Problem M. Room 221

Sepehr, Ali and Mahdi have recently founded an investment company. They know that buying land as an investment is always beneficial in the long run and has a low level of risk. Considering this fact, they have decided to gather some funds and make a schedule to purchase some land. In the first step they made a chart of potential plots of land: This chart is a $N \times M$ matrix, each entry of which contains a number ranging from 1 to 3 which represents the value of that plot.

They have decided to choose a rectangular sub-matrix of this chart each month and purchase the plots inside the sub-matrix. Considering that the expenses are about to be divided equally; the total price of the selected lands must be divisible by 3 (keep in mind that each plot is only purchased once). they plan to buy at least $M \times N - 4$ of lands in a time span shorter or equal to 10 months.(It's guaranteed that it's always possible.) Help them to find the best strategy to do that.

Input

The first line contains a single integer t — the number of testcases.

$$1 \leq t \leq 10^6$$

The first line of each testcase contains 2 integers N and M.(The sum of $N \times$M, over all testcases doesn't exceed 10^6.) Each of the next N lines contains M integers A_{ij} - the elements of the matrix.

Output

For each testcase print k - the number of months in the first line.

The next k lines each contains 4 integers separated by spaces describing the coordinates of upper-left and lower-right corners of the selected sub-matrix in order.

Examples

test	answer
2 2 3 123 232 5 5 11111 11111 11111 11111 11111	2 1 1 1 3 2 2 2 2 3 1 1 3 5 4 1 4 3 5 1 5 3