

Problem J

The Biggest Plus Sign

Time limit: **1 second**

Mem limit: **256 Megabytes**

Dr. Memphis is creating a program that can recognize a plus sign ('+') in a grayscale image in bitmap format. His program can detect a plus sign in the following forms:

- A plus sign is formed by adjacent black pixels.
- A plus sign has the size of $4 \times k + 1$, where $k \geq 0$ and its center can be at any pixel then expands to 4 directions (up, down, left, right) with the length of k .

Because the image is not very clear and contains noise, Dr. Memphis wants to identify the biggest plus sign in the image.

Task: You are given an image of size $m \times n$ ($1 \leq m, n \leq 5000$) consisting of black and white pixels. Please find the biggest plus sign in the image.

Input

The first line contains two integer m, n – the size of the image.

Each of the next m line contains a string of n characters (0 or 1), 0 represents white pixel and 1 is for black.

The rows are indexed from 1 to m . The indices of the columns are from 1 to n from left to right.

Output

The first line contains the size of the biggest plus sign. If the image does not contain any plus sign, print "-1" (without the quotation marks).

If there is such the biggest plus sign, the second line contains two integers that indicate the row index and column index of the biggest plus sign's center. If there are multiple biggest plus sign, output the one that has the smallest row index, then the smallest column index (in case their row indices are the same).

Sample input

Sample output

| | |
|--|------------------|
| <pre>8 8 00001000 00001000 00111110 00001000 00001000 00100000 01110000 00100000</pre> | <pre>9 3 5</pre> |
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