April Fools Day Contest 2021

A. Is it rated - 2

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Interaction

This is an interactive problem. You need to read participants' queries from standard input and print your responses to standard output. You don't know the number of queries upfront, so you'll need to process them as you get them; you'll know you're done once you reach the end of the file.

In each query, you will be asked the question, written in one line. You have to answer it correctly, patiently and without any display of emotions. Your response is case-insensitive.

Please make sure to use the stream flushing operation after each response in order not to leave part of your output in some buffer.

Example

input
Is it rated? Is it rated? Is it rated?
output
NO NO NO

B. DMCA

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Many people are aware of DMCA – Digital Millennium Copyright Act. But another recently proposed DMCA – Digital Millennium Calculation Act – is much less known.

In this problem you need to find a root of a number according to this new DMCA law.

Input

The input contains a single integer a ($1 \le a \le 1000000$).

Output

Output the result – an integer number.

Examples

input
1
output
1

input
81
output
9

C. Fibonacci Words

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Input

The input consists of a single string of uppercase letters A-Z. The length of the string is between 1 and 10 characters, inclusive.

Output
Output "YES" or "NO".

Examples

input
HELP
output
YES

input
AID
output
NO

input
MARY
output
NO

input
ANNA
output
YES

input
MUG
output
YES

input
CUP
output
NO

input
SUM
output
YES

input
PRODUCT
output
NO

D. Xenolith? Hippodrome?

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Input
The input contains two integers N, M ($1 \leq N \leq 1024, 2 \leq M \leq 16$), separated by a single space.

Output
Output "YES" or "NO".

Examples

input
2 3
output

YES

input
3 2
output
NO

input
33 16
output
YES

input
26 5
output
NO

E. Cakewalk

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

A mouse encountered a nice big cake and decided to take a walk across it, eating the berries on top of the cake on its way. The cake is rectangular, neatly divided into squares; some of the squares have a berry in them, and some don't.

The mouse is in a bit of a hurry, though, so once she enters the cake from its northwest corner (the top left cell in the input data), she will only go east (right) or south (down), until she reaches the southeast corner (the bottom right cell). She will eat every berry in the squares she passes through, but not in the other squares.

The mouse tries to choose her path so as to maximize the number of berries consumed. However, her haste and hunger might be clouding her judgement, leading her to suboptimal decisions...

Input

The first line of input contains two integers H and W ($1 \leq H, W \leq 5$), separated by a space, — the height and the width of the cake.

The next H lines contain a string of W characters each, representing the squares of the cake in that row: '`.`' represents an empty square, and '*' represents a square with a berry.

Output

Output the number of berries the mouse will eat following her strategy.

Examples

input
4 3 *.. .*. ..* ...
output
3

input
4 4 .*.. *... ...* ..*.
output
2

input
3 4 ..** *... ....
output
1

input
5 5 ..*.. ..... **... **... **...
output
1

F. Math

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

*The two images are equivalent, feel free to use either one.

Input
The input contains a single integer a ($-100 \le a \le 100$).

Output
Output the result – an integer number.

Example

input
1
output
1

G. Encoded message

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Input
The first line of the input contains a single integer N ($1 \le N \le 24$). The next N lines contain 5 space-separated integers each. The first three integers will be between 0 and 2, inclusive. The last two integers will be between 0 and 3, inclusive. The sum of the first three integers will be equal to the sum of the last two integers.

Output
Output the result – a string of lowercase English letters.

Examples

input
1 1 0 0 1 0
output
a

input
10 2 0 0 1 1 1 1 1 2 1 2 1 0 1 2 1 1 0 1 1 2 1 0 2 1 1 1 1 2 1 1 2 1 3 1 2 0 0 1 1 1 1 0 1 1 1 1 2 2 2
output

H. L BREAK into program

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Hack the program and get the password hidden in it.

Input
This program has only one test, and it's empty (it doesn't give your program anything to read).

Output
Output the password recovered from the program. The password is case sensitive.

I. Mysterious language again, seriously?

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a mysterious language (codenamed "Secret 2021") available in "Custom Test" tab. Find out what this language is and write a program which outputs its name. Note that the program must be written in this language.

Input
This program has only one test, and it's empty (it doesn't give your program anything to read).

Output
Output the name of the mysterious language.