

Problem A. Map

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

You are given n number of students and their results in final exam. You need to find who pass the exam and who failed. Who gets less than average points will fail. $\text{Average} = \text{sum of all students points} / \text{number of students}$.

Input

First line contains an integer n . ($1 \leq n \leq 100$). Then given students names(unique) and their points (points in double).

Output

Print each student name and result of his exam (sorting by their names)

Examples

standard input	standard output
3 Arman 5 Dastan 2 Erasy1 8	Arman passed Dastan failed Erasy1 passed
2 Dastan 5 Arman 5	Arman passed Dastan passed

Problem B. Sorting

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

You are given n students with their name, surname, variant of exam paper, and points. You need to sort by points and make ranking table.

Input

First line one integer number of students($1 \leq n \leq 100$). Second line two strings(name,surname),one char(variant),one integer(points).

Output

ranking

Example

standard input	standard output
3 Arman Kyrykbayev B 2 Sultan S A 8 Daniyar Ospan D 3	1) Sultan S A 8 2) Daniyar Ospan D 3 3) Arman Kyrykbayev B 2

Note

Hint: You can use vector

Problem C. Display Statistics

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

There are N students in one group. After setting the points, professor wanted to see the number of students who received each point.

Input

First line of input contains single number N ($1 \leq N \leq 100$) the number of students. Each next N lines contains string S and integer P ($1 \leq P \leq 100$): name and points student received.

Output

Print number of students who received each point in ascending order of points.

Example

standard input	standard output
10	1: 1
Erkebulan 95	10: 2
Aziza 50	25: 1
Bekzat 95	47: 1
Asanali 47	50: 1
Nugman 75	75: 1
Azat 1	95: 2
Amina 100	100: 1
Dana 10	
Darkhan 10	
Aygul 25	

Problem D. Simple Deque

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

Your task is to implement some simple Deque. As you know Deque has many useful functions, and in this task you will work with them. You are given some number N , amount of queries that you have to do, and then N queries, each in single line.

The query can be of the following types :

pushfront X - to add some number X at the beginning of the Deque, and output *OK*.

pushback X - to add some number X at the end of the Deque, and output *OK*.

popfront - to output the first element of the Deque, and then delete it. If Deque is empty just output *ERROR*.

popback - to output the last element of the Deque, and then delete it. If Deque is empty just output *ERROR*.

front - to output the first element of the Deque. If Deque is empty just output *ERROR*.

back - to output the last element of the Deque. If Deque is empty just output *ERROR*.

size - to output the size of the Deque.

clear - to delete all the elements of the Deque, and then output *OK*.

Input

The first line contains integer N ($1 \leq N \leq 10^4$). And then, the following N lines contain queries.

Output

N lines, in each line the output to the given query.

Examples

standard input	standard output
5 pushfront 1 pushback 1 popback popfront size	OK OK 1 1 0
5 pushfront 1 pushback 2 back popback back	OK OK 2 2 1
5 back popback pushback 2 front size	ERROR ERROR OK 2 1

Problem E. Set

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

You have given two arrays, find different numbers in the arrays and print them by ascending order.

Input

The first line contains a natural number - the number of elements in the first set. The second line lists these elements separated by spaces. The third line indicates the number of elements in the second set. The fourth line lists the elements of the second set.

Output

Print the different numbers of arrays by ascending order.

Example

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