Second line of input contains n integer numbers.(1 <= n <= 1000 , abs(k) <= 1000000000, abs(any number in array) <= 1000000000)

Output

Print only one number - how many times k occurs in the given array.

Examples

standard input	standard output
1 1 1	1
4 2 1 2 2 4	2

Problem E. 76940.Contacts

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

Sanzhar have n telephone numbers in his contact list. Your task is to find how many numbers occurs in contact list exactly three times.

Input

First line contains one integer number n.(1<=n<=1000) Next n lines contains telephone numbers. Each telephone number has 14 symbols

Output

Print the number of telephone numbers which occurs exactly three times in Sanzhar's contact list.

Example

standard input	standard output
3 +7707707707707 +7707707707707 +7707707707707	1

Problem F. 76937.Bracket sequence

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

You are given a bracket sequence. Your task is to identify whether this bracket sequence is correct or not. Note that a bracket sequence is correct if it is possible to get a correct mathematical expression by adding "+s and "1s to it. For example, sequences "(())() "()"and "((()(())))"are correct, while ")("(()"and "(()))("are not.

Input

You have one string.

Output

Output "YES"if this bracket sequence is correct, otherwise print "NO".

Examples

standard input	standard output
(()())	YES
())(	NO
((()	NO

Problem G. 76939.Queue

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

Aidar in queue order puts zeros and ones in a row. He hates ones, and if two ones are located beside then he removes them. You have the order in which Aidar is going to put numbers.Your task is to find the final row

Input

First line contains one string which consists of ones and zeros.

Output

Print the final string after Aidar's manipulations.

Examples

standard input	standard output
0111	01
1011	10

Problem H. 76941.Strings

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

You have array which contains n strings, for each string S in our array output first entry of S in the given array(in index).

Input

First line contains one integer number n -size of the array, and next n lines contain n strings of the array.(1<=n<=20)

Output

For each string S output first entry of S in the given array.(Print strings in lexicographical order)

Example

standard input	standard output
3 ab ab cd	ab 1 cd 3

Problem I. 76947.Registration

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

Students of first course want to registrate on ejudge.You have login requests.If login is not registered yet print new user added, if this login already exist print user already exists.

Input

You have n - number of requests.(1 <= n <= 2000) Next n lines contain string s, where s - login

Output

Print answers for every request.

Example

standard input	standard output
5 Alikhan Aida Aida Meirkhan Alikhan	new user added new user added user already exists new user added user already exists

Problem J. 76938.Aida and korean serials

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

Aida is a very good girl, but there is one thing, she is fond of doramas (Korean TV serials). Every day she watches several episodes of some dorama. For each dorama, print how many episodes of this dorama in total she watched in n days. Output the doramas and the number of episodes (print doramas in lexicographical order)

Input

First line contains the number of days n <= 100 Next n lines contain one string s and one integer number k, where s - name of the dorama (s.size() < 30) and k - number of episodes.

Output

In each line print name of the dorama and numbers of episodes(print doramas in lexicographically order)

Example

standard input	standard output
5 HundredMillionStarsFromTheSky 10 WhereStarsLand 14 WhereStarsLand 4 TheThirdCharm 100 HusbandForHundredDays 1	HundredMillionStarsFromTheSky 10 HusbandForHundredDays 1 TheThirdCharm 100 WhereStarsLand 18

Problem K. 76953.Histogram

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

A histogram is a polygon composed of a sequence of rectangles aligned at a common base line. The rectangles have equal widths but may have different heights.Note that the order of the rectangles, i.e., their heights, is important.Calculate the area of the largest rectangle in a histogram that is aligned at the common base line, too.

Input

First line contains an integer N (1 <= N <= 100000) denoting the number of rectangles. The next line contains N space separated positive integers (<= 30000) denoting the heights.

Output

print the area of the largest rectangle

Example

standard input	standard output
7 2 1 4 5 1 3 3	8

Problem L. 76952.Specific sorting

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

Given an array of pair<int, int>. It is required to display the indices of this array in the order of non-decreasing values of first + second in elements with these indices.

Input

First line contains n - the number of elements of the array.(1 <= n <= 500) Next n lines contains two numbers, elements of the array.

Example

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

Problem M. 76951.Queue2

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

We have a queue of boys who want to buy tickets to their girlfriends to the movie. We are given n actions of two types. The first type is new boy with a given name gets to the end of the queue, the second type is first boy in queue buys a ticket and leaves the queue. After each action, you must answer who is first in the queue right now, or show that the queue is empty and print "queue is empty"

Input

First line contains n. (1 <= n <= 500) Next n lines contains actions. First number of each line contains type(1 or 2) of action. If it is first type in this line you will also have the boy's name.

Output

print answer after every action

Example

standard input	standard output
3 1 Temir 2 1 Aidos	Temir queue is empty Aidos

Problem N. 76950.Almat and xor

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

Almat has an array A of n integers. Almat wants to find the number of pairs of indices (i, j) such that i < j <= n, where (A[i] xor A[j]) is also in initially given array.

Input

The first line of the input contains integer n. (1 <= n <= 500) Second line contains elements of the array. (0 <= A[i] < 1000000000 for every i, 1 <= i <= n)

Output

print answer

Example

standard input	standard output
4 1 2 3 4	3

Problem O. 76949.Registration2

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

Students of KBTU want to registrate in ejudge. You have logins and passwords of n students. Then we have m requsts. Every request have login and password, if this login does not exist print "login error else if login exist and password is not correct print "password error else print "correct password";

Input

In first line you have two numbers n - number of students,then m - number of requests. (1 <= n,m <= 2000) Then you have n logins and passwords for each students. Lastly you have m requests(login and password which we need to check)

Output

Print answer for every request

Example

standard input	standard output
2 Alikhan lalala Slava kpss 4 Alikhan lala Meirhan lalala Alikhan lalala Slava Sonya	password error login error correct password password error