M03S02 [Pointers and Functions]: Exercise 05

CS110: Computing Lab
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M03S02E05: Non-Palindromic Trace Count

Given a 2D grid of dimensions $M \times N$, with each cell consisting of an uppercase alphabet. Write a program to compute the number of non-palindromic traces from source cell located at $(M-1, N-1)$ to the destination cell located at $(0, 0)$. That is, while traversing from source to the destination cell, the sequence of encountered characters should form a Non-Palindrome while each step in traverse should either be a move to leftside cell or upside cell.

Input Format:
In the first line, 2D grid size (number of rows and number of columns) are given.
In the second line, alphabet character of each cell is given in row major form.

Output Format:
Display number of non-polindromic traces.

Constraints:

$$1 \leq M, N \leq 7$$

NOTE: Student must use pointer(s) and function(s) to solve this exercise

Example 1:

Input:
3 4
A A A B B A A A A B B A

Output:
7
Explanation:
Total number of possible traces = 10
Number of polindromic traces = 3
Number of non-polindromic traces = 7