Walk of Length 6

Input file:	`standard input`
Output file:	`standard output`
Time limit:	0.5 seconds
Memory limit:	512 megabytes

Bobo has an undirected graph with n vertices which are conveniently labeled with $1, 2, \ldots, n$. Let V be the set of vertices and E be the set of edges. He would like to count the number of tuples $(v_1, v_2, \ldots, v_6)$ where:

- $v_1, v_2, \ldots, v_6 \in V$,
- $\{v_1, v_2\}, \{v_2, v_3\}, \ldots, \{v_5, v_6\}, \{v_6, v_1\} \in E$;
- $\mathcal{C} = (\{v_1, v_2\}, \{v_2, v_3\}, \ldots, \{v_5, v_6\}, \{v_6, v_1\})$ is **not** a simple cycle of length 6.

Input

The input contains zero or more test cases, and is terminated by end-of-file. For each test case:

The first line contains an integer n ($1 \leq n \leq 1000$).

The i-th of the following n lines contains a string g_i of length n where $g_{i,j}$ denotes the existence of edge $\{i, j\}$ ($g_{i,j} \in \{0, 1\}$, $g_{i,i} = 0$, $g_{i,j} = g_{j,i}$).

It is guaranteed that the sum of n does not exceed 1000.

Output

For each test case, output an integer which denotes the number of tuples.

Example

standard input	standard output
3 011 101 110 4 0101 1010 0101 1010 6 011111 101111 110111 111011 111101 111110	66 128 14910