Chapter 10

1. Write a function called nested_sum that takes a list of lists of integers and adds up the elements from all of the nested lists. For example:

>>> t = [[1, 2], [3], [4, 5, 6]]

>>> nested_sum(t)

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2. Write a function called cumsum that takes a list of numbers and returns the cumulative sum; that is, a new list where the ith element is the sum of the first i + 1 elements from the original list. For example:

>>> t = [1, 2, 3]

>>> cumsum(t)

[1, 3, 6]

3. Write a function called is_sorted that takes a list as a parameter and returns True if the list is sorted in ascending order and False otherwise. For example:

>>> is_sorted([1, 2, 2])

True

>>> is_sorted(['b', 'a'])

False

4. Two words are anagrams if you can rearrange the letters from one to spell the other. Write a function called is_anagram that takes two strings and returns True if they are anagrams.

>>> is_anagram('listen', 'silent')

True

5. Write a function that reads the file words.txt and builds a list with one element per word.

6. Two words “interlock” if taking alternating letters from each forms a new word. For example, “shoe” and “cold” interlock to form “schooled”. Write a program that finds all pairs of words that interlock.