

# 2017. Grid Game

Medium

Topics

Companies

Hint

You are given a **0-indexed** 2D array `grid` of size `2 x n`, where `grid[r][c]` represents the number of points at position `(r, c)` on the map. Both robots initially start at `(0, 0)` and want to reach `(1, n-1)`. Each robot may only move to the **right** (`(r, c)` to `(r, c + 1)`) or **down** (`(r, c)` to `(r + 1, c)`). At the start of the game, the **first** robot moves from `(0, 0)` to `(1, n-1)`, collecting all the points from the cells on its path. For all cells `(i, j)` where `0 <= i < 1` and `0 <= j < n`, the **first** robot will set `grid[i][j] = 0`. The **first** robot wants to **minimize** the number of points collected by the **second** robot. In contrast, the **second** robot wants to **maximize** the number of points collected.

### Example 1:

2	5	4
1	5	1

0	0	4
1	0	0

**Input:** `grid = [[2,5,4],[1,5,1]]`

**Output:** 4

**Explanation:** The optimal path taken by the first robot is shown in red, and the optimal path taken by the second robot is shown in blue. The cells visited by the first robot are set to 0. The second robot will collect  $0 + 0 + 4 + 0 = 4$  points.

### Example 2:

3	3	1
8	5	2

0	3	1
0	0	0

**Input:** `grid = [[3,3,1],[8,5,2]]`

**Output:** 4

**Explanation:** The optimal path taken by the first robot is shown in red, and the optimal path taken by the second robot is shown in blue. The cells visited by the first robot are set to 0. The second robot will collect  $0 + 3 + 1 + 0 = 4$  points.

### Example 3:

1	3	1	15
1	3	3	1

0	0	0	0
1	3	3	0

**Input:** `grid = [[1,3,1,15],[1,3,3,1]]`

**Output:** 7

**Explanation:** The optimal path taken by the first robot is shown in red, and the optimal path taken by the second robot is shown in blue. The cells visited by the first robot are set to 0. The second robot will collect  $0 + 1 + 3 + 3 + 0 = 7$  points.

### Constraints:

- `grid.length == 2`
- `n == grid[r].length`
- `1 <= n <= 5 * 104`
- `1 <= grid[r][c] <= 105`