

# Problem G

## Square Grids

Time Limit: 2 seconds

Given a square grid that has some (but not all) of its tiles filled, what is the largest square grid that can be placed on top of the original grid in such way that it does not cover any of the filled tiles?



### Input

The input file starts with an integer  $T(1 \leq T \leq 100)$ , the number of test cases. Each test case starts with a line containing an integer  $N(2 \leq N \leq 2000)$ , the size of the original square grid, followed by  $N$  lines containing  $N$  characters from  $\{'E', 'F'\}$ , 'E' indicating an empty tile and 'F' the filled one.

### Output

For each test case, output the size of the square that can be placed in the original grid without covering any previously filled tiles.

Sample Input	Sample Output
2	2
2	2
EE	
EE	
3	
FEE	
EEE	
EEE	