Problem A. Asan and Usen

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

Once upon a time, two friends Asan and Usen had an argument. Asan stated that he is older than Usen. Usen did not want to admit that, so they decided to ask for your help.

Given birth dates of Asan and Usen, your task is to tell if Asan is older than his friend, Usen.

Input

The first line of input contains three space separated integers d_1 m_1 y_1 — day, month and year of Asan's birth respectively ($1 \le d_1 \le 28, 1 \le m_1 \le 12, 1995 \le y_1 \le 2005$).

The second line of input contains three space separated integers d_2 m_2 y_2 — day, month and year of Usen's birth respectively ($1 \le d_2 \le 28, 1 \le m_2 \le 12, 1995 \le y_2 \le 2005$).

Output

If Asan is older than Usen, print «Yes» (without quotes).

Otherwise, print «No» (without quotes).

Examples

standard input	standard output
25 12 2000 1 1 2001	Yes
23 9 2005 23 9 2005	No

Problem B. 74755. Compression

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

Ayan has recently discovered an operation called *compression* that is used with strings. This operation takes a string and leaves only the first occurrences of letters that are present in the string and deletes all the other later occurrences.

For example, if we apply *compression* on a string «ACABACA», after the operation we will get «ACB» because we delete all the last three «A»-s and the second «C» by leaving only unique letters.

Given a string s, Ayan asks you to find the result of applying *compression* on s.

Input

The first line of input contains a single string s containing only uppercase English letters ($1 \leq |s| \leq 1000$).

Output

Output a single string — the result of applying *compression* on s.

Examples

standard input	standard output
ACABACA	ACB
ABCABCDABCDEABCDEF	ABCDEF
INTERNALIZATION	INTERALZO
KHABIB	KHABI

Note

Attention you can not use the sorting function and unique.

Problem C. 73584. Fancy array

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

Rayan loves playing with one dimensional arrays. This time he created a new method of generating arrays.

He takes some random array, and adds 1 to the first element of the array, adds 2 to the second element, adds 3 to the third element and so on. Eventually, he ends up with adding n to the last element of the array.

You are given an array. What will be the resulting array, if we use Rayan's method to generate arrays?

Input

First line of input contains a single integer n — number of elements in the array ($1 \leq n \leq 1000$).

Second line contains n space separated integers $a_1, a_2, ..., a_n$ — elements of the array ($0 \leq a_i \leq 1000$).

Output

Output n elements separated by space — array that is generated from the given array by Rayan's method.

Examples

standard input	standard output
3 2 2 2	3 4 5
7 2 5 6 7 1 5 6	3 7 9 11 6 11 13

Problem D. 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
captainamerica@gmail.com	Yes
captain.gmail@com	No
iamtired@kbtu.kz	Yes
captain@@gmail.com	No
getoffmetony@mail.	No

Note

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

Problem E. 75044. Palindrome again

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

This task is similar to the task you have solved before (have you?).

But in this task, you have to check if the given array is *palindrome* or not. An array is *palindrome* if and only if it is same as its reversed form.

Input

The first line of input contains a single number n — the size of the array ($1 \le n \le 10^5$).

The second line of input contains n space-separated integers $a_1, a_2, ..., a_n$ — the given array ($1 \le a_i \le 10^4$).

Output

If the given array is a palindrome, print «Palindrome».

Otherwise, print «Not palindrome».

Examples

standard input	standard output
5 2 2 4 2 2	Palindrome
1 5	Palindrome
4 2 4 4 3	Not palindrome

Problem F. 75140. Apartment

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

Artur has moved to a new apartment this month. Today he decided to cover the floor of his living room with linoleum. The room has a form of a rectangle with sides a and b meters.

That's why he had asked his friend Nurbek to bring one piece of linoleum. Nurbek has brought a rectangular piece of linoleum with sides x and y meters. Now Artur wonders if it is possible to cover his living room entirely by doing **at most two cuts** (two or less) on the piece of linoleum that was brought by Nurbek. Artur can freely rotate the piece of linoleum and wants to make cut(s) that are parallel to the sides of the linoleum.

Note that in order to cover his living room, Artur needs exactly one piece of linoleum that has same sizes as his room.

Can Artur complete his task?

Input

The first line of input contains four space-separated numbers a, b, x, y — the sides of his living room, and the sides of the piece of linoleum respectively ($1 \le a, b, x, y \le 1000$).

Output

If Artur can take the piece of linoleum (and probably rotates) and cover his living room by the piece of linoleum by doing at most two cuts, print «Thanks, Nurbek» (without quotes).

Otherwise, print «Impossible» (without quotes).

Examples

standard input	standard output
5 7 6 4	Impossible
8 5 10 5	Thanks, Nurbek
13 15 15 13	Thanks, Nurbek
4 6 4 5	Impossible

Note

In the first example, he can not get a piece of linoleum with sides 5 and 7 by doing any number of cuts.

In the second example, he can cut the piece of linoleum once and make its size 8 and 5.

In the third example, he just rotates the piece and makes no cuts to fit the room's sizes.

Problem G. 75470. Greatest multiplier

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

In this problem, you are given two integers a and b. Your task is to write a function that finds the largest multiplier of a that is not greater than b.

Note. All the accepted solutions for this problem will be rechecked by assistants.

Input

The first line of input contains two space-separated integers a and b ($1 \le a \le b \le 1000$).

Output

Output a single integer — the largest multiplier of a that is not greater that b.

Examples

standard input	standard output
25 100	100
3 20	18
13 100	91
10 10	10

Problem H. 75795. Greatest multiplier

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

Given two numbers a and b.

Your task is to implement a **function** that takes two integers a and b as arguments and finds the largest multiplier of a that is not greater than b.

Note. All the accepted solutions for this problem will be rechecked by assistants.

Input

The first line of input contains two space-separated integers a and b ($1 \le a \le b \le 1000$).

Output

Output a single integer — the largest multiplier of a that is not greater that b.

Examples

standard input	standard output
25 100	100
3 20	18
13 100	91
10 10	10

Problem I. 75358. Smallest divisor

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

Given a single integer x. Your task is to implement a function that takes one integer x as an argument and returns the smallest divisor of x.

Your code could look as follows:

```
int get_divisor(int x) {
    // your code that computes the smallest
    // divisor of x and returns it
}
```

It is guaranteed, that the x is divisible by one of these four numbers: **2, 3, 5, 7**.

Note. All the accepted solutions for this problem will be rechecked by assistants.

Input

The first line of input contains a single integet x ($2 \leq x \leq 1000$).

Output

Output a single integer — the result of the described function.

Examples

standard input	standard output
10	2
27	3

Problem J. 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 ($0 \le a, b \le 100$).

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 ($0 \le c, d \le 100$).

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