

## 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 chessboards  $1 \leq t \leq 50$ . Each of the  $t$  chessboards is described as follows:

- It starts with a line containing  $1 \leq n \leq 2^6$ ,  
the length of each side of the chessboard in squares. 这个题比tiles难就难在, 选择一个要如何禁止另外 $\leq 8$ 个
- The next  $n$  lines each contain  $n$  integer values, separated by a space,  
denoting whether the corresponding chessboard field is present (1), or is a hole (0). 如何选了一个组以后, 限制组内的边互相连

**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.

(I.e. if a knight is placed on position  $[i, j]$  ( $i$ th row,  $j$ th column), 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 the outside of the chessboard.)

**Points** There are three groups of test sets which are worth 100 points in total.

1. For the first group of test sets, worth 30 points, you may assume that  $n \leq 6$ .
2. For the second and third group of test sets, worth 35 points each, there are no further assumptions.

Corresponding sample test sets are contained in `testi.in/out`, for  $i \in \{1, 2, 3\}$ .

### 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
```