21:36:05 / **RUNNING**

A B C D E F G H I J K L M N O P Q R

Submit a solution for A-194709. See the truth.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem A: 194709. See the truth.

People talk to each other without noticing the lies in their words. Daniil can see lies, in every word. Digits appear in words if this word is not truth. Help other people see only the truth in words. Add this function to your program

Input format

Sentence in one line

Output format

Each line contains a word that does not have numbers. In the order of their appearance

Examples

Input

```
he is awesome y0u ar3 aw3some t00
```

Output

```
he
is
awesome
```

Input

```
i will n0t leave you
```

Output

```
i
will
leave
you
```

Input

```
and n3v3r break you heart
```

Output

```
and
break
you
heart
```

Notes

Implement the isTruth(s) function!

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
4295	61:44:48	874	A	g++	OK	N/A	View	View
4294	61:43:47	844	A	g++	Wrong answer	4	View	View

A B C D E F G H I J K L M N O P Q R

Submit a solution for B-188321. Ninja.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem B: 188321. Ninja.

Boris and his friends met a real Ninja! The ninja showed the children how to skillfully cut various fruits with his sword. Now he wants to show the children the art of words - the oldest ninja technique. The main task of this technique is to cut an unnecessary letter from a word. Try to write a program to make life easier for a ninja

Input format

The first line of input contains a single lowercase Latin letter c — letter that should not be used in a word.

The second line of input contains string s — a word that 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.

Examples

Input

```
a
apple
```

Output

```
pple
```

Input

```
r
boris
```

Output

```
bois
```

Input

```
o
solution
```

Output

```
slutin
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
2777	26:04:40	265	B	g++	OK	N/A	View	View
2775	26:02:28	263	B	g++	Wrong answer	9	View	View

Submit a solution for C-189329. Nice joke.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem C: 189329. Nice joke.

Daniil loves mathematics(nice joke), but now he wants Ivan and Ernur to also love mathematics and give a task. Daniil loves for some reason the topic of gcd(greatest common divisor, because it's only what he knows) and large numbers .
Help us find the largest node of these numbers.
Your task is to realize `function int gcd(int a, int b)`.

Input format

First line – integer n, where $2 \leq n \leq 100$.
Next line – Given an array a of n numbers $2 \leq a[i] \leq 100$.

Output format

Print integer – gcd.

Examples

Input

```
3
2 8 16
```

Output

```
8
```

Input

```
5
20 30 40 2 4
```

Output

```
20
```

Input

```
3
2 12 24
```

Output

```
12
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
3861	46:46:33	658	C	g++	OK	N/A	View	View

Submit a solution for D-188330. Dec to Hex.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem D: 188330. Dec to Hex.

Boris studies various number systems at school. He was given a homework assignment in which a decimal number is given as an input, he needs to convert the given decimal number to the equivalent hexadecimal number i.e. convert a number with a base value of 10 to a base value of 16. Help Boris write a program that solves this problem

Hexadecimal numbers use 16 values to represent a number. The numbers 0 through 9 are represented by the numbers 0-9, and 10-15 are represented by the characters A through F.

Input format

You are given integer N.

Output format

Print hex number of N.

Examples

Input

```
10
```

Output

```
A
```

Input

```
45
```

Output

```
2D
```

Input

```
2545
```

Output

```
9F1
```

Input

```
794
```

Output

```
31A
```

Notes

You need to write a function *dexToHex():*

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
4096	51:07:02	418	D	g++	OK	N/A	View	View

21:39:10 / RUNNING

A B C D E F G H I J K L M N O P Q R

Submit a solution for E-187680. Sum.

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem E: 187680. Sum.

Given string S. Print a sum of the digit symbols.

Input format

First line contains string containing symbols. String length N $1 \leq N \leq 99$.

Output format

Print sum of digits.

Examples

Input

```
HeHeee1a4d0
```

Output

```
5
```

Input

```
80n80n[n1[W
```

Output

```
17
```

Notes

ASCII of the '0' is 48.

Submit a solution

Language: g++ - GNU C++ 7.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
2018	20:25:16	298	E	g++	OK	N/A	View	View

A B C D E F G H I J K L M N O P Q R

Submit a solution for F-196101. Boris the Hater.

Time limit: 1 s

Real time limit: 5 s

Memory limit: 256M

Problem F: 196101. Boris the Hater.

Boris loves to chat with others on the Internet. However, he hates when words are written to him that contain numbers or uppercase letters. He believes that if you delete them, the meaning of the message will not change. Help Boris write a program that will help him.

Input format

You are given a string S.

Output format

Print new string S without numbers and uppercase letters.

Examples

Input

```
borisKA192
```

Output

```
boris
```

Input

```
He1lo
```

Output

```
elo
```

Input

```
EmPtY
```

Output

```
mt
```

Submit a solution

Language: g++ - GNU C++ 7.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
2005	20:22:04	255	F	g++	OK	N/A	View	View

Submit a solution for G-194700. Data analysis.

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem G: 194700. Data analysis.

Daniil was doing a difficult assignment in the Basics of Information Systems course and broke it down into several sub-tasks. One of the subtasks is to analyze the characters in the sentence and count their number of occurrences.
Help Daniil complete one of the subtasks and he can close the Basics of Information Systems!

Input format

First line - sentence
Second line - integer n $(1 \leq n \leq 52)$ - number of characters to count
Next line n unique chars a_i

Output format

In alphabetical order, ascending, the character and its count in each line.

Examples

Input

```
vanya go dota a ti zhe delaesh labu
7
i m g h o u l
```

Output

```
g - 1
h - 2
i - 1
l - 2
m - 0
o - 2
u - 1
```

Input

```
vanya zxc sf mid dead inside ghoul
8
v a n y A z x c
```

Output

```
A - 0
a - 3
c - 1
n - 2
v - 1
x - 1
y - 1
z - 1
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
5004	73:04:14	1036	G	g++	OK	N/A	View	View
268	1:15:55	688	G	g++	OK	N/A	View	View
262	1:14:24	688	G	g++	Wrong answer	1	View	View

Submit a solution for H-187175. The best phone

Time limit: 2 s

Real time limit: 5 s

Memory limit: 256M

Problem H: 187175. The best phone

Asman wants to buy a phone as a gift for his girlfriend. Therefore, he studies the characteristics of phones on the market to find the best one. The best phone for Asman - the phone with the maximum price-quality ratio. Quality is measured in terms of the number of years the phone will last. Help Asman find the best phone.

For determining price-quality ratio of the phone, you can implement the function
`double GetPriceQualityRatio(int price, int quality);`.

Input format

The first line of input contains an integer n - number of phones on the market ($1 \le n \le 10^5$). Each of the next n lines contains information about one phone: a string s consisting of latin letters - name of the phone ($1 \le |s| \le 50$), and two integers p and q - price & quality of the phone correspondingly ($1 \le p, q \le 10^6$). Names of the phones are unique.

Output format

Print the name of the phone with best price-quality ratio. Price quality ratio for phone with price p_i and quality q_i should be calculated as q_i/p_i. If there are multiple phones with same ratio, choose the first one (which come earlier in the input).

Examples

Input

```
4
samsungfold 1000000 6
iphone 800000 6
huawei 80000 5
chinesenoname 100000 2
```

Output

```
huawei
```

Input

```
5
xiaomi 150000 4
top 160000 4
za 38000 1
svoi 100000 2
dengi 120000 3
```

Output

```
xiaomi
```

Input

```
5
a 3 1
b 4 1
c 4 2
d 2 1
e 100 50
```

Output

```
c
```

Submit a solution

Language: g++ - GNU C++ 7.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
136	0:44:12	660	H	g++	OK	N/A	View	View

21:41:49 / RUNNING

A B C D E F G H I J K L M N O P Q R

Submit a solution for I-186825. Replace with

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem I: 186825. Replace with

You are given two strings consisting of lowercase latin letters. In the first string find all occurrences of symbols from the second one, and replace it with given symbol.

Input format

The first line contains a string s ($1 \le |s| \le 1000$). The second line contains a string t ($1 \le |t| \le 1000$). Next line contains one character c.

Output format

Print the string s after replacement all occurrences of symbols from t by c.

Examples

Input

```
stuudentsfromkbtu
ufs
-
```

Output

```
-t--dent--romkbt-
```

Input

```
aaaaaeeeeei
aei
+
```

Output

```
++++++++++
```

Input

```
qwertyuiopeqw
eoyr
*
```

Output

```
qw*t*ui*p*qw
```

Input

```
earslmwwargn
rlhwegqq
_
```

Output

```
_a_s_m__a__n
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
171	0:52:19	452	I	g++	OK	N/A	View	View

A B C D E F G H I J K L M N O P Q R

Submit a solution for J-143967. Not a palindrome.

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem J: 143967. Not a palindrome.

You're given string s. Print the maximum length of its substring that is not a palindrome. If there is no such substring print 0.

Input format

The only line of input contains string s ($1 \leq length(s) \leq 100$).

Output format

Print the maximum length of substring of given string that is not a palindrome.

Examples

Input

```
aaaaaaa
```

Output

```
0
```

Input

```
bbaaabb
```

Output

```
6
```

Input

```
abcdcb
```

Output

```
6
```

Submit a solution

Language: g++ - GNU C++ 7.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
4925	72:11:11	493	J	g++	OK	N/A	View	View

Submit a solution for K-195718. To decimal.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem K: 195718. To decimal.

You are given some binary string (consisting only from '1' and '0'). Convert this string to the decimal number.

Input format

The only line of input contains a binary string s ($1 \le |s| \le 30$).

Output format

Convert string s to decimal number and print it.

Examples

Input

```
1
```

Output

```
1
```

Input

```
0
```

Output

```
0
```

Input

```
1100
```

Output

```
12
```

Input

```
1101
```

Output

```
13
```

Input

```
1000000000000000
```

Output

```
32768
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
4850	71:13:25	456	K	g++	OK	N/A	View	View

Submit a solution for L-192647. Secret message.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem L: 192647. Secret message.

Imagine that one day you decided to write down all your secrets in a notebook, but you don't want anybody else to know about your secrets, so you should make it understandable only for you. So you're given a string s$(1 \le s \le 100)$, you need to change every letter in a given string with the letter following it in the alphabet.

Input format

You're given a string s.

Output format

Print formatted string.

Examples

Input

```
Good luck
```

Output

```
Hppe mvdl
```

Input

```
abc xyz
```

Output

```
bcd yza
```

Input

```
have fun!
```

Output

```
ibwf gvo!
```

Notes

For example, in string xyz - answer is yza,x becomes y, y becomes z, z becomes a.

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1871	19:23:34	574	L	g++	OK	N/A	View	View

21:45:36 / RUNNING

A B C D E F G H I J K L M N O P Q R

Submit a solution for M-196111. Boris the Chef.

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem M: 196111. Boris the Chef.

Chef Boris is testing new dishes. He wants to find the most delicious dishes. But Boris is not only a chef, but also a programmer. Therefore, a dish is considered tasty if the sum of the ASCII codes of all letters in its name is more than 300. Write a program that will find tasty dishes.

Input format

You are given string S - name of the dish.

Output format

Print *It is tasty!* if the dish is tasty. Otherwise, print *Oh, no!*.

Examples

Input

```
OK
```

Output

```
Oh, no!
```

Input

```
sosisochki
```

Output

```
It is tasty!
```

Notes

Implement function .

Submit a solution

Language: g++ - GNU C++ 7.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1164	13:22:49	331	M	g++	OK	N/A	View	View

A B C D E F G H I J K L M N O P Q R

21:47:31 / RUNNING

A B C D E F G H I J K L M N O P Q R

Submit a solution for N-187690. Clear string.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem N: 187690. Clear string.

You are given string containing any kind of symbol, you have to clear them from symbols that are not letters.

Input format

Given a string. String length N $1 \leq N \leq 99$.

Output format

Output String containing only letters.

Examples

Input

```
asdA10!*e
```

Output

```
asdAe
```

Input

```
80n80n[n1[W
```

Output

```
nnnW
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
4144	51:43:49	380	N	g++	OK	N/A	View	View

A B C D E F G H I J K L M N O P Q R

21:48:37 / RUNNING

Submit a solution for O-186818. Longest pattern

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem O: 186818. Longest pattern

You are given a string consisting of lowercase latin letters. Find the longest substring consisting from one letter. If there is multiple such substrings, take the first one. You should print the letter from which the substring consists, and its' length.

Input format

The only line of input contains a string consisting of lowercase latin letters s ($1 \leq |s| \leq 10^5$).

Output format

Print the letter from which the found substring consists, and its' length separated by a space.

Examples

Input

```
hellooooaaaaeee
```

Output

```
a 4
```

Input

```
fffgggqqww
```

Output

```
f 3
```

Input

```
x
```

Output

```
x 1
```

Notes

In the first example, the longest substring from one letter is aaaa, hence the answer is `a 4`.

In the second example, there is two such substrings, so we take the first one. The answer is `f 3`.

In the third example, the needed substring is string itself. The answer is `x 1`.

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1135	12:57:26	650	O	g++	OK	N/A	View	View
1133	12:56:44	668	O	g++	OK	N/A	View	View
1128	12:54:10	598	O	g++	Wrong answer	20	View	View
1126	12:53:11	626	O	g++	Wrong answer	4	View	View
1103	9:24:37	602	O	g++	Wrong answer	4	View	View

A B C D E F G H I J K L M N O P Q R

Submit a solution for P-187707. Ali

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem P: 187707. Ali

Can you help Ali to write function with next logic: if input string contains only one symbol `1` then it returns `true`, if input contains only one symbol `0` function returns `false`. In other cases return given string as is.

You have to implement function `string strToBool(string str)`.

Input format

You are given string. String length N $1 \leq N \leq 100$.

Output format

Output a result of function for given string.

Examples

Input

```
1
```

Output

```
true
```

Input

```
01011
```

Output

```
01011
```

Input

```
0
```

Output

```
false
```

Input

```
OOOoo
```

Output

```
OOOoo
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1102	8:41:33	343	P	g++	OK	N/A	View	View

21:50:16 / RUNNING

Submit a solution for Q-189327. Dimash that's too bad.

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem Q: 189327. Dimash that's too bad.

Dimash hacked the database and he got all the email addresses to send out spam. But Dimash's program works differently.
The program should only receive logins from `@gmail.com`
Help the young hacker get the logins. Help him do it!!!

Input format

n – num of words $1 \leq n \leq 100$.
n strings s in each line.

Output format

Clear mails in each line.

Examples

Input

```
2
1234ghdsh@gmail.com
2523sdfg@mail.cry
```

Output

```
1234ghdsh
```

Input

```
3
helloguys@gmail.com
goodbye@mail.com
helloagain
```

Output

```
helloguys
```

Input

```
2
fefefwefewtgewgerg
feflowleflfe@gmail.com
```

Output

```
feflowleflfe
```

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1101	8:26:23	628	Q	g++	OK	N/A	View	View
1100	8:17:53	604	Q	g++	Wrong answer	1	View	View

Submit a solution for R-187532. First and last occurrence.

Time limit: 1 s
Real time limit: 5 s
Memory limit: 256M

Problem R: 187532. First and last occurrence.

Given a string s and letter t. If s contains the letter t only once, print its index. If it occurs two or more times, print the index of its first and last occurrence. If the letter t does not appear in the given line, do not print anything.

Input format

Given two strings s($1 \le s \le 100$), t ($t.size() == 1$).

Output format

Print the result.

Examples

Input

```
midterm
m
```

Output

```
0 6
```

Input

```
concentrate
t
```

Output

```
6 9
```

Input

```
illegal
l
```

Output

```
1 6
```

Input

```
lucky
c
```

Output

```
2
```

Notes

In the first example, the word is midterm, and we need to find the first and last occurrence of the letter m. So the answer is the 0th and 6th indexes.

Submit a solution

Language: g++ - GNU C++ 7.4.0
File Выберите файл Файл не выбран
Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
347	1:45:20	647	R	g++	OK	N/A	View	View
344	1:44:29	673	R	g++	OK	N/A	View	View