

**Gebze Institute of Technology**  
**Department of Computer Engineering**  
**CSE 241/501**  
**Object Oriented Programming**  
**Fall 2014**  
**Homework # 7**  
**Due date Nov 24<sup>th</sup> 2014**

In this homework, you will write a C++ program to keep the index section of a document. The index section of a document keeps the sorted list of words occurring in a document along with the line numbers where the word occurred in the document. For example, the following is a good example of an index section of a document.

[illegible]

Your C++ program will take a document file name as input and it will form the document index and save it to another file. For this you will write at least the following C++ class.

DocumentIndex class:

- a) Constructor that takes file name
- b) index operator that takes a word as parameter and returns the line numbers for that word
- c) index operator that takes a line number and returns the words for the line
- d) + and += operators for merging two DocumentIndex objects
- e) << and >> operators for stream insertion and extraction
- f) functions for adding new words and their line numbers

Below are other rules

- You will use stream I/O classes for file input output.
- You may use STL string class to keep your words but you will not use STL vectors any other other STL classes to keep your list of words and lines (i.e. you will use dynamic memory operators)
- Use name spaces and separation of interface and implementation
- You should test your program and your class methods with at least 3 document files with at least 200 lines.