

# Problem 576: Out of Boundary Paths

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 48.30%

**Paid Only:** No

**Tags:** Dynamic Programming

## Problem Description

There is an `m x n` grid with a ball. The ball is initially at the position `[startRow, startColumn]`. You are allowed to move the ball to one of the four adjacent cells in the grid (possibly out of the grid crossing the grid boundary). You can apply \*\*at most\*\* `maxMove` moves to the ball.

Given the five integers `m`, `n`, `maxMove`, `startRow`, `startColumn`, return the number of paths to move the ball out of the grid boundary. Since the answer can be very large, return it \*\*modulo\*\* `10<sup>9</sup> + 7`.

**Example 1:**



**Input:** m = 2, n = 2, maxMove = 2, startRow = 0, startColumn = 0    **Output:** 6

**Example 2:**



**Input:** m = 1, n = 3, maxMove = 3, startRow = 0, startColumn = 1    **Output:** 12

**Constraints:**

\* `1 <= m, n <= 50` \* `0 <= maxMove <= 50` \* `0 <= startRow < m` \* `0 <= startColumn < n`

## Code Snippets

### C++:

```
class Solution {  
public:  
    int findPaths(int m, int n, int maxMove, int startRow, int startColumn) {  
  
    }  
};
```

### Java:

```
class Solution {  
    public int findPaths(int m, int n, int maxMove, int startRow, int  
    startColumn) {  
  
    }  
}
```

### Python3:

```
class Solution:  
    def findPaths(self, m: int, n: int, maxMove: int, startRow: int, startColumn:  
    int) -> int:
```