# **DP-S005 (E008)**

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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 bottomright 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:

45

42961

79654

57388

74994

Output:

53

Explanation:

The navigation of the player to collect the maximum points is given below.

4 -> 7 -> 9 -> 7 -> 4 -> 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

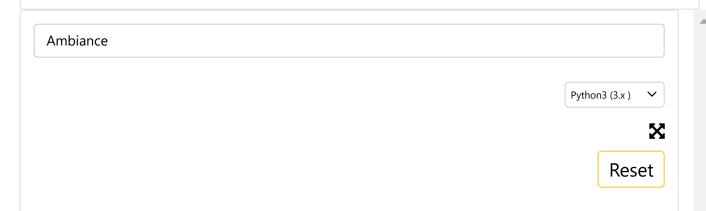
63 33 14

44 82 52

Output:

289

# **Max Execution Time Limit: 500 millisecs**



```
1 rc = list(map(int, input().split()))
   r = rc[0]
   c = rc[1]
 3
 4
 5
 6
   matrix = []
7
    max_matrix = []
 8
9
   for row in range(r):
10
        matrix.append(list(map(int, input().split())))
11
        max matrix.append([0]*c)
12
13
14
    max_matrix[0][0] = matrix[0][0]
15
16
    for col in range(1,c):
        max_matrix[0][col] = max_matrix[0][col-1] + matrix[0][col]
17
18
19
    for row in range(1,r):
        max_matrix[row][0] = max_matrix[row-1][0] + matrix[row][0]
20
21
22
    for row in range(1,r):
23
        for col in range(1,c):
24
            max_matrix[row][col] = max(max_matrix[row][col-1],max_mat
                -1][col]) + matrix[row][col]
25
26
27
    print(max_matrix[r-1][c-1])
```

