**Your Name:**

**Your Andrew ID:**

# Homework 1

## 0 Introduction

### 0.1 Collaboration and Originality

1. Did you receive help of any kind from anyone (other than the instructor or TAs) in developing your software for this assignment (Yes or No)? If you answered Yes, provide the name(s) of anyone who provided help, and describe the type of help that you received.

2. Did you give help of any kind to anyone in developing their software for this assignment (Yes or No)? If you answered Yes, provide the name(s) of anyone that you helped, and describe the type of help that you provided.

3. Did you examine anyone else's software for this assignment (Yes or No)? Do not describe software provided by the instructor.

4. Are you (or the course instructor) the author of every line of source code submitted for this assignment (Yes or No)? If you answered No:
    a. identify the software that you did not write,
    b. explain where it came from, and
    c. explain why you used it.

5. Are you the author of every word of your report (Yes or No)? If you answered No:
    a. identify the text that you did not write,
    b. explain where it came from, and
    c. explain why you used it.

#### *0.1.1 Format*

***Instructions are shown in this red italic bold font. Do not include instructions in your report. For example, delete this subsection, and in the next section, delete the instruction paragraph.***

***Leave the page breaks between sections, as shown in this template. For example, Sections 1.1 and 1.2 must be on different pages.***

***There is a 2 point deduction for not following format instructions because it creates extra work during grading.***

## 1 Structured queries

***Show the structured queries used in your experiments. Briefly describe the thinking behind each structured query, i.e., what it was intended to do or why you thought it would work well. Hint: Probably a sentence or two is all you need for each query.***

## 2 Experimental Results for Unranked Boolean

***Present your experimental results for each query set, in the format shown below.***

***Your .zip / .tgz file must include files named HW1-Exp-2a.qry, HW1-Exp-2a.param, etc., in the QryEval directory. The experimental results shown below must be reproducible by these files.***

| | **BOW #AND (Exp-2a)** | **BOW #NEAR/3 (Exp-2b)** | **Structured (Exp-2c)** |
|---|---|---|---|
| **MRR** | 0.0000 | 0.0000 | 0.0000 |
| **P@10** | 0.0000 | 0.0000 | 0.0000 |
| **P@20** | 0.0000 | 0.0000 | 0.0000 |
| **P@30** | 0.0000 | 0.0000 | 0.0000 |
| **MAP** | 0.0000 | 0.0000 | 0.0000 |
| **Running Time** | mm:ss | mm:ss | mm:ss |

## 3 Experimental Results for Ranked Boolean

***Present your experimental results for each query set, in the format shown below.***

***Your .zip / .tgz file must include files named HW1-Exp-3a.qry, HW1-Exp-3a.param, etc., in the QryEval directory. The experimental results shown below must be reproducible by these files.***

| | **BOW #AND (Exp-3a)** | **BOW #NEAR/3 (Exp-3b)** | **Structured (Exp-3c)** |
|---|---|---|---|
| **MRR** | 0.0000 | 0.0000 | 0.0000 |
| **P@10** | 0.0000 | 0.0000 | 0.0000 |
| **P@20** | 0.0000 | 0.0000 | 0.0000 |
| **P@30** | 0.0000 | 0.0000 | 0.0000 |
| **MAP** | 0.0000 | 0.0000 | 0.0000 |
| **Running Time** | mm:ss | mm:ss | mm:ss |

## 4 Analysis of Ranking Algorithm Behaviors

***Discuss the behavior of the two ranking algorithms on the three different types of queries. Possible issues are interactions between type of query with type of algorithm, accuracy vs. running time, and accuracy vs. time spent forming queries; however, you may discuss what seems most appropriate for your experience.***

***Do not just summarize the results – we can read the tables. Instead, explain what conclusions you can reach based on the experiment. This is your chance to show what you learned from the experiments. We are primarily interested in your observations about general trends, not quirky queries. Usually a good analysis addresses several issues. Recommended length: Less than ¾ of a page.***

## 5 Analysis of the Effects of Query Operators and Fields

***Discuss the behavior / usefulness of the different query operators and fields, and your success and failure at using them in structured queries. Possible issues are which operators or fields produced predictable or unpredictable behavior; which operators or fields are more or less useful; effects on running time; and the ease or difficulty of forming good structured queries. However, you may discuss what seems most appropriate for your experience.***

***Do not just summarize the results – we can read the tables. Instead, explain what conclusions you can This is your chance to show what you learned from the experiments. We are primarily interested in your observations about general trends, not quirky queries. Usually a good analysis addresses several issues. Recommended length: Less than ¾ of a page.***