# Problem 741: Cherry Pickup

## Problem Information

**Difficulty:** Hard
**Acceptance Rate:** 38.72%
**Paid Only:** No
**Tags:** Array, Dynamic Programming, Matrix

## Problem Description

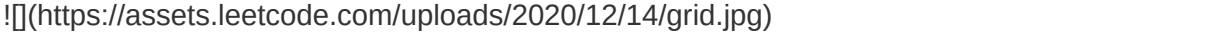
You are given an `n x n` `grid` representing a field of cherries, each cell is one of three possible integers.

* `0` means the cell is empty, so you can pass through, * `1` means the cell contains a cherry that you can pick up and pass through, or * `-1` means the cell contains a thorn that blocks your way.

Return _the maximum number of cherries you can collect by following the rules below_ :

* Starting at the position `(0, 0)` and reaching `(n - 1, n - 1)` by moving right or down through valid path cells (cells with value `0` or `1`). * After reaching `(n - 1, n - 1)`, returning to `(0, 0)` by moving left or up through valid path cells. * When passing through a path cell containing a cherry, you pick it up, and the cell becomes an empty cell `0`. * If there is no valid path between `(0, 0)` and `(n - 1, n - 1)`, then no cherries can be collected.

**Example 1:**




**Input:** grid = [[0,1,-1],[1,0,-1],[1,1,1]] **Output:** 5 **Explanation:** The player started at (0, 0) and went down, down, right right to reach (2, 2). 4 cherries were picked up during this single trip, and the matrix becomes [[0,1,-1],[0,0,-1],[0,0,0]]. Then, the player went left, up, up, left to return home, picking up one more cherry. The total number of cherries picked up is 5, and this is the maximum possible.

**Example 2:**

**Input:** grid = [[1,1,-1],[1,-1,1],[-1,1,1]] **Output:** 0

**Constraints:**

* `n == grid.length` * `n == grid[i].length` * `1 <= n <= 50` * `grid[i][j]` is `-1`, `0`, or `1`. * `grid[0][0] != -1` * `grid[n - 1][n - 1] != -1`

## Code Snippets

**C++:**

```
class Solution {
public:
int cherryPickup(vector<vector<int>>& grid) {

}
};
```

**Java:**

```
class Solution {
public int cherryPickup(int[][] grid) {

}
}
```

**Python3:**

```
class Solution:
def cherryPickup(self, grid: List[List[int]]) -> int:
```