

BIS 420 PROGRAMMING FOR DATA SCIENCE
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CHAPTER 12 EXERCISE 12.4
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More anagrams!

1. Write a program that reads a word list from a file (see Section 9.1) and prints all the sets of words that are anagrams. Here is an example of what the output might look like:

```
['deltas', 'desalt', 'lasted', 'salted', 'slated', 'staled']  
['retainers', 'ternaries']  
['generating', 'greatening']  
['resmelts', 'smelters', 'termless']
```

Hint: you might want to build a dictionary that maps from a set of letters to a list of words that can be spelled with those letters. The question is, how can you represent the set of letters in a way that can be used as a key?

2. Modify the previous program so that it prints the largest set of anagrams first, followed by the second largest set, and so on.

3. In Scrabble a “bingo” is when you play all seven tiles in your rack, along with a letter on the board, to form an eight-letter word. What set of 8 letters forms the most possible bingos? Hint: there are seven.

Solution: http://thinkpython.com/code/anagram_sets.py.

(2, ['lienable', 'lineable'])
(2, ['lignites', 'lingiest'])
(2, ['limbuses', 'sublimes'])
(2, ['limitary', 'military'])
(2, ['limpness', 'plenisms'])
(2, ['linebred', 'rendible'])
(2, ['linesman', 'melanins'])
(2, ['linkages', 'snaglike'])
(2, ['lippings', 'slipping'])
(2, ['liquates', 'tequilas'])
(2, ['listless', 'slitless'])
(2, ['litharge', 'thirlage'])
(2, ['littered', 'retitled'])
(2, ['littoral', 'tortilla'])
(2, ['liveners', 'sniveler'])
(2, ['loathers', 'ratholes'])
(2, ['lobately', 'oblately'])
(2, ['lobbyers', 'slobbery'])
(2, ['localite', 'teocalli'])
(2, ['locaters', 'sectoral'])
(2, ['loggings', 'slogging'])
(2, ['logotypy', 'typology'])
(2, ['lonesome', 'oenomels'])
(2, ['lookouts', 'outlooks'])
(2, ['looniest', 'oilstone'])
(2, ['lordomas', 'malodors'])
(2, ['lowdowns', 'slowdown'])
(2, ['lowering', 'roweling'])
(2, ['lumpiest', 'plumiest'])
(2, ['lunatics', 'sultanic'])
(2, ['lunettes', 'unsettle'])
(2, ['lustrate', 'tutelars'])
(2, ['lustring', 'rustling'])
(2, ['macerate', 'racemate'])
(2, ['madronas', 'monardas'])
(2, ['madrones', 'ransomed'])
(2, ['maestoso', 'osteomas'])
(2, ['magentas', 'magnates'])
(2, ['maidenly', 'medianly'])
(2, ['maligned', 'medaling'])
(2, ['maltster', 'martlets'])
(2, ['mandrils', 'rimlands'])
(2, ['manitous', 'tinamous'])
(2, ['mannered', 'remanned'])
(2, ['manorial', 'morainal'])
(2, ['mansions', 'onanisms'])
(2, ['mantises', 'matiness'])
(2, ['manurers', 'surnamer'])
(2, ['manuring', 'unarming'])
(2, ['marabout', 'tamboura'])
(2, ['marascas', 'mascaras'])
(2, ['marblers', 'ramblers'])
(2, ['marbling', 'rambling'])
(2, ['marishes', 'mishears'])
(2, ['marmites', 'rammiest'])
(2, ['marquess', 'masquers'])
(2, ['martians', 'tamarins'])
(2, ['massiest', 'misseats'])
(2, ['mastered', 'streamed'])
(2, ['mateship', 'shipmate'])
(2, ['meagerly', 'meagrely'])
(2, ['mealiest', 'metalise'])