



Crossword Puzzle

locked



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Problem

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Editorial

A 10×10 Crossword grid is provided to you, along with a set of words (or names of places) which need to be filled into the grid. Cells are marked either `+` or `-`. Cells marked with a `-` are to be filled with the word list.

The following shows an example crossword from the input *crossword* grid and the list of words to fit, *words* = [*POLAND*, *LHASA*, *SPAIN*, *INDIA*]:

Input	Output
+++++++ +-----+ +++-----+ +++-----+ +++-----+ +++-----+ +++-----+ +++-----+ +++++---+ +++++---+ +++++---+ +++++---+ +++++---+ +++++---+ +++++---+ POLAND; LHASA; SPAIN; INDIA	+++++++ +POLAND+++ +++H+++++ +++A+++++ +++SPAIN++ +++A+N+++ +++++D+++ +++++I+++ +++++A+++ +++++ +++++

Function Description

Complete the *crosswordPuzzle* function in the editor below. It should return an array of strings, each representing a row of the finished puzzle.

crosswordPuzzle has the following parameter(s):

- *crossword*: an array of **10** strings of length **10** representing the empty grid
- *words*: a string consisting of semicolon delimited strings to fit into *crossword*

Input Format

Each of the first **10** lines represents *crossword*[*i*], each of which has **10** characters, *crossword*[*i*][*j*].

The last line contains a string consisting of semicolon delimited *words*[*i*] to fit.

Constraints

$1 \leq |words| \leq 10$
 $crossword[i][j] \in \{+, -\}$
 $words[i][j] \in ascii[A - Z]$

Output Format

Position the words appropriately in the 10×10 grid, then return your array of strings for printing.

Sample Input 0

```
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
LONDON;DELHI;ICELAND;ANKARA
```

Sample Output 0

```
+L+++++++
+O+++++++
+N+++++++
+DELHI+++
+O++C++++
+N++E++++
+++++L+++
++ANKARA++
+++++N+++
+++++D+++
```

Sample Input 1

```
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
+-----+
AGRA;NORWAY;ENGLAND;GWALIOR
```

Sample Output 1

```
+E+++++++
+N+++++++
+GWALIOR++
+L+++++++
+A+++++++
+NORWAY+++
+D++G++++
+++++R+++
+++++A+++
+++++D+++
```

Sample Input 2

```
XXXXXX-XXX
XX-----XX
XXXXXX-XXX
XXXXXX-XXX
XXX-----X
XXXXXX-X-X
XXXXXX-X-X
XXXXXXXXX-X
XXXXXXXXX-X
XXXXXXXXX-X
ICELAND;MEXICO;PANAMA;ALMATY
```

Sample Output 2

XXXXXXIXXX
XXMEXIC0XX
XXXXXXEXXX
XXXXXXLXXX
XXXXPANAMAX
XXXXXXNXLX
XXXXXXDXMX
XXXXXXXAX
XXXXXXXTX
XXXXXXXXYX





Submissions: 8

Max Score: 15

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C



```
1 #include <assert.h>
2 #include <limits.h>
3 #include <math.h>
4 #include <stdbool.h>
5 #include <stddef.h>
6 #include <stdint.h>
7 #include <stdio.h>
8 #include <stdlib.h>
9 #include <string.h>
10
11 char* readline();
12
13 // Complete the crosswordPuzzle function below.
14
15 // Please store the size of the string array to be returned in result_count pointer. For example,
16 // char a[2][6] = {"hello", "world"};
17 //
18 // *result_count = 2;
19 //
20 // return a;
21 //
22 char** crosswordPuzzle(int crossword_count, char** crossword, char* words, int* result_count) {
23
24 }
25
26
27 int main()
28 {
29     FILE* fptr = fopen(getenv("OUTPUT_PATH"), "w");
30
31     char** crossword = malloc(10 * sizeof(char*));
32
33     for (int i = 0; i < 10; i++) {
34         char* crossword_item = readline();
35
36         *(crossword + i) = crossword_item;
37     }
38
39     int crossword_count = 10;
40
41     char* words = readline();
42
43     int result_count;
44     char** result = crosswordPuzzle(crossword_count, crossword, words, &result_count);
45
46     for (int i = 0; i < result_count; i++) {
47         fprintf(fptr, "%s", *(result + i));
48
49         if (i != result_count - 1) {
50             fprintf(fptr, "\n");
51         }
52     }
53
54     fprintf(fptr, "\n");
55
56     fclose(fptr);
57
58     return 0;
59 }
```