2087. Minimum Cost Homecoming of a Robot in a Grid

Description

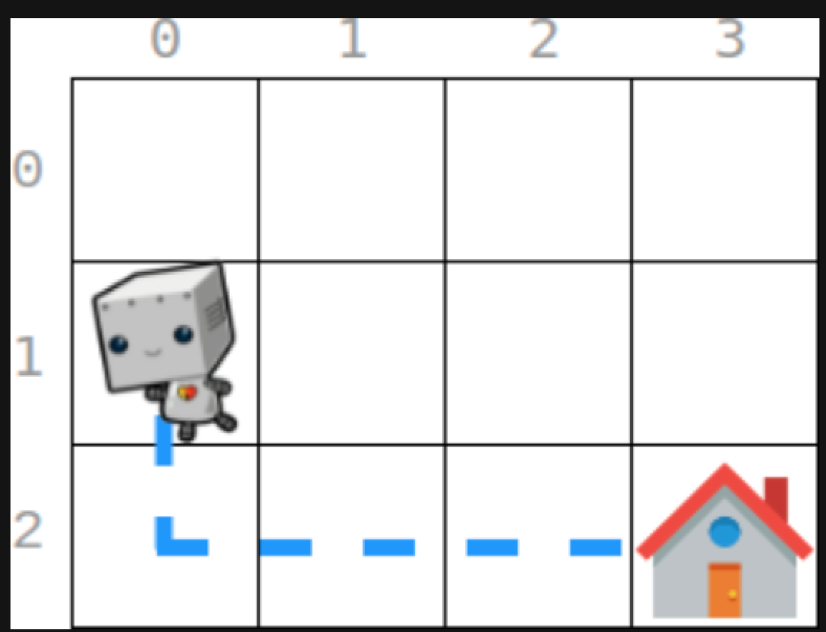
There is an `m x n` grid, where `(0, 0)` is the top-left cell and `(m - 1, n - 1)` is the bottom-right cell. You are given an integer array `startPos` where `startPos = [start_row, start_col]` indicates that **initially**, a **robot** is at the cell `(start_row, start_col)`. You are also given an integer array `homePos` where `homePos = [home_row, home_col]` indicates that its **home** is at the cell `(home_row, home_col)`.

The robot needs to go to its home. It can move one cell in four directions: **left**, **right**, **up**, or **down**, and it can not move outside the boundary. Every move incurs some cost. You are further given two **0-indexed** integer arrays: `rowCosts` of length `m` and `colCosts` of length `n`.

- If the robot moves **up** or **down** into a cell whose **row** is `r`, then this move costs `rowCosts[r]`.
- If the robot moves **left** or **right** into a cell whose **column** is `c`, then this move costs `colCosts[c]`.

Return *the **minimum total cost** for this robot to return home*.

Example 1:




```
Input: startPos = [1, 0], homePos = [2, 3], rowCosts = [5, 4, 3], colCosts = [8, 2, 6, 7]
Output: 18
Explanation: One optimal path is that:
Starting from (1, 0)
-> It goes down to ( 2 , 0). This move costs rowCosts[2] = 3.
-> It goes right to (2,  1 ). This move costs colCosts[1] = 2.
-> It goes right to (2,  2 ). This move costs colCosts[2] = 6.
-> It goes right to (2,  3 ). This move costs colCosts[3] = 7.
The total cost is 3 + 2 + 6 + 7 = 18
```

Example 2:

```
Input: startPos = [0, 0], homePos = [0, 0], rowCosts = [5], colCosts = [26]
Output: 0
Explanation: The robot is already at its home. Since no moves occur, the total cost is 0.
```

Constraints:

- `m == rowCosts.length`
- `n == colCosts.length`
- $1 <= m, n <= 10^5$
- $0 <= rowCosts[r], colCosts[c] <= 10^4$
- `startPos.length == 2`
- `homePos.length == 2`
- $0 <= start_{row}, home_{row} < m$
- $0 <= start_{col}, home_{col} < n$