



Sorting by Frequency

Algorithm Overview

Write a function that lists the number of occurrences for each word in descending order. For the output, assume your solution makes use of a standard Swift Dictionary or Array of tuple values. Also assume your algorithm does not make use of any built-in Swift sorting functions.

```
input: this is a test of the emergency broadcast system this is only a test  
dog dog dog output: dog 3 a 2 is 2 test 2 this 2 broadcast 1 emergency 1 of 1  
only 1 the 1 system 1
```

Hints

At first glance, this challenge seems relatively straightforward. The idea being one could easily iterate through a list of words in $O(n)$ - linear time and track the number of word occurrences with a standard dictionary. However, difficulty is introduced when sorting the word list. Without using a built-in function, how would you keep the list sorted as new items are being added?