Problem A. 77180. Sorting

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

Write a program which sorts an array of elements. The size of an array is not given.

Input

Input contains some elements and ends with 0, it means that if 0 appears in array you should end your program. Look for examples.

Output

Output sorted array of elements.

Examples

standard input	standard output
2 3 4 5 0	2 3 4 5
94 53 -2 34 0 56	-2 34 53 94

Note

Remember! You should write using vectors.

Problem B. 77425. From Left to Right

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

You are given a single integer number N. Print all its digits one by one, in the usual order, seperated by space.

Input

Input contains an integer N;

Output

Output all its digits separated by space.

Example

standard input	standard output
123	1 2 3

Note

While solving this problem, you cannot use strings, lists, arrays. Only recursion is allowed.

Problem C. 76434.Uppercase

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

Given a string s. Find it's first uppercase letter using recursion. If you can't find it print -1.

Input

In the first line of the input given s.

Output

Print first uppercase letter.

Example

standard input	standard output
KBTUthebest	K

Problem D. 77044. Attendance

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

Zharaskhan is a teacher. He teaches Sociology. In this lesson n students attended and their names are unique. He has a problem with memorizing names of people and forgets attendance list. He asked m unique names which he remembers. Print the name of people who attended this lesson in order of which Zharaskhan asked.

Input

In the first line given ($1 \leq n \leq 10000$), number of attended students. The next n lines given names of students. It is guaranteed that their names are unique. In the next line given ($1 \leq m \leq 10000$), the number of names which Zharaskhan asked. The next m lines given names of students. It is guaranteed these names are also unique.

Output

For each Zharaskhan's query, print name from query if and only if person with this name attended the lesson.

Example

standard input	standard output
5 Aida Almat Temirulan Albert Ulzhan 3 Aibek Almat Aida	Almat Aida

Problem E. 77037.Two sequences

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

Write a program for two sequences, that consist of natural numbers which will determine which numbers occur in each of the sequences, and which of the numbers from 1 to n — do not occur in any of them.

Input

In the first line given n, ($1 \leq n \leq 10000$). In the second line given elements of the first sequence a, ($1 \leq a_i \leq 1000$)and ends with 0. In the third line given elements of the second sequence b, ($1 \leq b_i \leq 1000$ and ends with 0. Look for examples.

Output

In the first line output numbers in increasing order without repetitions, which occur in each of the sequences. In the second line output numbers from 1 to n in increasing order, which do not occur in any of two sequences.

Example

standard input	standard output
7 3 2 4 5 2 0 2 7 4 3 4 2 0	2 3 4 1 6

Problem F. 77040. Winner

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

Bekzat is a jury of olympiad. In order to define winners, he wants to determine a winner of this olympiad. But he hasn't time and needs your help. You have to find a winner and print it. If there are several winners print latest encountered one. Look at an example.

Input

In the first line given ($1 \leq n \leq 1000$), number of participants. The next n lines given surnames, names of students and their score.

Output

Print winner's surname, name and score.

Example

standard input	standard output
6 Sergeev Petr 30 Petrov Vasya 70 Kim Che Ren 65 Romanov Andrey 65 Ivanov Sergey 70 KIm Sergey 50	Ivanov Sergey 70

Problem G. 77041. Cities

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

Ulzhan is a very curious girl. She has a list of countries and list of cities of each country. Her task is determining for each city country, where is located. But Ulzhan doesn't know geography and needs your help.

Input

In the first line of the input givens an integers n, $(1 \leq n \leq 1000)$ The next n lines given the name of country, count of cities k, $(1 \leq k \leq 10)$ and cities of this country. It is guaranteed that their names are unique. In the next line given m, $(1 \leq m \leq 100)$, the number of names of cities which Ulzhan asked. The next m lines given names of cities.

Output

For each Ulzhan's query print country name, if we know in which country is located. Otherwise, print "Unknown".

Example

standard input	standard output
3 Kazakhstan 3 Zhanauzen Aktau Atyrau USA 3 San-Francisco Berkly San-Hose England 1 London 4 Zhanauzen San-Hose Aktau Moskow	4 Kazakhstan USA Kazakhstan Unknown

Problem H. 77042. Reading

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

Alan really likes k number and puppies. The zoo shop has n puppies and Alan wants to buy a puppy with k - th largest ID. Let's help him. Solve this problem by using a vector.

Input

In the first line of the input givens two integers n, a total number of pupills, and k, $(1 \leq k \leq n \leq 1000)$ — In the second line given ID numbers of pupils, $(1 \leq ID \leq 10000)$.

Output

Output k - th largest element in an unsorted array.

Example

standard input	standard output
6 3 1 3 4 5 6 8	5

Problem I. 77043. Online counter

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

Given a text. For each word of this text print the number of times it has occurred in this text before.

Input

Input is a text.

Output

Output answer to the task.

Examples

standard input	standard output
one two one two three	0 0 1 1 0
She sells sea shells on the sea shore;	0 0 0 0 0 0 1 0

Problem J. 77336.Queue

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

Imagine you have a queue. You have N people coming one by one and entering the queue from the beginning or from the end.

Input

In the first line of the input, you are given an integer number N the number of people. In the next N lines, you are given a string s the name of a person and a number q if q is 1 the person stands at the beginning of the queue otherwise at the end of the queue.

Output

Print the queue after all people come.

Examples

standard input	standard output
3 qwe 1 asd 0 zxc 1	zxc qwe asd
6 a 0 b 0 a 1 a 1 c 0 d 0	a a a b c d