DP-S005 (E008)

Solved Challenges 0/2

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Game - Collect Maximum Points

ID:11056 Solved By 721 Users

A game has a board with an **RxC** matrix having R rows and C columns containing positive integer values as cell values. A player can start from the top-left cell and perform the following two navigations after collecting the points in that cell.
- The player can move to the right cell.
- The player can move to the bottom cell.
The player cannot come back to the previous row or column. The player navigates until he reaches the bottom-right cell. The program must print the maximum points a player can collect from the given RxC matrix as the output.

Boundary Condition(s):
2 <= R, C <= 50
0 <= Each integer value <= 1000

Input Format:
The first line contains R and C separated by a space.
The next R lines, each containing C integers separated by a space.

Output Format:
The first line contains the maximum points a player can collect from the given RxC matrix.

Example Input/Output 1:
Input:

```
4 5
4 2 9 6 1
7 9 6 5 4
5 7 3 8 8
7 4 9 9 4
```

Output:

```
53
```

Explanation:
The navigation of the player to collect the maximum points is given below.
4 -> 7 -> 9 -> 7 -> 4 -> 9 -> 9 -> 4
The maximum points a player can collect from the 4x5 matrix is **53** (4+7+9+7+4+9+9+4).
Hence the output is 53

Example Input/Output 2:
Input:

```
3 3
48 64 47
63 33 14
44 82 52
```

Output:

```
289
```

Max Execution Time Limit: 500 millisecs

Ambiance

Python3 (3.x)

Reset

```
rc = list(map(int, input().split()))
r = rc[0]
c = rc[1]


matrix = []
max_matrix = []

for row in range(r):
    matrix.append(list(map(int, input().split())))
    max_matrix.append([0]*c)


max_matrix[0][0] = matrix[0][0]

for col in range(1,c):
    max_matrix[0][col] = max_matrix[0][col-1] + matrix[0][col]

for row in range(1,r):
    max_matrix[row][0] = max_matrix[row-1][0] + matrix[row][0]

for row in range(1,r):
    for col in range(1,c):
        max_matrix[row][col] = max(max_matrix[row][col-1],max_mat
            -1][col]) + matrix[row][col]


print(max_matrix[r-1][c-1])
```

Code did not pass the execution

TestCase ID: 63129

Input:

```
4 5
4 2 9 6 1
7 9 6 5 4
```

```
5 7 3 8 8
7 4 9 9 4
```

Expected Output:

```
53
```

Your Program Output:

```
[[4, 0, 0, 0, 0], [0, 0, 0, 0, 0], [0, 0, 0, 0, 0], [0, 0, 0, 0, 0]]
[[4, 6, 15, 21, 22], [0, 0, 0, 0, 0], [0, 0, 0, 0, 0], [0, 0, 0, 0, 0]]
[[4, 6, 15, 21, 22], [11, 20, 26, 31, 35], [16, 27, 30, 39, 47], [23, 31, 40, 49, 53]]
53
```

Save Run

□ Run with a custom test case (Input/Output)