CPSC 230: Intro to Computer Science

Word Search Assignment

As a kid, you may have done a word search (such as the one below) before. The idea is that you are given a grid of characters, and your goal is to find the hidden words within the grid. Along with the matrix of characters, there is an accompanying list of words to find. Once you have found all the hidden words in the matrix, you are done!

Some word searches have different rules for where the words may be hidden. In this assignment, you will look at the words in the horizontal and vertical directions, both forwards and backwards. In addition to the words in the accompanying list, I could also add the word “ask” because rows 8-6 in column 1 (counting in python index ranges) spell out “ask.”

I provide you with a list of strings to search through (“box” variable) and a list of possible words to check (“possibleWords” variable). Each string in the box represents one row. For example, in the word search below, the list would look something like *box* = [“XYMBITACKKJ”, “KXFYOFASOKD”, ...]. The possibleWords list is also a list of strings.

Your task is to automate the finding of the possible words. Hard coding the indices will not work, since I ask you to use your same code for multiple grids of characters. I will only ask you to find the hidden words in a square grid (where the number of rows = number of columns). I suggest using nested *for* loops to iterate over the strings in the lists. Ideally, you reduce computational and space complexity as much as possible. However, you will not be deducted points for consuming unnecessary memory or performing more operations than optimal.

Extra credit opportunity: To earn an extra 30% on the assignment, you must also search the diagonals forward and backwards. There will be some extra hidden words on the diagonals to check your program works as intended.

Have fun!

