R·I·T	**Rochester Institute of Technology** **Golisano College of Computing and Information Sciences** **Department of Information Sciences and Technology**

612 Lab 2 (3 points)
Positional index construction and phrase query processing

Overview

This lab consists of two major tasks:

- Building a positional index, and
- Use the positional index to process phrase queries with any number of query terms

Resources

- You should have read Chapter 2 of Introduction to Information Retrieval.
- Carefully read the lecture examples of weeks 3 and 4 to understand the technical details.
- Go over the lecture notes of weeks 3 and 4.

Note: Make JavaDoc comments in your Java programs including Course #, Lab #, Your name, and main functional description of each method with @param & @return if applicable at the minimum.

Ref. http://www.oracle.com/technetwork/articles/java/index-137868.html

Tasks to be completed

- Task1: Complete the constructor of the class that builds the positional index.
- Task2: Implement the intersect method that takes in two postings and output a merged postings.
- Task3: Implement the phraseQuery method that takes in a phrase query with multiple terms and return a list of Doc objects (the Doc class is given in the Appendix).
- Task4: Design and test phrase queries with 2-5 terms.

Submit your programs to a lab drop box in MyCourses before meeting with Instructor/TA.

Appendix

```
class Doc{
        int docId;
        ArrayList<Integer> positionList;
        public Doc(int did)
        {
                docId = did;
                positionList = new ArrayList<Integer>();
        }
        public Doc(int did, int position)
        {
                docId = did;
                positionList = new ArrayList<Integer>();
                positionList.add(new Integer(position));
        }

        public void insertPosition(int position)
        {
                positionList.add(new Integer(position));
        }

        public String toString()
        {
                String docIdString = ""+docId + ":<";
                for(Integer pos:positionList)
                        docIdString += pos + ",";
                docIdString = docIdString.substring(0,docIdString.length()-1) + ">";
                return docIdString;
        }
    }
```