Problem A. Palindrome

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

You are given a number n. Find whether it is palindrome or not.

Input

A single number n ($0 \leq n \leq 1000000000$).

Output

'YES' - if the number is palindrome, 'NO' otherwise.

Examples

standard input	standard output
6116	YES
155	NO
12321	YES

Note

Palindome - a word, phrase, or sequence that reads the same backwards as forwards

Problem B. Problem C. Azat likes sorting

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

Azat is a perfectionist and he likes everything to be perfect. Help Azat sort letters alphabetically. good luck!

Input

The input string and only small letters.

Output

Print answer.

Examples

standard input	standard output
ijnuhbygvtfcrdx	bcdfghijnrtuvxy
asdzxchfg	acdfghsxz

Note

you cannot use the sort function

Problem C. Bad-seven

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

Everyone loves the number 7, but integers which when divided by 7 give the remainder of 1, 2 or 5 are considered `BAD`. You are given `l` and `r`, print all the numbers that are considered `BAD` in range `[l : r]` (inclusive).

Input

In single line you are given integer `l, r` - range.

1 <= l <= r <= 10000.

Output

Print all bad numbers in range [l : r].

Examples

standard input	standard output
5 20	5 8 9 12 15 16 19
40 55	40 43 44 47 50 51 54

Problem D. Tribonacci

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

The Tribonacci sequence T[n] is defined as follows:

T[0] = 0, T[1] = 1, T[2] = 1, and T[n+3] = T[n] + T[n+1] + T[n+2] for n >= 0.

Given `n`, return the value of `T[n]`.

Input

Given single integer n. $0 \leq n \leq 20$

Output

Print n-th Tribonacci Number.

Examples

standard input	standard output
4	4
20	66012

Problem E. Just vector

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

Using a vector. the user writes a command such as push after that he should keep the number and so on.

Input

String s and integer n.

Output

print answer.

Example

standard input	standard output
push 5	OK
push 10	OK
size	2
back	10
front	5
pop	OK
size	1
clear	OK
size	0
end	Black Devil

Problem F. Temur

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

Temur just graduated school and get into KBTU. But he did not know, that the building is big and ways are very complicated. Now Temur stands at Tole Bi's first floor(top left) and wants to get to the 414 room(bottom right). But the problem is, that he can move only to the right or forward(down in matrix). Help him and find in how many ways Temur can get to the room number 414.

Input

Integer a and b. $1 < a,b < 17$

Output

print answer.

Problem G. Projection Area of 3D Shapes

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

On a `N * N` grid, we place some `1 * 1 * 1` cubes that are axis-aligned with the x, y, and z axes.

Each value `v = grid[i][j]` represents a tower of `v` cubes placed on top of grid cell `(i, j)`.

Now we view the projection of these cubes onto the xy, yz, and zx planes.

A projection is like a shadow, that maps our 3 dimensional figure to a 2 dimensional plane.

Here, we are viewing the "shadow"when looking at the cubes from the top, the front, and the side.

Return the total area of all three projections.

Input

In the first input line given `N` size of the grid;

In the next `N` lines, each line represents height `v` of `N` cubes viewed from the top of xy-plane. 1 <= N <= 500.

0 <= v <= 500.

Output

Output total area of all three projections.

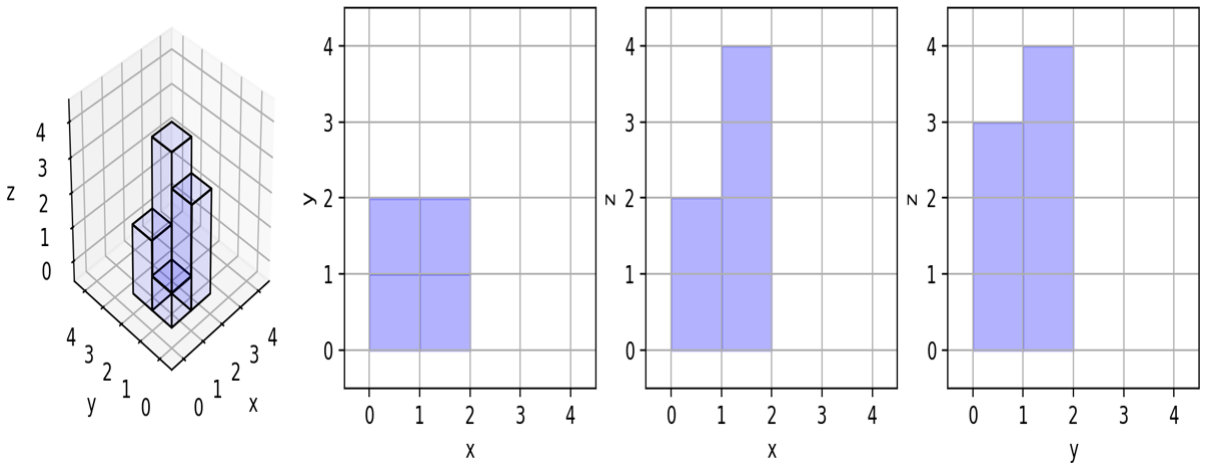
Examples

standard input	standard output
1 2	5
2 1 2 3 4	17
3 1 1 1 1 0 1 1 1 1	14

Note

Here are the three projections ("shadows") of the shape made with each axis-aligned plane.

Explanation of Example 2


z
y
x
y
x
z
x
z
y

Problem H. LCM+GCD

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

You need to find gcd and lcm via recursion and output the result as cout«gcd (a, b)+lcm (a,b).

Input

Integer a and b.

Output

print answer.

Example

standard input	standard output
1 4	5

Note

If you don't solve through recursion 0 points

Problem I. Badaev and Isakhov

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

Hi! I hope you all know vector-matrix multiplication. I will tell for those who rolled linear algebra. Multiplying the first row by the first column.

Input

The first is the size of the two-dimensional array. Filling two double matrices.

Output

A double array is output

Example

standard input	standard output
3 1 2 3 1 2 3 1 2 3 3 2 1 3 2 1 3 2 1	18 12 6 18 12 6 18 12 6

Note

by Black Devil.

Problem J. Anagram

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

Given two strings `s` and `t`, You must to write a FUNCTION `isAnagram(string s, string t)` to determine if `t` is an anagram of `s`.

Input

Given two strings s, t.

Output

Print "Yes", if t is anagram of s, else print "No".

Examples

standard input	standard output
anagram nagaram	Yes
rat car	No

Note

Anagram is a word formed from another by rearranging its letters:

Problem K. Fence problem

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

Adil really likes climbing over the fences, but sometimes fences are too high. He does practice 3 times a day. To climb over the fence, the average score at least of one of the training days must be more or equal than a height of the fence. You have to determine, can he climb over the given fence or not.

Input

The first line of input contains integers n ($1 \leq n \leq 1000$) - number of Adil's training days and k ($0 \leq n \leq 100$) - the height of the fence. Each of the next n lines contains 3 integers - three scores of his practice a day.

Output

Print 'YES' if he can climb over the fence otherwise print 'NO'.

Examples

standard input	standard output
3 6 1 2 3 1 1 2 5 6 7	YES
4 12 1 2 3 4 5 6 7 8 9 12 13 14	YES

Problem L. Back to home

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, judge if this robot ends up at (0, 0) after it completes 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). You must to implement FUNCTION `isBacktoHome(string moves)`. If the robot returns to the origin after it finishes all of its moves, function returns true. Otherwise, returns false.

Input

You are given single string `moves`, sequence of moves.

Output

Print "Home", if it returns to the origin, else print "Lost".

Examples

standard input	standard output
UD	True
UL	False
ULDR	True

Problem M. Amount of percents

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

Write a program, that will ask you to enter positive numbers. The program will terminate when it meets a negative number.

Input

Input contains positive integer numbers.

Output

Print out the percentage of even numbers and percentage of odd numbers. (Consider zero as even number)

Examples

standard input	standard output
5 7 8 9 0 -2	40% 60%
1 2 3 4 5 6 7 8 9 10 11 12 13 15 17 29 3 30 43 15 19 -1	33.3333% 66.6667%

Problem N. Sum +1, -1

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

Calculate sum of a and b, using only recursion function with +1 and -1 operations. Not allowed using any type of loop. Your function must be recursive.)

Input

-1000 <= a, b <= 1000

Output

a + b

Examples

standard input	standard output
-27 27	0
99 123	222

Note

return (a + b); // WRONG