

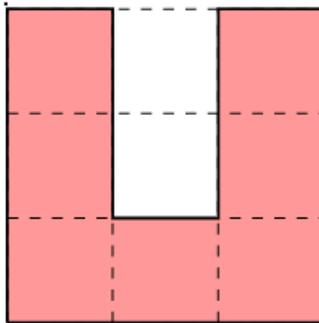
Problem D. LaLa and Magic Stone

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 1024 megabytes

One day, LaLa realized that she ran out of magic stone components for her magic tools. (Think of them as a battery in our world.) So LaLa rushed to a nearby store and bought a slab of magic stone.

LaLa wants to cut the slab into magic stone components. The slab consists of $N \times M$ cells. Unfortunately, some cells are incompatible with LaLa's magic tools.

The required magic stone component is a 7-cell U-shaped piece.



As LaLa forgot to buy magic stone glue, LaLa can't merge smaller pieces to form the required shape.

Furthermore, since LaLa hates wasting magic stones, LaLa will be satisfied if and only if the slab is cut so that every single compatible cell belongs to a required shape.

Write a program that computes the number of ways to cut the slab so that LaLa is satisfied, modulo 998 244 353. Two ways to cut pieces are different if and only if there exist two compatible cells such that they belong to the same piece in one and to different pieces in the other.

Input

The input is given in the following format:

```
  N      M  
S0  
S1  
  ⋮  
SN-1
```

where N is the number of rows of the slab, M is the number of columns, and S_i is a binary string of length M where j -th character is '1' if and only if the cell at the i -th row from the top and j -th column from the left is incompatible.

The input satisfies the following constraints:

- N and M are integers.
- $3 \leq N, M \leq 1\,000$

Output

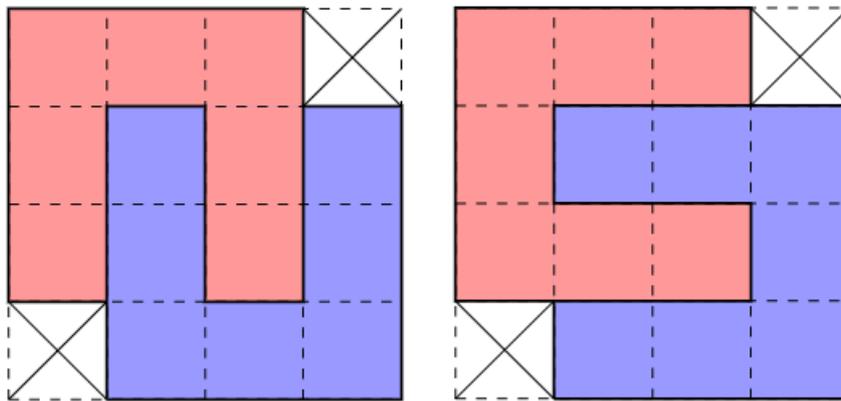
The output should be a integer equal to the number of ways to cut the slab so that LaLa is satisfied, modulo 998 244 353.

Examples

standard input	standard output
<pre>4 4 0001 0000 0000 1000</pre>	2
<pre>5 4 0001 0101 0000 1010 1000</pre>	1

Note

The following illustrates two possible ways to cut the slab in the first sample.



The following illustrates the only way to cut the slab in the second sample.

