Problem A. 74446. A+B

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

You are given two integers a and b. Write function which will return single integer, sum of a, b.

Input

The only line of the input contains integers a and b ($-100 \leq a, b \leq 100$).

Output

Sum of a and b.

Example

standard input	standard output
7 8	15

Problem B. 74862. Difference between two arrays

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

You have two arrays a and b. You must write a function which will create a new array d which elements will $d_i = |a_i - b_i|$.

Input

In first line given single integer n, $(1 \le n \le 10000)$ — size of array.

In second line given elements of a, $(1 \le a_i \le 1000000)$.

In third line given elements of b, $(1 \le b_i \le 1000000)$.

Output

All elements of d.

Examples

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

Problem C. 74865. How many elements are same?

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

Given two array a and b. Write a function which will find count of equals in two arrays.

Input

In first line given single integer n, $(1 \le n \le 10000)$ — size of array.

In second line given n elements of a, $(1 \le a_i \le 100)$.

In third line given n elements of b, $(1 \le b_i \le 100)$.

Output

Single integer numbers of equal elements.

Examples

standard input	standard output
6 4 3 1 2 4 1 3 1 1 5 4 4	5
1 3 5	0
2 1 4 2 4	1
5 2 2 2 4 2 5 2 5 3 4	2
3 4 1 1 1 3 5	1

Note

In first sample number 4 in first array occurs 2 times 1 also 2 times and 3 one time. In sum will be 5.

Problem D. 74449. Books

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

Each book in the library has own ID number. Alikhan wants to buy a book which has an ID number x. He wants to know has the library got this book? Let's help him. Write function!

Input

In first line given single integer n, $(1 \leq n \leq 10000)$ — number of books in the library.

In second line given ID numbers of books a, $(1 \leq a_i \leq 1000000)$.

In third line given elements of x, $(1 \leq x \leq 1000000)$.

Output

If the library has this book print "Yes"otherwise "No".

Examples

standard input	standard output
2 4 5 4	Yes
5 4 2 5 6 5 6	Yes
3 7 2 5 7	Yes
9 9 10 1 8 1 3 2 2 10 5	No
2 4 9 7	No

Problem E. 74821. Hypotenuse

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

Given two integers a and b – sides of triangle. You need to write a function that calculates the hypotenuse of the triangle.

Input

Input contains two integers a and b ($1 \leqslant a, b \leqslant 10^5$).

Output

Output the hypotenuse of the triangle.

Examples

standard input	standard output
3 4	5
4 6	7.211
3 7	7.616
1 3	3.162
7 8	10.63

Note

Use *setprecision*(4) to output the answer. In order to use this function, you need to include *iomanip* library.

Problem F. 74718. Valid string

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

Given a string s. You need to write a function that validates the string. Valid string is the string that contains n or more digits.

Input

Line contains string s ($0 \leqslant s.length \leqslant 10^5$) and integer n ($1 \leqslant n \leqslant 10^5$).

Output

Print "YES"(without quotes) if the string is valid, otherwise "NO".

Examples

standard input	standard output
som3thing4 2	YES
j4stc0d3it 5	NO
s4ys0om3thing 1	YES
w4k3up4y0u 6	NO
rem0veitnow 1	YES

Problem G. 74715. Remove vowels

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

Given a string s. You have to write a function that removes all vowels from the string.

Input

Line contains string s ($0 \leqslant s.length \leqslant 10^5$)

Output

Output the string without vowel letters.

Examples

standard input	standard output
S0mething is coming UP. So I need 2 go now.	S0mthng s cmng P. S nd 2 g nw.
I need to work hard to pass programming principles final exam.	nd t wrk hrd t pss prgrmmng prncpls fnl xm.
Alice looked at glance	lc lkd t glnc
Lorem Ipsum Dolor Sit Amet	Lrm psm Dlr St mt
1998 is the number that consists of 4 digits.	1998 s th nmbr tht cnssts f 4 dgts.

Note

Assume that letter Y is consonant.

Problem H. 74803. Valid number

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

Given a number n. Write a function for checking if this number is valid. Valid number is the number that consists of even digits only.

Input

Line contains n ($1 \leqslant n \leqslant 10^{10}$).

Output

If number is valid, print "Valid"(without quotes), otherwise "Not valid".

Examples

standard input	standard output
1111	Not valid
2222	Valid
332	Not valid
442862	Valid
31312234	Not valid

Problem I. 74713. Capital Even

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

Given a string s. You need to write a function that takes the string and turn lowercase letters on even positions to capital letters.

Input

Line contains string s without whitespaces. ($1 \leqslant s.length \leqslant 10^5$).

Output

Output the string after manipulations.

Examples

standard input	standard output
somestring	SoMeStRiNg
needtocode	NeEdToCoDe
codeislife	CoDeIsLiFe
codeislove	CoDeIsLoVe
nolifewithoutcoding	NoLiFeWiThOuTcOdInG

Problem J. 74630. Find the maximum

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

Write a function for finding the maximum of 4 numbers.

Input

You are given 4 numbers n ($-10^5 \leqslant n \leqslant 10^5$).

Output

Output the maximum of 4 numbers.

Examples

standard input	standard output
-10 4 5 3	5
-10 3 2 3	3
0 0 0 0	0
3 4 -1 -2	4
3 1 1 2	3

Problem K. 74632. Find the sum of all digits

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

You are given a number n. Write a function for finding the sum of all digits of number n.

Input

Input contains positive number n ($0 \leqslant n \leqslant 10^8$).

Output

Output the sum of all digits.

Examples

standard input	standard output
11	2
1233	9
1000	1
2233	10
2231313	15

Problem L. 74784. Valid string - 2

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

Given a string s. You need to write a function that validates the string. Valid string is the string that contains n or more consequent digits.

Input

Line contains string s ($0 \leqslant s.length \leqslant 10^5$) and integer n ($1 \leqslant n \leqslant 10^5$).

Output

Print "Valid"(without quotes) if the string is valid, otherwise "Not valid".

Examples

standard input	standard output
som3thing4 2	Not valid
j4stc0d3it 5	Not valid
s4ys0om3thing 1	Valid
w43kup4y0u 2	Valid
rem0veitnow 1	Valid

Problem M. 74633. Reverse the array

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

You are given an array of n elements. Write a function for printing given array in reverse order.

Input

The first line contains an integer n ($1 \leqslant n \leqslant 10^5$). The second line contains n numbers i (elements of the array) ($1 \leqslant i \leqslant 10^6$).

Output

Output the array in reverse order.

Examples

standard input	standard output
3 1 2 3	3 2 1
5 3 2 1 3 4	4 3 1 2 3
2 0 2	2 0
4 0 2 233 1	1 233 2 0
1 2	2

Problem N. 74714. Array transpose

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

Given an array of n x m elements. Write a function that transposes the array.

Input

First line contains two integers n and m ($1 \leqslant n, m \leqslant 10^3$). The next n lines contain m integers i ($1 \leqslant i \leqslant 10^5$) each.

Output

Output the transposed array.

Examples

standard input	standard output
2 3 1 2 3 4 5 6	1 4 2 5 3 6
3 4 82 12 13 24 22 11 22 30 93 33 11 33	82 22 93 12 11 33 13 22 11 24 30 33
1 1 1	1
2 2 1 2 3 4	1 3 2 4
5 1 33 22 13 33 78	33 22 13 33 78

Note

Transposed array - array obtained by switching columns with rows of the array.

Problem O. 74861. Lucky ticket

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

Do you use public transportation? Probably, you paid for the fare and received ticket with number. Lucky ticket is ticket with number, where sum of all numeral is divided by last numeral. For example, 754 is lucky, because the remainder of dividing 7+5+4 by 4 is 0. Write the function which check the number for luck.

Input

In the first line of the input file there is a natural number n, $(1 \leq n \leq 10^9)$ — ticket number.

Output

If the ticket is lucky "Yes"otherwise "No".

Example

standard input	standard output
123123	Yes

Problem P. 74450. Positive number

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

Alisa hates negative numbers. Write the function which converts the number to positive.

Input

In the first line of the input file there is a natural number n, $(1 \leq n \leq 10000)$ — number.

Output

Output the positive number.

Examples

standard input	standard output
1	1
-10	10
-15	15

Problem Q. 74867. Percent of girls

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

Director of school number 3 wants to congratulate all girls. That's why he need know what percentage of all pupils are girls? Let's help him. Write a function which will find the percentage of girls in school.

Input

In the first line of the input givens two integers n and m ($1 \le m \le n \le 1000$) — total number of pupils and number of girls.

Output

Output percentage of girls with 1000 accuracy.

Examples

standard input	standard output
100 20	20
50 20	40

Problem R. 74447. ToUpper

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

You are given one letter of English alphabet, write a function which will convert only lowercase letters to uppercase.

Input

In first line of input given a character lower or upper case English letter.

Output

Upper case English letter.

Examples

standard input	standard output
a	A
b	B
c	C
d	D
E	E