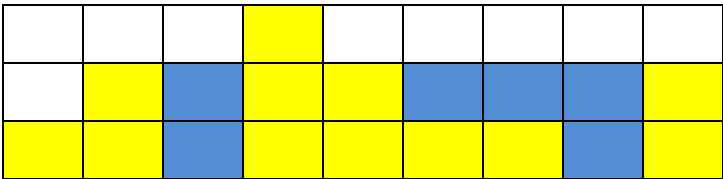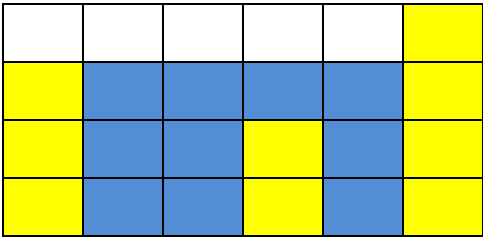# 1   Quarry

A quarry company near Jaipur is working on a Marble site. They are excavating a piece of land and making marble tiles of the excavated material.

But then the company did not plan it well and now is left with a site where some parts have been excavated well and some have not been.The picture below should give you an idea.

Given n non-negative integers representing an elevation map where the width of each bar is 1, compute how much land is yet to be excavated.

Input/Output

Input	Output	Comments
1 2 0 3 2 1 1 0 2	**6**	Input : 'n' - non negative integers separated by space Explanation: Yellow coloured blocks - excavated land Blue coloured blocks - land is yet to be excavated
3 0 0 2 0 4	**10**	Explanation: Yellow coloured blocks - excavated land Blue coloured blocks - land is yet to be excavated

2 Mike and Muffins

Mike's mom asked him to carry mini blue berry muffins to his sister's birthday party on top floor.

4 year old Mike starts his ascent with the blue berry tray.

Mike is given M muffins, and the number of steps is S.

All muffins look and behave the same way, they get smudged when they fall. And when a muffin falls it must Not be picked and put in tray.

Assuming that there exists a step S with $0 <= S$ such that any muffin dropped at a step S will get smudged and any muffin dropped at or below step S will not get smudged.

Each move, Mike may drop a muffin and drop it from any step d (with $1 <=d <=M$)

Our goal is to know with surety what the value of d is.

What is the least number of moves that we need to know with certainty what d is, irrespective of the initial value of S.

Input/Output

Input	Output	Comments
1 2	**2**	- Muffins M=1, Steps S=2 - Drop the muffin from step 1. If it smudges,we know with certainty that S = 0. - Otherwise, drop the muffin from step 2. If it smudges,we know with certainty that S = 1. - If it didn't smudge,then we know with certainty S = 2. - Hence, we needed 2 moves in the worst case to know what S is with certainty.
2 6	**3**	
3 14	**4**	

3 Guava Group

Gauri is a guava vendor in a market. She sells guavas in small groups.

There are M sets/groups of guavas in a row. The j-th pile has guavas[j] guavas.

She likes to combine the groups to sell them faster. But her owner charges her each time she combines two groups.

A merge consists of grouping exactly L consecutive groups into one group, and the cost of this merge is equal to the total number of gauvas in these L groups.

Find the least amount that she has to pay her owner to combine all groups of guavas into one group. If it is not possible, return -1

Input	Output	Comments
2 3 7 4 2	32	Input: Line 1 - Groups of guavas in a row. The j-th pile has guavas[j] guavas Line 2 - Value of L Output: least amount Explanation: We start with 2 3 7 4 and L= 2 We combine "2 3" for a cost of 5, and we are left with "5 7 4". We combine "7 4" for a cost of 11, and we are left with "5 11". We combine "5 11" for a cost of 16, and we are left with "16". The total cost was 5 + 11 + 16 = 32, and this is the minimum possible.
3 5 1 2 6 3	25	We start with 3 5 1 2 6 and L = 3 We combine "5 1 2" for a cost of 8, and we are left with "3 8 6". We combine "3 8 6" for a cost of 17, and we are left with "17". The total cost was 8 + 17 = 25, and this is the minimum possible.
2 3 7 4 3	-1	After combining 3 consecutive piles, there are 2 piles left, and we can't combine anymore. So, the task is impossible.