Run and Space Complexity of MCP

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1 Recursive Solution

Time Complexity:

$$T(n) = n \times m \,\text{operations} \times O(1)$$

$$T(n) = O(nm)$$

Space Complexity:

$$S(n) = n \times m \,\text{dictionary entries} \times \text{size of dictionary element}$$

$$S(n) = O(nm)$$

2 Iterative Solution

Time Complexity:

$$T(n) = n \times m \,\text{operations} \times O(1)$$

$$T(n) = O(nm)$$

Space Complexity:

$$S(n) = n \times m \,\text{cost matrix} \times \text{size of matrix element}$$

$$S(n) = O(n)$$