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Exercise – *Placing Knights*

Let us have a square chessboard of a given size with holes. How many knights can you place on the chessboard so that no two knights threaten each other?

Input The first line of the input contains the number of test cases $1 \leq t \leq 50$. t test cases follow. Each of them describes one chessboard, starting with a line containing $1 \leq n \leq 2^6$, the length of each side of the chessboard in squares. The next n lines contain n boolean variables each, denoting whether the corresponding chessboard field is present (1), or is a hole (0).

Output For every testcase you should output a single line with the maximum number of knights you can place on the chessboard so that no two threaten each other. That means that if the coordinates of one knight are denoted by $[i, j]$, there can be no knights at positions $[i-1, j-2]$, $[i-1, j+2]$, $[i+1, j-2]$, $[i+1, j+2]$, $[i-2, j-1]$, $[i-2, j+1]$, $[i+2, j-1]$, $[i+2, j+1]$. It is disallowed to place knights on the holes or outside of the chessboard.

Points There are three groups of test sets. The first one is worth 30 points, the second and third are worth 35 points each, so that there are 100 points in total. For the first group you may assume $n \leq 6$.

Sample Input

```
3
3
1 1 1
1 0 1
1 1 0
3
1 0 1
0 0 1
1 0 1
7
1 0 1 1 1 1 1
1 1 1 1 0 1 1
1 0 1 1 1 1 1
1 1 1 1 1 1 1
1 0 1 1 1 1 1
1 1 1 1 1 1 1
1 1 1 0 1 1 1
```

Sample Output

```
4
4
25
```