Task: TAB
Direction signs

XXII OI, Stage III, Day one. Source file `tab.*` Available memory: 256 MB. *16.04.2015*

After a long year of intense programming, Byteasar is about to leave for well earned vacation. As he drove to his holiday destination, he saw many *direction signs* along the way, giving the distances (in kilometers) to the numerous towns of Byteland. The distances displayed on the signs are integer numbers, even though the exact distance from such sign to the town in question may not be an integer. Therefore, the distances on the signs are *rounded down* (to the largest integer no larger than the true distance).

After the trip, Byteasar realized that the information on the signs he saw looked suspicious. Pondering this some more, Byteasar concluded that, together, all the distances on the signs are contradictory. He believes that this is due to random people being hired to do the road works, due to the shortage of competent crews. Byteasar would like to find out just how many of the signs surely give wrong distances. To this end, he has decided to find a maximum set of signs such that the distances given on them are consistent. This task is too hard for Byteasar, so he is asking you for help. Fortunately, Byteasar has an excellent memory, and he is able to recall all the signs he saw. He was not, however, looking at the meter as he was passing the signs, so he cannot tell when exactly, or even in what order, he saw them.

We assume that Byteland is a line, and the towns are small enough so that they can be identified with points on said line. We also assume that, during his voyage, Byteasar *has not passed through any town.* A set of signs is consistent if there exists a placement of these signs and all the towns on the line such that the distances displayed on the signs are the true distances rounded down. Naturally, neither the towns nor the signs have to be located at integer points. No two towns and no two signs can be located in the same point. Byteasar swears that there is a set of at least 20% of the signs that are consistent. Since he worked as a road works supervisor a long time ago, in particular on the very road he took on this trip, you can treat his conviction (stemming from an estimation of the fraction of road workers who are competent) as a guarantee about the input data.

Input

In the first line of the standard input, there are two integers, n and m ($1 \le n \le 1000$, $1 \le m \le 200$), separated by a single space, that specify the number of signs seen by Byteasar and the number of towns in Byteland respectively. Each of the n lines that follow describes a single sign; the i-th such line contains a sequence of m integers, $d_{i,1}, d_{i,2}, \ldots, d_{i,m}$ ($1 \le d_{i,j} \le 10^6$), separated by single spaces, such that $d_{i,j}$ is the distance to the town no. j (in kilometers) as displayed on the i-th sign, i.e., rounded down.

In tests worth 60% of the total score, the additional conditions $n \le 500$, $m \le 50$ hold. In a subset of those, worth 40% of the total score, the condition $n \le 100$ holds, and in an even smaller subset, worth 20% of the total score, it even holds that $n \le 15$.

Output

In the first line of the standard output, a single integer t should be printed. This should be the maximum number of signs that are consistent. In the second line, there should be t integers that specify the numbers of those signs. They should be given in the order Byteasar could have seen them along the way. If more than one solution exists, your program can choose one of them arbitrarily.

Example

For the input data:

```
3 2
2 2
2 3
3 2
```

the correct result is:

```
2
2 1
```

Explanation: If the second sign were located in the point $x = 0$, and the first in the point $x = \frac{1}{2}$, the first town in the point $x = 2\frac{1}{2}$, and the second in $x = 3$, then the distances given on the signs no. 1 and 2 would be the true distances to the towns rounded down. There is also a consistent placement for the signs no. 1 and 3.

It is clear that the second and third sign are contradictory, and so there is no placement of signs and towns in which all three signs give true (rounded down) distances.

Sample grading tests:

- `1ocen`: $n = 5$, $m = 1$; the signs give different rounded down distances to the sole town;
- `2ocen`: $n = 5$, $m = 2$; every pair of signs is contradictory; any single sign constitutes a correct answer;
- `3ocen`: $n = 200$, $m = 199$; the set of all the signs is consistent – for example, the i-th sign can be placed in $\frac{i}{n}$ and the j-th town in the point $10^6 + \frac{j}{n}$.