

Problem A. Chocolate

Input file: `standard input`
Output file: `standard output`
Time limit: 2 seconds
Memory limit: 64 megabytes

Required to determine whether it is possible to break off k lobules from a chocolate with the size of $n \times m$ lobules, if it is allowed to make one break in a straight line between the lobules (that is, break the chocolate into two rectangles).

Input

Input 3 numbers: n, m and k ; k not equal to $n \times m$.

It is guaranteed that the number of lobules in the chocolate does not exceed 30,000.

Output

The program should output *YES* if it is possible to break the specified number of segments, otherwise output *NO*.

Examples

standard input	standard output
3 2 4	YES
3 2 1	NO

Problem B. Attendance pliz

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

Askar Agay, due to the fact that few students remain in practice, decided to take an attendance. He has a list of students who came to practice for November. Askar agay decided to add +1 points to all students who was in practice at least 3 three **different** days. Keep in mind that Askar Agay could take attendance on the same day several times!

Input

You are given list of attendance with **n** rows. Each row consist of **student name**, and **day of November**. It means student was in practice on that day.

Output

Print all students name, and if student was in practice at least 3 times print +1, otherwise print **NO BONUS**.

Examples

standard input	standard output
8 Aldiyar 2 Ermurat 2 Karina 9 Aldiyar 16 Karina 9 Karina 16 Aldiyar 23 Nadir 2	Aldiyar +1 Ermurat NO BONUS Karina NO BONUS Nadir NO BONUS
10 Gaziz 10 Azat 10 Madina 17 Madina 10 Nurzhan 23 Azat 10 Madina 3 Nurzhan 17 Azat 10 Madina 10	Azat NO BONUS Gaziz NO BONUS Madina +1 Nurzhan NO BONUS

Problem C. Validol League

Input file: `standard input`
Output file: `standard output`
Time limit: 1 second
Memory limit: 64 megabytes

There is a football tournament that is held every year in Berland. This year the final stage is going to be played between the two strongest teams of Berland — Barsenal and Arselona. To make the results of the finals fair, the organizers decided to break up the finals into two separate games: first game is held at the home stadium of Barsenal and the second game is held at the home stadium of Arselona.

The winner of the finals is defined in the following way. For each team, organizers count the number of total goals in two games. The team, who has more total goals than another is recognized as a winner.

If the total goals are equal, for each team, the organizers consider the number of away goals: goals that were scored on the pitch of an opponent. In that case, the team with more away goals than another is recognized as a winner of the tournament.

Sometimes, in Berland miracles take place. The teams can give up and announce that there is no winner in case of the equal total number of goals and the equal number of away goals.

Given the results of the two games, can you help the organizers with identifying the winner of the tournament?

Input

The first line of input contains two space-separated non-negative integers, the result of the game at the home stadium of Barsenal, a and b — goals of the Barsenal and Arselona respectively ($0 \leq a, b \leq 100$).

The second line of input contains two space-separated non-negative integers, the result of the game at the home stadium of Arselona, c and d — goals of the Arselona and Barsenal respectively ($0 \leq c, d \leq 100$).

Output

If the winner is Barsenal, print in the first line «Barsenal».

If the winner is Arselona, print in the first line «Arselona».

Otherwise, print in the first line «Friendship».

In the second line, output two-space separated integers — total goals scored by Barsenal and Arselona respectively.

Examples

standard input	standard output
2 1 0 0	Barsenal 2 1
2 1 2 1	Friendship 3 3
3 2 2 1	Arselona 4 4

Problem D. Odd Recursion

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

Write a **recursive** function to print all odd integer numbers in given range l, r .

Input

You are given l, r . $0 \leq l \leq r \leq 1000$.

Output

Print all odd numbers in given range $[l:r]$.

Examples

standard input	standard output
1 10	1 3 5 7 9
5 13	5 7 9 11 13

Note

Solve via Recursive function

Problem E. 75754. Bye-bye, F.R.I.D.A.Y. 3

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

Tony Stark on a new mission again! He has assembled a new robot who is much stronger than the previous ones.

Today Tony, after coming from his vacation, heard that Captain America is retiring. He felt very disappointed and decided to persuade Captain America to return back.

That's why he asked his new robot to find Captain America's email address. It is known that a valid email address must appear in the following format: **AAA@BBB.CCC**, where AAA, BBB, and CCC are some **non-empty** strings containing **only lowercase English letters**.

Given the email address that was provided by the new robot, your task is to validate it.

Note that any deviation violates the given format.

Input

The first line of input contains a single string s — an email address that was provided by the robot ($5 \leq |s| \leq 30$).

Output

If the given email address is valid, print «Yes».

Otherwise, print «No».

Examples

standard input	standard output
<code>captainamerica@gmail.com</code>	Yes
<code>captain.gmail@com</code>	No
<code>iamtired@kbtu.kz</code>	Yes
<code>captain@@gmail.com</code>	No
<code>getoffmetony@mail.</code>	No

Note

ATTENTION If your solution is not through the function then 0 points

Problem F. Devil and Pillars

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

Devil is a short heighted person. He is standing facing N pillars of different heights with i -th pillar having height h_i . He tries to see all the possible pillars. He wants to know that how many buildings will he be able to see in the range $[L, R]$ both inclusive.

Input

The first line contains an integer N denoting the number of pillars. Next line contains N integers denoting height of i -th pillar. Next line contains a single integer Q . Next Q lines contain pairs L and R respectively.

Output

For every Q queries print the number of buildings visible in the range $[L, R]$.

Example

standard input	standard output
7	4
5 2 3 7 9 8 11	4
4	4
0 6	2
1 5	
2 6	
3 4	

Note

If your solution is not through the function then 0 points

Problem G. Black Devil Watch

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

The devil had a watch. But one day they broke. It needs to be repaired you need to sort the time as below. the first column is hours, then minutes and seconds.

Input

Integer n, ($1 < n < 100$).

Output

print answer.

Examples

standard input	standard output
3 18 6 37 8 47 35 22 55 33	8 47 35 18 6 37 22 55 33
5 18 6 37 8 47 35 22 55 33 18 20 37 7 39 6	7 39 6 8 47 35 18 6 37 18 20 37 22 55 33

Note

You cannot use the sort function

Problem H. Palindrome

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

You are given a number n . Find whether it is palindrome or not.

Input

A single number n ($0 \leq n \leq 1000000000$).

Output

'YES' - if the number is palindrome, 'NO' otherwise.

Examples

standard input	standard output
6116	YES
155	NO
12321	YES

Note

Palindome - a word, phrase, or sequence that reads the same backwards as forwards

Problem I. Bad-seven

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

Everyone loves the number 7, but integers which when divided by 7 give the remainder of 1, 2 or 5 are considered **BAD**. You are given **l** and **r**, print all the numbers that are considered **BAD** in range [**l** : **r**] (inclusive).

Input

In single line you are given integer **l**, **r** - range.

$1 \leq l \leq r \leq 10000$.

Output

Print all bad numbers in range [**l** : **r**].

Examples

standard input	standard output
5 20	5 8 9 12 15 16 19
40 55	40 43 44 47 50 51 54

Problem J. ZA WARUDO TOKI WO TOMARE

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

DIO is fighting with JOJO. DIO wants to cast time stop, but for this DIO needs to find at least one palindrome in given string **s** by permutations of letters, help DIO, is he can cast ZA WARUDO TOKI WO TOMARE.

Input

You are given single string **s**.

Output

Print ZA WARUDO TOKI WO TOMARE, if given string could be palindrome permutation, otherwise print JOJO

Examples

standard input	standard output
jojo	ZA WARUDO TOKI WO TOMARE
jojorefer	ZA WARUDO TOKI WO TOMARE
aabc	JOJO
asdasd	ZA WARUDO TOKI WO TOMARE

Note

jojo possible palindrome -> jooj

jojorefer possible palindrome -> ejorfroje