

Trash Problem

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 1024 mebibytes

You are given an $n \times n$ grid where each cell is either black (0) or white (1).

Count the number of rectangular regions that satisfy the following condition: All white cells within the region can be exactly covered by non-overlapping 2×2 squares, and no black cells are covered. Each 2×2 square must lie entirely within the region and consist of four white cells.

Input

The first line contains a positive integer n , the size of the grid ($1 \leq n \leq 300$).

Each of the next n lines contains a string of length n composed of digits '0' and '1'. These lines represent the rows of the grid.

Output

Print a single integer: the number of valid rectangular regions.

Example

<i>standard input</i>	<i>standard output</i>
4 0110 0110 1111 1111	17

Note

Please note that regions without any white cells are also counted as valid regions.