

B. The least round way

time limit per test: 2 seconds
 memory limit per test: 64 megabytes
 input: standard input
 output: standard output

There is a square matrix $n \times n$, consisting of non-negative integer numbers. You should find such a way on it that

- starts in the upper left cell of the matrix;
- each following cell is to the right or down from the current cell;
- the way ends in the bottom right cell.

Moreover, if we multiply together all the numbers along the way, the result should be the least "round". In other words, it should end in the least possible number of zeros.

Input

The first line contains an integer number n ($2 \leq n \leq 1000$), n is the size of the matrix. Then follow n lines containing the matrix elements (non-negative integer numbers not exceeding 10^9).

Output

In the first line print the least number of trailing zeros. In the second line print the correspondent way itself.

Examples

input	Copy
3 1 2 3 4 5 6 7 8 9	
output	Copy
0 DDRR	

Codeforces Beta Round #2

Finished

→ Practice?

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

[Register for practice](#)

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Problem tags

[dp](#) [math](#) [*2000](#)

No tag edit access

→ Contest materials

- Announcement [×](#)
- Tutorial #1 [×](#)
- Tutorial #2 [×](#)

