▦ Description   🔒 Solution   💬 Discuss (844)   🕐 Submissions

ⓘ C++ ▼   Autocomplete ⓘ { } ↺

Success   Details ›

Runtime: **8 ms**, faster than **60.29%** of C++ online submissions for Dungeon Game.

Memory Usage: **8.9 MB**, less than **70.00%** of C++ online submissions for Dungeon Game.

Next challenges:

(Minimum Path Sum)   (Cherry Pickup)

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Time Submitted	Status	Runtime	Memory	Language
11/29/2021 08:58	Accepted	8 ms	8.9 MB	cpp

```cpp
class Solution {
public:
    int calculateMinimumHP(vector<vector<int>>& dungeon) {
        int m = dungeon.size();
        int n = dungeon[0].size();
        vector<vector<int>> dp(m, vector<int>(n, 0));
        dp[m - 1][n - 1] = max(1, 1 - dungeon[m - 1][n - 1]);
        for (int i = n - 2; i >= 0; i--) {
            dp[m - 1][i] = max(1, dp[m - 1][i + 1] - dungeon[m - 1][i]);
        }
        for (int j = m - 2; j >= 0; j--) {
            dp[j][n - 1] = max(1, dp[j + 1][n - 1] - dungeon[j][n - 1]);
        }
        for (int i = m - 2; i >= 0; i--) {
            for (int j = n - 2; j >= 0; j--) {
                dp[i][j] = max(1, min(dp[i + 1][j], dp[i][j + 1]) - dungeon[i][j]);
            }
        }
        return dp[0][0];
    }
};
```