

Mirko, the mad plumber, was hired to construct a water supply network between two locations in a city. The city map can be represented as a  $R \times S$  grid. Some cells are **not suitable** for placing water pipes. Locations Mirko needs to connect are placed **directly above** the top left cell of the grid, and **directly below** the bottom right cell.

Each suitable cell Mirko can either **leave empty** or use it for placing **one of the following 6 pipe types**:



Find the number of ways that pipes can be placed to connect the two locations with a continuous pipe (water must not be spilled). All placed pipe parts **must be in use**.

Output the solution **modulo 10007**.

### INPUT

The first line of input contains the integers  $R$  and  $S$  ( $2 \leq R, S \leq 10$ ), the number of rows and columns of the city grid, respectively. Each of the next  $R$  lines contains exactly  $S$  characters: '.' if the cell is suitable for placing pipes, and '#' if not.

### OUTPUT

The first and only line of output must contain the required number of ways modulo 10007..

### SAMPLE TESTS

<b>input</b>	<b>input</b>
2 3	3 3
...	...
.#. .	...
<b>output</b>	<b>output</b>
1	12

**First sample description:** this is the only possible solution:

