Troy

The city of Troy has been infiltrated with the Trojan horse. Prince Paris gets the layout of the city from observer soldiers in the city. Troy is represented as a 2D matrix, where each element is a sector. Each sector can be in two states T - under Troy's control, E - under enemy's control. Since, Paris is out of time and men, he can only build one rectangular quarantine, which doesn't allow enemies to enter the sectors within it. To adjust his troops, Paris wants to know how many sectors are saved by doing so in the best case. Given the layout of troy. Help paris by computing the maximum number of sectors that can be quarantined.

Input
T - the number of testcases
For each testcase
First line: m, n - the number of rows and columns.
Next m lines: each line has n space separated characters(T/E) representing state of sector.

Output
The max number of sectors that can be quarantined.

Constraints:
1<=T<=10
1 <= m, n <= 1000
A[i][j] is 'T' or 'E'

Sample Input #1
4 4
E T T E
T T T T
T T T T
T T E E

Sample Output #1
8
These sectors are quarantined.
T T T T
T T T T