Jeopardizing Justice

The Shell is a great prison where the members of Adwent were imprisoned. It is said to be somewhere deep underground within this world, but its exact location is unknown.

At the core of The Shell, there are n prison cells. Each cell is equipped with a surveillance camera that must be constantly monitored. There are n monitoring rooms, the i-th room is connected to the cameras of a specific subset of cells. The monitoring rooms and the cells are numbered from 0 to $n-1$.

For security reasons, each room can monitor **exactly one** of the camera it is connected to. The Shell is considered *secure* if and only if there exists a way to assign one camera to each room such that **all** cameras are monitored. It is guaranteed that The Shell is **secure** at the beginning.

After escaping from The Shell, the members of Adwent are now planning to sabotage the security of The Shell. However, due to limited resources, they can only perform at most 50 sabotage actions. In each sabotage action, they may choose a monitoring room i and a cell j such that room i is currently connected to cell j's camera, and delete that connection.

The leader of Adwent wants to determine whether it is possible to perform a sequence of at most 50 sabotage actions such that The Shell is no longer **secure**. If it is possible, you must output one valid sequence of sabotage actions.

Input

Each test contains multiple test cases. The first line contains the number of test cases τ ($1 \leq \tau \leq 50$). The description of the test cases follows.

- The first line contains an integer n ($1 \leq n \leq 50$) — the number of monitoring rooms and cells.
- The i-th of the next n lines contains n integers $a_{i,0}, a_{i,1}, \ldots, a_{i,n-1}$ ($0 \leq a_{i,j} \leq 1$). Here, $a_{i,j} = 1$ means that the i-th monitoring room is connected to the j-th cell's camera; otherwise, $a_{i,j} = 0$.

It is guaranteed that The Shell is **secure** in the initial configuration.

Output

For each test case, if it is impossible to make The Shell insecure using at most 50 sabotage actions, output a single integer -1. Otherwise, output the following:

- The first line contains an integer m ($0 \leq m \leq 50$) — the number of sabotage actions.
- The i-th of the next m lines contains two integers r_i and c_i ($0 \leq r_i, c_i < n$) — the indices of the chosen room and cell for the i-th sabotage action. The connection between the selected room and cell's camera must exist before the action is performed.

Sample Input 1	Sample Output 1
2 3 1 1 0 0 1 1 1 0 1 2 1 1 1 1	2 0 0 1 2 4 0 0 0 1 1 0 1 1

Sample Explanation

In the first test case, after the sabotage actions, it can be shown that no valid assignment exists that allows all cameras to be monitored simultaneously. Therefore, The Shell is no longer **secure**.

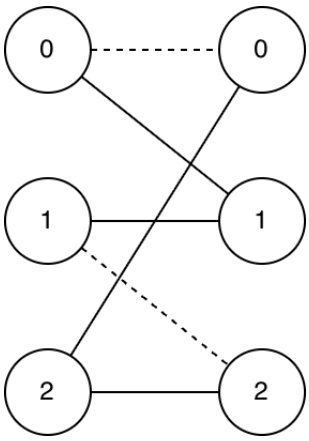

Figure 1: The following is the illustration for the first test case. Vertices on the left and the right represent monitoring rooms and cells, respectively. Lines represent existing connections, and dashed lines represent deleted connections.

In the second test case, note that the number of sabotage actions does **not** need to be minimized.

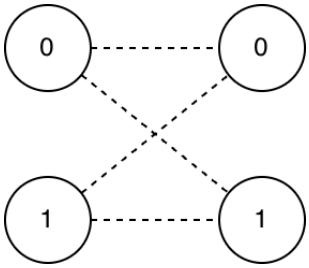

Figure 2: Illustration of the second test case.