**62. Unique Paths**

Medium

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A robot is located at the top-left corner of a *m* x *n* grid (marked 'Start' in the diagram below).

The robot can only move either down or right at any point in time. The robot is trying to reach the bottom-right corner of the grid (marked 'Finish' in the diagram below).

How many possible unique paths are there?

  
Above is a 7 x 3 grid. How many possible unique paths are there?

**Note:** *m* and *n* will be at most 100.

**Example 1:**

**Input:** m = 3, n = 2

**Output:** 3

**Explanation:**

From the top-left corner, there are a total of 3 ways to reach the bottom-right corner:

1. Right -> Right -> Down

2. Right -> Down -> Right

3. Down -> Right -> Right

**Example 2:**

**Input:** m = 7, n = 3

**Output:** 28

1. Dynamic Programing

对动态规划不太熟的同学可以看一下这篇文章：<https://www.zhihu.com/question/23995189>

这道题和传统的动态规划寻找最优解不太一样，因为这里只需要记录有多少路径，不存在最优的问题，即无需有最优子结构性质。但是仍然可以借鉴动态规划的无后效性性质，即这一步的答案是建立在前一步的基础上，而不是前几步。

首先需要一个二维数组来存储动态规划路径，至于如何创建二维数组，避免python浅拷贝的坑，请参考<https://blog.csdn.net/cyjmosthandsome/article/details/80158898>

然后我们会发现由于机器人只能向左和向下走，所以到4的路径数是由到2（上边格子）和到3（左边格子）路径数的和决定的，此外需要注意边界情况，如到2的路径数只是又到其左边格子（1号）决定的。这样我们就可以愉快的写代码了





注意：弄清楚行数和列数。如果index out of range 大多数是因为m,n弄反了

