**Word Puzzles**

WillShortz is a noted puzzle master for the *New York Times* and National Public Radio who frequently poses challenging word puzzles. Many word puzzles can be solved by iterating through a list of words while checking for characteristics specified by the puzzle. Many word lists exist on the web and I provided you with one for this assignment. I have given you a skeleton below that reads a file named wordlist.txt and returns a list of words in lowercase. The file has one word per line. For each puzzle, copy this program and write your solution as the puzzle function. Note that the puzzle function has one parameter – thewordList.

# Word puzzle driver

# Assumes wordList.txt file of one word per line

defgetWordList() :

''' returns a list of words from a wordList.txt file '''

dataFile = open("wordList.txt", "r")

wordList = [] # start with an empty word list

for word in dataFile : # for every word (line) in the file

# strip off end-of-line characters and make each word lowercase

# then append the word to the wordlist

wordList.append(word.strip().lower())

returnwordList

def puzzle(wordList) :

''' puzzle solution goes here '''

pass # filler that does nothing except put something in the suite

wordList = getWordList()

puzzle(wordList)

1. Find all uncapitalized, unhyphenated word that contains all but one of the letters of the alphabet from “l” to “v” (“lmnopqrstuv”)
2. Find alluncapitalized, seven-letter words, where each word contains just a single vowel and does not have the letter ‘s’ anywhere within it.
3. The word *mimeographs*contains all the letters of *memphis*at least once. Find other words that also contain all the letters of *memphis*
4. Find all words that contain the string ‘tantan”
5. The word *marine* consists of five consecutive, overlapping state postal abbreviations: Massachusetts (MA), Arkansas(AR), Rhode Isalnd(RI), Indiana(IN), and Nebraska(NE). Find all seven letter words that have the same property.
6. When you are writing a script, there are four letters of the alphabet that cannot be completed in one stroke: ‘i’ and ‘j’ (which require dots) and ‘t’ and ‘x’ (which require crosses). Find all words that use each of these letters exactly once.
7. Find all words that contain the consecutive letters “nacl”.
8. Find all words that contain the vowels *a*, *e*, *i*, *o*, and *u* in that order.
9. Consider the word *sure*. If I asked you to add two pairs of doubled letters to it to make an eight-letter word, you could add *p*’s and *s*’s to make *suppress*. Find an eight-letter word resulting from adding two pairs of doubled letters to *rate*
10. Two U.S. state capitals have a prefix that is the name of the month. Find them.