

## Problem A. 75156. Find the absolute

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

Given two numbers  $x$  and  $y$ .

Your task is to implement a function that takes two integers  $x$  and  $y$  as arguments and returns the absolute value of their difference.

Your code could look as follows:

```
int absolute(int x, int y) {  
    // your code that computes the absolute  
    // difference of x and y and returns it  
}
```

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

### Input

The first line of input contains two space-separated numbers  $x$  and  $y$  ( $-1000 \leq x, y \leq 1000$ ).

### Output

Output a single integer — absolute value of the difference between  $x$  and  $y$ .

### Examples

standard input	standard output
2 -8	10
9 16	7

## Problem B. 75129. Almaty or Astana?

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

Alan has received several calls from a company, that claims that they are located in Astana. He suspects the company of lying.

It is known that any phone number from Astana has the format **8717\*\*\*\*\***, whereas any phone number from Almaty has the format **87272\*\*\*\*\*** or **87273\*\*\*\*\***.

Can you check for Alan, where the call is actually coming from?

### Input

The first line of input contains a string of size 11 — the company's phone number. The given phone number may appear in either of these formats:

- **8717\*\*\*\*\***
- **87272\*\*\*\*\***
- **87273\*\*\*\*\***

Actual phone numbers will have digits from 0 to 9 instead of asterisks (\*).

### Output

If the phone number belongs to Almaty, print «Almaty» (without quotes).

Otherwise, print «Astana» (without quotes).

### Examples

standard input	standard output
87273505050	Almaty
87172697145	Astana
87272359095	Almaty

## Problem C. 73929. Distance in an array

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

In this task you have to generate a two dimensional array of  $n$  rows and  $n$  columns.

Each cell's value is to be set by its distance from the cell (1,1). Distance from one cell to another is defined by the minimum number of crossings between cells that share a side in some path between given two cells. For clearance, discover the given test cases.

### Input

Single line contains an integer  $n$  — size of the two dimensional array ( $1 \leq n \leq 100$ ).

### Output

Output  $n$  lines each containing  $n$  space separated integers — two dimensional array.

### Examples

standard input	standard output
4	0 1 2 3 1 2 3 4 2 3 4 5 3 4 5 6
6	0 1 2 3 4 5 1 2 3 4 5 6 2 3 4 5 6 7 3 4 5 6 7 8 4 5 6 7 8 9 5 6 7 8 9 10

## Problem D. 73314. Shift+delete

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

Have you ever tried to create your own language? Akerke, another hero of our legends, states that it is very simple! She just picks up one letter of the Latin alphabet and never uses that letter anymore. That is the way how she comes up with a new language.

Now, when her language has become very popular among her friends, she decided to make a translator. As she is not a programmer, she dared to ask for your help in this. The translator should get a string, delete all occurrences of some letter and output the modified string.

Can you help Akerke in creating a translator?

### Input

The first line of input contains a single lowercase Latin letter  $c$  — letter that is never used in Akerke's language.

The second line of input contains string  $s$  — a word in a normal language that is going to be translated to Akerke's new language. Given word consists of only lowercase Latin letters.

It is guaranteed that the letter  $c$  appears in  $s$  at least once and there are other letters than  $c$  in  $s$ .

### Output

Output a string in a single line — string  $s$ , from which all occurrences of letter  $c$  are deleted.

### Examples

standard input	standard output
i elimination	elmnaton
a amplification	mplifiction

## Problem E. 73369. Equation

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

Solve the following equation:

$$ax - b = cx + d$$

It is guaranteed that the equation has exactly one integer value solution with given parameters.

### Input

In a single line given four space-separated integers  $a$   $b$   $c$   $d$  — parameters from the above equation ( $-1000 \leq a, b, c, d \leq 1000$ ).

### Output

Output  $x$  — solution to the equation.

### Example

standard input	standard output
2 1 1 1	2

## Problem F. 73544. May I come in?

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

Adlet has an exam today. It starts exactly at  $h_1 : m_1$ . Is he going to be late if he comes at  $h_2 : m_2$ ? If he comes at the exact beginning of the exam, Adlet is not late.

### Input

First line of input contains two space separated integers  $h_1 m_1$  — starting time of the exam ( $6 \leq h_1 \leq 12$ ,  $0 \leq m_1 \leq 59$ ).

Second line of input contains two space separated integers  $h_2 m_2$  — time when Adlet comes to the exam ( $6 \leq h_2 \leq 12$ ,  $0 \leq m_2 \leq 59$ ).

### Output

If Adlet is late to the exam, print «Yes» (without quotes).

Otherwise, print «No» (without quotes).

### Examples

standard input	standard output
8 0 8 20	Yes
9 0 8 56	No
8 30 8 30	No

## Problem G. 75039. Post index

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

Artur had not been checking his post box for a long time. Today he decided to open it and found there  $n$  new letters.

He thinks that he may drop all the letters if all of them are from one post index.

Can you help Artur with identifying if all the letters came from a single post index?

### Input

The first line of input contains single integer  $n$  — the number of received letters by Artur ( $1 \leq n \leq 10^5$ ).

The second line contains  $n$  positive numbers  $p_1, p_2, \dots, p_n$  — post indexes of letters in Artur's post box ( $1 \leq p_i \leq 10^9$ ).

### Output

If all the letters came from single post index, print «Yes» (without quotes).

Otherwise, print «No» (without quotes).

### Examples

standard input	standard output
5 15 15 15 15 15	Yes
3 78 78 79	No

## Problem H. 73379. RGB

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

Zharaskhan is a businessman, who trades... strings. These strings consist only from three Latin letters «r», «g», «b».

Price of a string is defined by the number of letters «g» standing between letters «r» and «b». Formally, he is looking for patterns «rgb». For example cost of the string «bgrgbg» is 1, because second «g» is standing between «r» and «b» and other two «g»-s are not.

Zharaskhan asks you to calculate the cost of a string, can you help him?

### Input

The first line contains the given string  $s$ , which consists only of three Latin letters «r», «g», «b» ( $5 \leq |s| \leq 100$ ).

### Output

Output a single integer  $c$  — the cost of the given string.

### Examples

standard input	standard output
bgrgbg	1
rgbrgbbgr	2



## Problem I. 75150. Rightmost set bit

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

In this problem, you are given 8-bit number  $x$ . Find its rightmost bit that is 1 in its binary representation. For example binary representation of the number 12 is **0001100**. The rightmost bit that is 1 has the number 2, considering that we numerate bits from zero, from right to left.

### Input

The first line of input contains a single number  $x$  — 8-bit number ( $1 \leq x < 2^8$ ).

### Output

Output a single number — the number of the rightmost bit that is 1 in the binary representation of  $x$ .

### Examples

standard input	standard output
12	2
6	1
5	0

### Note

The first example is explained in the statements.

In the second example, the binary representation of 6 is **00000110**, if we number all bits from 0 starting from the right, the bit at position one is 1-bit that we meet first.

In the third example, the binary representation of 5 is **00000101**, if we number all bits from 0 starting from the right, the bit at position zero is 1-bit that we meet first.

## Problem J. 73312. Subway

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

Oma is a student at KBTU. Everyday he uses subway to get to the university. By his assumptions, this month he is going to ride the subway  $n$  times. Each ride costs him  $x$  tenge. Also, as he discovered, there is a ticket that he can use for a whole months which he can buy at a price  $y$  tenge. If he buys this ticket, instead of paying for every ride  $x$  (totally  $n * x$ ) tenge, he will pay only  $y$  tenge.

Can you help him to make a decision which minimizes his wastes?

### Input

Single line contains three space separated integers  $n$ ,  $x$ ,  $y$  — number of rides that Oma takes within a month, ticket cost for a single ride and ticket cost for a whole month.

### Output

If Oma should buy a ticket for a month, print «Yes» (without quotes).

If Oma should buy a single ride ticket on his every ride, print «No» (without quotes).

If there is no obvious benefit of preferring one case to another in either case, print «No difference» (without quotes).

### Examples

standard input	standard output
15 6 100	No
20 50 750	Yes
10 5 50	No difference

## Problem K. 73367. Party hard

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

Sanzhar lives in a one-dimensional world. He is holding a big party this weekend at home. There are  $n$  friends of Sanzhar, whom he would like to invite to the party. He knows where each of his friend lives, which can be described by a single number  $x_i$  — position relatively to Sanzhar's home.

Sanzhar wants you to help with calculating distance to walk from their home to party for each of his friends.

### Input

The first line of input contains single integer  $n$  — the number of Sanzhar's friends ( $1 \leq n \leq 1000$ ).

The second line contains  $n$  space-separated integers  $x_1, x_2, \dots, x_n$  — array of living points of Sanzhar's friends ( $-1000 \leq x_i \leq 1000$ ).

### Output

Output  $n$  space-separated integers — distances to walk from their home to the party for each of his friends respecting the order of friends in the input.

### Example

standard input	standard output
6 -2 7 8 -12 8 -4	2 7 8 12 8 4