# Climbing

Roi has to climb a building (N x M matrix with positive integers) from bottom right to top left. However, his path must be the path with the highest possible sum. Also, he can move only up or left.

Roi needs your help to find the path with the highest sum by following rules described above.

*Roi’s starting position.*



*Roi’s target position.*



*Best path.*



## Input

* You will receive an integer – n – number of rows.
* You will receive an integer – m – number of cols.
* On the next n lines, you will receive col elements in the following format: "{colEl0} {colEl1} … {colElN}".

## Output

* Print the sum of the highest path.
* Print all cells value that are part of the highest sum path on a single line joined by a space.

## Constraints

* n and m will be positive integers in the range **[1, 15]**.
* Column elements will be positive integers in the range [1, 999 999].

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 4  4  1 3 2 1  5 3 2 1  1 7 3 1  1 3 1 1 | 21  1 1 3 7 3 5 1 |
| 3  3  1 1 1  1 1 1  1 1 1 | 5  1 1 1 1 1 |