

Problem F. WordFindPuzzle

Problem Statement

WordFind is one of the simplest and funnest puzzles to play by oneself. It is played on a rectangular board where each cell contains a lowercase letter ('a'-'z').

A word can be found horizontally on the board if there is a path of consecutive cells in the same row of the board that spells out the word either left-to-right or right-to-left. Similarly, a word can be found vertically on the board if there is a path of consecutive cells in the same column that spells out the word either top-to-bottom or bottom-to-top. See examples 0 and 1 for clarification.

A word can be perfectly found on the board if it can be found both vertically and horizontally. You are given a `String[] board` representing the board, and a `String[] words` containing a list of words. Return the number of words in the given list that can be perfectly found on the board.

Definition

Class: `WordFindPuzzle`

Method: `solveWordFindPuzzle`

Parameters: `String[], String[]`

Returns: `int`

Method signature: `int solveWordFindPuzzle(String[] words, String[] board)`

(be sure your method is public)

Constraints

- **words** will contain between 0 and 30 elements, inclusive.
- Each element of **words** will contain between 1 and 30 characters, inclusive.
- All elements of **words** will be distinct.
- **board** will contain between 1 and 30 elements, inclusive.
- Each element of **board** will contain between 1 and 30 characters, inclusive.

- All elements of **board** will be of the same length.
- All elements of **words** will contain only lowercase letters ('a'-'z').
- All elements of **board** will contain only lowercase letters ('a'-'z').

Examples

0)

```
{"ab", "ba"}
```

```
{"ab",  
"ba"}
```

Returns: 2

1)

```
{"jay"}
```

```
{"yaj",  
"tea",  
"hey"}
```

Returns: 1

2)

```
{"aaa", "aab", "aac"}
```

```
{"aaa",  
"aba",  
"caa"}
```

Returns: 2

"aaa" and "aac" can be perfectly found on this board.

3)

```
{"park", "kim", "lee", "choi"}
```

```
{"lxamal",  
"alkime",  
"parkpe",  
"lyaeel",  
"aypepl"}
```

Returns: 3

Four common Korean last names are given as words. 3 most common last names, namely "kim", "lee", and "park", can be found on the board.

4)

```
{"ava", "abigail", "cailyn", "madelaine", "isabella",  
"emma", "caitlyn", "olivia", "chloe", "brianna"}
```

```
{"vase",  
"amme",  
"vmal",  
"aeve"}
```

Returns: 1

10 female names are given as **words**. "emma" is the only one perfectly found on the given board.

5)

```
{"alex", "bob", "chris", "david",  
  "edward", "frank", "gabriel"}
```

```
{"gabrielxl",  
  "hfodavide",  
  "arbibobri",  
  "daavxelar",  
  "enlalexwb",  
  "nkedwarda",  
  "cbxyzlaeg"}
```

Returns: 5

7 male names are given this time. You can perfectly find all but "chris" and "frank" on the board.

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