Problem A. 188041. Venom vs Carnage.

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

Venom tries to defeat his opponent Carnage. Venom has a number n. Since Carnage is his complete opposite, Venom needs to find out the number k - opposite in bit representation to the number n.

Input

You are given number n - ($1 \leq n \leq 1000$).

Output

Print k - number that has all inverted bits of n.

Examples

standard input	standard output
23	-24
129	-130

Note

You need to use *bitwise operator NOT* aka $\sim$. It inverts all the bits of its operand. Your answer might be negative.

Problem B. 196111. Boris the Chef.

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

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

You are given string S - name of the dish.

Output

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

Examples

standard input	standard output
OK	Oh, no!
sosisochki	It is tasty!

Note

You can write a recursion with the function `void isTasty(string s)`.

Problem C. 187587. To Lowercase.

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

Given a string `s`. Create a function `toLowercase` that will replace every uppercase in `s` with the same lowercase letter and return the lowercase string.

Input

String `s`($1 \leq s.size() \leq 100$).

Output

Print the string that you will get as a result of the `toLowercase` function.

Examples

standard input	standard output
aLmAtY	almaty
pp1	pp1
MIDTERM	midterm

Note

In the first example in aLmAtY string if we will replace all uppercase letters to lowercase we'll get almaty.

Problem D. 186885. Asman + Systems = Astems

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

Asman is a programmer, but he is also an engineer. He is standing in the cafeteria after a hard day and trying to understand why there are 1024 bytes in 1 kilobyte? Indeed, in physics, a kilo is 10 to 3 degrees, but for programmers it is differently like that. And he realizes that he is confused. Help Asman. You need to convert bytes to kilobytes, or kilobytes to bytes.

Input

You are given char z - command that convert, c - how many digits after the decimal point (if number integer no need to output the remainder). If $z =$ 'k' it is mean need to convert from byte to kilobyte. If $x =$'b' it is mean need to convert from kilobyte to byte.

Output

Print the result of conversion.

Examples

standard input	standard output
3032 k 6	2.960938
12 b	12288
1024 k 10	1.0000000000

Problem E. 188812. Gunner.

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

Edya decided to practice rifle shooting. He is given a random number of cartridges if the distance to the target does not exceed 500 meters and is also a prime number and when this number of cartridges is even, he is guaranteed to hit the target. Otherwise, he misses.
The number n is entered from the keyboard - the distance to the target as well as the number of cartridges f. The program must calculate whether the shooter will hit the target.

Input

Two integers in one line: n - distance $1 \leq n \leq 1000$
f - count cartridges $1 \leq f \leq 1000$.

Output

String
If miss print: `Try next time!`
Else print: `Good job!`

Examples

standard input	standard output
443 10	Good job!
23 294	Good job!
883 976	Try next time!

Problem F. 193526. Tears.

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

Daniil wanted to create an if-else problem, but it turned out as always: BFS, DFS... But this time it's not such a task, it's a simple task. You are given n numbers. Each number represents how much Daniil worked per week.

If he worked less than or equal to 10 hours, output: `Go to work!`

If more than 10 and less than or equal to 25, output: `You are weak`

If more than 25 hours, but less than or equal to 45, output: `Okay, fine`

If more than 45 hours, output: `Burn! Burn! Burn Young!`

Input

First line integer n - amount of numbers ($0 \leq n \leq 100$).

Next lines n integers a_i ($0 \leq a_i \leq 168$).

Output

In each line output string depens on work hours.

Examples

standard input	standard output
3 5 25 45	Go to work! You are weak Okay, fine
4 0 168 11 48	Go to work! Burn! Burn! Burn Young! You are weak Burn! Burn! Burn Young!

Problem G. 195718. To decimal.

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

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

Solve only using recursion!

Input

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

Output

Convert string s to decimal number and print it.

Examples

standard input	standard output
1	1
0	0
1100	12
1101	13
1000000000000000	32768

Problem H. 187532. First and last occurrence.

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

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

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

Output

Print the result.

Examples

standard input	standard output
midterm m	0 6
concentrate t	6 9
illegal l	1 6
lucky c	2

Note

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.

Problem I. 189327. Dimash that's too bad.

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

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

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

Output

Clear mails in each line.

Examples

standard input	standard output
2 1234ghdsh@gmail.com 2523sdfg@mail.cry	1234ghdsh
3 helloguys@gmail.com goodbye@mail.com helloagain	helloguys
2 fefefwefewtgewgerg feflowleflfe@gmail.com	feflowleflfe

Problem J. Levy the cryptographer

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

Captain Levi was able to decipher a secret message from Erwin Smith last time and saved the squad! Finally, it's time to come up with a new cipher. Now Levi wants to use only words with a certain number of letters in the message. The number of letters in the desired word is more than 3. Help Levi to write a program that will automatically decrypt the message.

Input

You are given a message in one string.

Output

Print the space-separeted decrypted message in one line.

Examples

standard input	standard output
hello boris how are you	hello boris how are you
I am fine and what about u?	fine and what about