

**Programming Assignment #3**  
**Due on 4/10/2014**

1. Given two files with English text, you would like to determine if one can be obtained from the other by changing the word order. Give a hashing algorithm for the problem. Please use **open addressing** (linear probing and double hashing) to resolve the collision. Your algorithm should take expected  **$O(n)$**  time (under the simple uniform hashing assumption), where  $n$  is the number of words in both files. Assume that **each word is at most 32 characters long**.
  - (a) Please write a program in C++ or C implementing the algorithm above. Your program should take two files **called doc1 and doc2** as input and return true or false. You will be provided with test files on web. You may assume that the **input contains only lower case letters and spaces**.
  - (b) Please compare expected number of probes between linear probing and double hashing.