

Search words in a grid

Given a 2D grid of characters and a word, find all occurrences of the given word in the grid. A word can be matched in all 8 directions at any point. Word is said to be found in a direction if all characters match in this direction (not in zig-zag form).

The 8 directions are left right up, down and 4 diagonal directions.

Example:

	0	1	2	3	4	5	6	7
0	D	R	E	A	M	I	N	G
1	K	P	M	Q	B	E	D	N
2	P	O	I	Z	F	V	T	E
3	T	M	A	L	F	C	X	Z
4	P	O	C	Z	L	V	T	S
5	D	F	A	P	J	O	T	B
6	R	O	A	Z	F	O	W	H
7	Y	N	A	U	N	A	P	Q

In the grid with bold font we can find the words: {DREAMING, PILLOW, BED, NAP}

Input	Output
NAP	Pattern found at (7,1) at North-East direction Pattern found at (7,4) at East direction
PILLOW	Pattern found at (1,1) at South-East direction
BED	Pattern found at (1, 4) at East direction
REST	No such word found in the given grid