

# Grab Stone

Given a floor covered with  $r \times c$  square tiles. where there are  $r$  rows of tiles from front (first row) to back (last row) and  $c$  columns of tiles from left to right. Each tile has 1 to 100 stones on it. Your task is to grab as many stones as possible, subject to following restrictions:

- 1) Start from  $1 \times 1$  and collect as many stones as possible and reach at  $r \times c$  grid.
- 2) You can move either right to the tile, or below to the tile or diagonally to the right.

Given the values of  $r$  and  $c$ , and the number of stones on each tile, write a program to compute the maximum possible number of stones You can grab in one single trip from  $1 \times 1$  tile to the  $r \times c$  tile.

## Input:

First line consist of a single integer  $t$ , the number of test cases ( $1 \leq t \leq 100$ ). In each test cases, the first line has two integer . The first integer  $r$  ( $1 \leq r \leq 100$ ) is the number of rows of tiles on the floor. The second integer  $c$  ( $1 \leq c \leq 100$ ) is the number of columns of tiles on the floor. Next, there are  $r$  lines of inputs. The  $i$ th line of these, specifies the number of stones in each tile of the  $i$ th row from the front. Each line has  $c$  integers, where each integer  $m$  ( $0 \leq m \leq 100$ ) is the number of stones on that tile. The integers are separated by a space character.

## Output:

Output the maximum number of stone you can collect.

## Input:

```
2
4 4
1 2 3 4
1 2 3 4
4 3 2 1
4 3 2 1
2 2
1 2
2 1
```

## Output:

```
16
4
```