Find summits

Given an altitudinal map (0 <= altitudes <= 100000) find the summits i.e. all points which are bigger than all their neighbours. There is at least one summit in each map.

Score is source length.

Input

The number n of maps (n<=50) in the first line.

Then for each map one line with its width w and heigth h (3<=w,h<=20) separated by a space. After this the h rows of the map.

Output

The space-separated summits in ascending order.

Example

Input:

Output:

71034 75481 83341 95606