

# Problem B

## BLACKBOARD BONANZA

File name: A.{java,c,cpp}

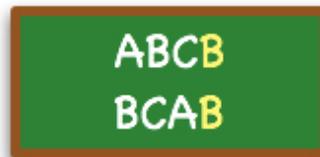
Alice and Bob both have lots of candies but want more. They decide to play the following turn-based game.

First they write some words on a few pieces of paper and put them into a bag so they cannot see the words. Next they decide whose turn is first. The first turn begins with the first player drawing and keeping a piece of paper with the word  $A$  from the bag and copying  $A$  onto a blackboard evenly spaced.

Then the second player draws and keeps a piece of paper with the word  $B$  on it. The current player is to write  $B$  on the blackboard underneath  $A$  evenly spaced. The second player receives one candy from the first for each character that matches vertically between  $A$  and  $B$ .

Now it is the first player's turn who similarly draws and places word  $C$  underneath  $B$  and gains a candy for each of the characters vertically matched between  $B$  and  $C$ . The game continues until there are no more words in the bag.

What is the maximum number of candies that one of Alice and Bob will get in a turn?



*The game on the second blackboard awards the second player one candy. The game on the third blackboard awards the second player two candies.*

### Program Input

The first line of the input contains an integer  $t$  ( $1 \leq t \leq 32$ ), the number of test cases. Each test case starts with an integer  $n$  ( $2 \leq n \leq 32$ ), the number of words. Then follow  $n$  lines containing one word each. Each word will contain between 1 and 32 characters, all of them uppercase letters of English alphabet.

## Program Output

For each test case, print a line containing the maximum number of candies either Alice or Bob can get in a single turn.

## Sample Input & Output

I N P U T	O U T P U T
2 2 ALICE BOB 2 ABCB BCAB	0 2