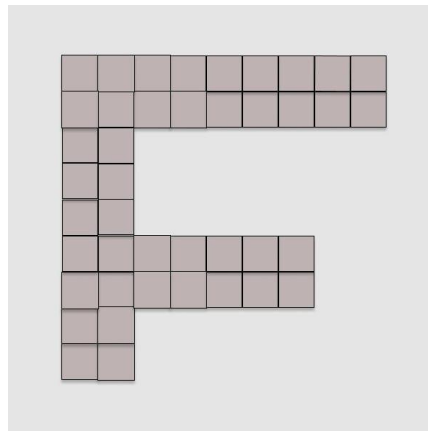# Problem 11 : battlefield

Statement

While teams go out far away from walls and fight in battles, each team takes up shapes in the graph of the area where they fight. The purpose of this challenge is to calculate the whole space of all shapes.

Input

Given integer N the number of shapes, their height (hi) and their width (wi).

Output

The whole space.

Example

Input	Output
3 9 2 2 9 2 7	42