A	Find the words	
	Input	a.in
	Output	Standard Output

You will be given a set of character puzzle. Your task is to find the words in the puzzle. You have to tell what row, column and direction the words are found.

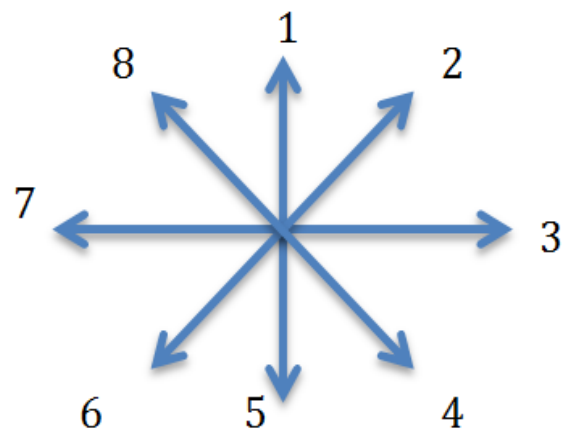**Please note that the row and column index starts with 1.**

Input

Direction in the puzzle

The input starts with integer n, represents a size of the puzzle, 1<=n <= 50. The following n lines are the characters in the puzzle; each line has n upper case characters. The rest m lines are the words that you have to find in the puzzle. The word's length is always greater than one. The input ends with zero.

Output

Print the word, follow by the positions of the word. If the word is found in many positions or directions, order the output by row, column and direction respectively. The format of the output is "(row,column),direction". If the word is not present in the puzzle, says "notfound". There is no space in the output.

You must display the results in an exact form as shown in the sample output below.

Sample Input	Sample Output
5 HELLO EESHE LWHOU LTHEY OLLEH SHE HELLO HE ETAG 0	SHE (2,3),3 HELLO (1,1),3 (1,1),5 (5,5),7 HE (1,1),3 (1,1),4 (1,1),5 (2,4),3 (3,3),4 (3,3),8 (4,3),3 (4,3),4 (5,5),7 (5,5),8 ETAG notfound