

Ada and Plus

Ada the Ladybug has decided to move to other city. She was deciding where to live - she wanted the city which would be the biggest PLUS to live in. You will be given a map with $N \times N$ cities. Size of PLUS is the number of cities in each of four direction (+ the city itself).

Input

The first line contains T , the number of test-cases.

The first line of each test-case will contain $0 < N \leq 2000$, the size of map.

N lines will follow, each containing N characters. Characters will be either '#' (indicating a city) or '.' (indicating free space).

Output

For each test-case, print exactly one number - the size of biggest '+' (PLUS).

Example Input

```
4
5
..#..
..#.#
#####
..#.#
..#..
3
..#
#.#
#.#
4
##.#
####
##.#
#.#
4
####
####
####
####
```

Example Output

```
3
1
2
2
```

Explanation of test-cases

1st test-case

..#..
..#.#

..#.#
..#..

2nd test-case

..#
#.#
#.#

3rd test-case

##.#

##.#
#..#

4th test-case

####