

285 Crosswords

This problem deals with crosswords, as they are known from every newspaper. A crossword is words arranged horizontally and vertically in a rectangle. Two words can share one character where they are crossing. The problem is to decide whether the crossword is solved correctly or not.

Input

Input file contains any number of lines of the format: **word x y d**. **word**, **x**, **y** and **d** are in standard text format. **x** and **y** mean the coordinate of the starting point of the word and **d** is the direction in which the word is written. The coordinate system starts at the upper left of the rectangle with the coordinates (1,1). The direction is given by a single character where **u** means upwards, **r** means right, **d** means down and **l** means left.

These lines are followed by a blank line, and then the file contains the “solution” in the following format: The first line is the width of the crossword, and the second line is the high. The third line is all the characters of the crossword listed from left to right, from top to bottom.

Output

The output must be one of the following sentences:

- The crossword is correct

or

- The crossword is incorrect.

Sample Input

The inputfile `cross1.inp`:

```
second 1 1 r
vis 1 3 r
file 2 4 u
castle 3 1 d
end 6 3 u

6
6
second la nvis e ft      l      e  <eof>
```

Sample Output

The crossword is correct.