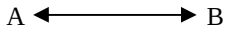
7. ACSL Cycles

PROBLEM: Our short answer cycle questions were long and tough this year. We decided you need a program to do them for you, but you have to write it. Given the adjacency matrix of a directed graph, calculate the number of different cycles. Note that in the directed graph below there is just one cycle. ABA is the same as BAB.



INPUT: There will be 10 inputs. Each input line will consist of a positive integer N ($N \leq 5$) denoting the number of vertices in the graph and will be followed by N strings of consisting of 1's and 0's representing the entries in the matrix across its rows. As an example: 4, 0100, 0010, 0001, 1000 would produce the following adjacency matrix:

	A	B	C	D
A	0	1	0	0
B	0	0	1	0
C	0	0	0	1
D	1	0	0	0

OUTPUT: Print the number of cycles that exist in the directed graph.

SAMPLE INPUT

1. 4, 0100, 0010, 0001, 1000
2. 4, 0110, 0010, 1001, 1000
3. 3, 111,001, 001

SAMPLE OUTPUT

1. 1 (ABCDA not required)
2. 4 (ABCA, ACDA, ABCDA, ACA)
3. 2 (AA, CC)