Problem A. Remainder

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

Input

Given 4 numbers: A, B, C, and D. D != 0

Output

Print all numbers in the range A and B, which giving reminder C after dividing to D.

Example

standard input	standard output
2 5 0 2	2 4

Problem B. Find me!

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

Murat has recently learned a new *word*, but can't remember in which book he read it.

But he guesses that this is from the book "Thirteen Reasons Why".

Since the content of the book is quite large, he only remembers part of the book.

Determine if the *word* was in the this *txt*, otherwise print no.

`You have to use RegEx to solve this problem`

Input

In the first line given text *txt*.

In the second line given *word*.

Output

Print "First time *word* occurred in position: (position of occurrence)"

If given *word* occurs in *txt*, otherwise, Print "Not found".

Examples

standard input	standard output
Polini Polinominal Polinoma Polinomials Polinoma	First time Polinoma occured in position: 19
Lets respect each other! deflect	Not found

Problem C. Unique array

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

You are given an array of size `N`.

Find is given array contains only unique elements.

Input

In the first line given `N` size of array.

In the next line given elements of array

Output

Print YES if given array contains only unique elements, otherwise print NO.

Examples

standard input	standard output
7 2 4 3 -1 7 12 -4	YES
5 5 2 -3 2 1	NO

Problem D. Bumblebee

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

There is a robot starting at position (0, 0), the origin, on a 2D plane.

Given a sequence of its moves.

The move sequence is represented by a string `moves`, and the character `moves[i]` represents its i_{th} move. Valid moves are R (right), L (left), U (up), and D (down).

Also, you are given point (x, y), determine if the robot passed through this point (x, y).

Input

In the first line given single string `moves`, sequence of moves.

In the second line given point (x, y).

Output

Print “Passed” , if the robot passed through this point, otherwise print "Missed".

Example

standard input	standard output
LURDRR -1 1	Passed

Problem E. Simple

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

Given a string containing spaces. Find the longest word in it, print this word and its length. If there are several such words, print the first of them.

Input

A single line containing spaces is specified. Words are separated by exactly one space.

Output

Print the longest word in the string and its length.

Example

standard input	standard output
Don not copy solve individual	individual 10

Problem F. 73490.bear

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

Azamat and Dauren put their money in the bank for a deposit. Each year, Azamat money grows three times, and Dauren twice.

Input

In a single line there are two integers a and b ($1 =< a =< b =< 10$) - the money of Azamat and Dauren, respectively.

Output

Output one integer - after how many years will Azamat have more money than Dauren

Examples

standard input	standard output
4 9	3
4 7	2
2 3	2
5 9	2

Note

It is guaranteed that Azamat's money is less or equal to Dauren's money.

Problem G. Replace and Find

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

You are given the text txt.

You need to replace all the substrings t to substring s.

After the replacement, print the number of substrings f in the text.

`You have to use RegEx to solve this problem`

Input

In the first line given txt.

In the second line given t.

In the third line given s.

In the fourth line given f.

Output

Print the number of substring f in the text txt.

Examples

standard input	standard output
The closer you look The less you see u ur your	2
I'm angry. Is angry an entry? ang ent entry	3

Note

In the first sample, we replace "u"to "ur"

After replacement string is "The closer your look The less your see".

So, there are 2 substrings "your"

Problem H. ATTENDANCE AGAIN!

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

Askar agay has a list of his students in PP2.

He decided to take attendace during current practice.

Askar agay has a list of students who are in practice right now.

He wants to find students who missed the practice, as well as students who came to his practice from another group.

Input

In the first line given n - the number of students of Askar agay.

In the second line given list of names of students

In the third line given m - the number of students in current practice.

In the fourth line given list of names of students of current practice.

Output

At first, print students name, who missed practice, line by line.

After, print names of students, who came to practice from another group.

Examples

standard input	standard output
3 Alik Darkhan Bekbolat 3 Alik Nurbergen Darkhan	Missed students: - Bekbolat Not in the group: - Nurbergen
3 Alima Gulnaz Kyamran Zhenya 4 Gulnaz Alima Dina Meir	Missed students: - Kyamran - Zhenya Not in the group: - Dina - Meir

Problem I. Two side integers

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

You are given a list A of n elements. You need to split the list into two sub-lists after the k_{th} index.

Convert each sub-list $A[0 : k-1]$, $A[k : n-1]$ to a number.

As a result, you will get two large numbers x, y.

Print the multiplication of x * y.

Input

In the first line given n - the number of elements in the list A

In the second line given positive integers, elements of the list separated by space

In the third line given k - the index after which you need to split the list. $0 <= k <$ n.

Output

Print result of the multiplication of x * y.

Examples

standard input	standard output
7 1 4 3 2 6 2 3 4	892136
10 1 9 3 5 5 6 7 8 9 10 5	13140303050
3 8 9 5 1	760

Note

In the first sample after splitting list x, y values are - 143, 2623 respectively.

Result of 143 * 2623 = 375089

Problem J. 1FIT

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

You are given raw JSON object data. Structure of JSON object see below.

Find a subscription with the lowest price considering its discount.

Input

Read raw JSON data just by input method, and deserialize it to python dictionary object.

It's guaranteed that all data in the same format as listened in NOTE.

Output

Print subscription `name`, and `price with discount`, which has a minimum discounted price.

See details in example below.

Output sample:

Name: One month subscription

Price: 13930

Example

standard input	standard output
{ "Subscriptions": [{ "name": "Three month subscription", "price": "39900", "discount": "50" }, { "name": "One month subscription", "price": "19900", "discount": "30" }, { "name": "Premium free trial", "price": "40000", "discount": "10" }] }	Name: One month subscription Price: 13930

Note

Structured JSON data

```
{
    "Subscriptions": [
        {
            "name": "Three month subscription",
            "price": "39900",
            "discount": "50"
        },
        {
            "name": "One month subscription",
            "price": "19900",
            "discount": "30"
        },
        {
            "name": "Premium trial",
            "price": "40000",
            "discount": "10"
        }
    ]
}
```