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The Night is Young

locked

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Problem

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It's summer vacation and you're having a very boring time but you want to do something fun! So, you decide to rob houses in your city tonight and finish before dawn. You are given an $M \times N$ grid(map) of your city, where each cell is a house. The money present at each house will have an integral value denoted by $C[i][j]$. You've to rob every house you break into so if you're at a house (i,j) , then you have to steal (money of value $C[i][j]$) from that house and you can break into a house only once. But some of the house owners might be awake, so they'll catch you, beat you up and take away some money from you when you break into their house. You can only move right, up or down from a given house. Formally, if you are at a position (i,j) , then you can move only to $(i+1,j)$, $(i,j-1)$ or $(i,j+1)$

You start at a house at $(1,1)$ and you have to reach your house at (M,N) before dawn.

Following the conditions given above, what is the total maximum money you can steal after reaching your house? Since you can steal a lot of money, print your answer modulo 10^9+7

Input Format

The first line will contain T , number of test cases. Then T test cases follow. The first line of each test case is two integers M, N . Each of the next M lines consists of N integers, the values of money at each house denoted by $C[i][j]$.

Constraints

- $1 \leq T \leq 20$
- $1 \leq M, N \leq 1000$
- $-10^9 \leq C[i][j] \leq 10^9$

Output Format

For each test case, output in a single line the total maximum money (modulo 10^9+7) you can steal after reaching your house at (M,N) .

Sample Input 0

```
1
3 3
1 -2 3
2 4 3
-10 2 7
```

Sample Output 0

```
18
```

Explanation 0

Best possible path is [1]->[2]->[4]->[-2]->[3]->[3]->[7], giving a total value of 18.

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Submissions: 1



Max Score: 10

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C++14



```
1 #include <cmath>
2 #include <cstdio>
3 #include <vector>
4 #include <iostream>
5 #include <algorithm>
6 using namespace std;
7
8
9 int main() {
10     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
11     return 0;
12 }
```

Line: 1 Col: 1

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