Problem A. Asman + file = Asle

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

Bobur agay said to come up with a problem for freshmen on a file. But Asman does not know at all how to compose tasks at the test site. Asman decided to try to come up with a problem for a file. Asman's task is to display the number N. Where N is – how many lines are in the file. Moreover, an empty string is also a string if there are alphabetic strings before and after it. Help Asman to understand the given task?

Input

The file 'input.txt' is given.

Output

Output the answer in 'output.txt'. Output 'No' if the file is empty, otherwise 'Good', and N in the next line.

Examples

input.txt	output.txt
asm	Good 1
di era	Good 2

Note

need to use file functions

Problem B. Replay

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

You are given the list of developer IDs, who finished their tasks for one day. Director wants to give a reward to the "Cool guy of the day"every day. "Cool guy of the day a developer who completed the most tasks. Help to Director on this task.

Input

Given a list of developer IDs.

Output

Print out the ID of "Cool guy of the day". If there are many winners, print ID of the first developer from given list.

Examples

standard input	standard output
1 2 3 3 3 4	3
-1 2 3 -1	-1
10 10 20 230 20 20	20

Problem C. Free cabinet

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

Askar Dzhumadildaev wants to find a cabinet for midterm exam. However, he remembers how it was difficult to find cabinet that will be empty at the given day (once, he had to postpone midterm until 14-th week!). So he asked you to collect the data about cabinets that will be busy on the midterm day. Knowing the range of numbers of cabinets in the KBTU and busy cabinets, you should provide the sorted list of free cabinets to the professor.

Input

The first line of input contains two integers f and l ($1 \leq f < l \leq 5000$) - the number of first and the last cabinet in the KBTU. The next line contains space separated numbers of busy cabinets.

Output

You should print numbers of free cabinets in sorted order. Separate numbers by space.

Examples

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

Problem D. God of Calamity

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

Yatogami is a god of calamity who wants to become a god of happiness. To be god of happiness, he needs to know whether the word contains a number of letters equal to powers of two, then this word will be "happiness". If the word does not correspond to it, then the word becomes - "calamity". Help him determine what is happiness and what is calamity.

Input

First line - number of strings Next n lines, strings with words

Output

For each word, determine is it happiness - "H"or calamity - "C"

Examples

standard input	standard output
5 To be, or not to be: that is the question: Whether 'tis nobler in the mind to suffer The slings and arrows of outrageous fortune, Or to take arms against a sea of troubles, And by opposing end them?	H H H C H H H H C H C C H C H H C C C C C H C C H H H C H C H H C H H C H
2 2b or not 2b t1a1 is th3 que5tion: Whe1her 't1s n0bl3r 1n th3 m1nd t0 suff39	H H C H H H H C C H H H H C H H

Problem E. Damira and requisites

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

Damira wants to stage a scene in the theater. To do this, she needs requisites, in large quantities. She asked the members of the theater club to bring the items. But it is difficult to bring everything at once, so some people brought the items several times. We need to find out who brought what, in general.

Input

First line - number of iterations Next lines: Name of member, and his items

Output

In insertion order, name of member, and his items. Check format in output examples

Examples

standard input	standard output
4 Damira Chair Scarf Spoon Alexey Something Fork Bottle Damira Pillow Towel Mark Drinks Cakes Shoes	Damira: Chair, Scarf, Spoon, Pillow, Towel Alexey: Something, Fork, Bottle Mark: Drinks, Cakes, Shoes
4 Brian Item1 Item2 Item3 Brian Item4 Christian SomethingCool Brian Item5 Item6	Brian: Item1, Item2, Item3, Item4, Item5, Item6 Christian: SomethingCool

Problem F. Successful String

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

In the given string check is it successful or not. The string is successful if its first word is `PP2` and the last word is `midterm`. If the string is successful print `Success`, otherwise print `No`. The string can be lowercase or uppercase.

Input

The only line of input contains a string.

Output

Print "Success"if it successful, otherwise print "No"

Examples

standard input	standard output
PP2, good luck on the midterm	Success
PP2 hard midka	No
PP2 good midterm	Success

Note

You need to use RegEx in this problem.