Your Name:

Your Andrew ID:

Homework 2

0   Introduction

0.1   Collaboration and Originality

1. Did you receive help <u>of any kind</u> 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 <u>of any kind</u> 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 <u>every line</u> 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 <u>every word</u> 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.

0.2   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 paragraphs.

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 <u>2 point deduction</u> for not following format instructions because it creates extra work during grading.

1 Documents and Terms

1.1 Documents and Terms Parameters

Document the parameters used in your experiments. Briefly describe the configurations used in your experiments and your reasons for selecting those configurations.

Hint: Parameter sweeps don't show much imagination.

1.2 Documents and Terms: Experimental Results

Present your experimental results for each query set, in the format shown below. Report win:tie:loss compared to the baseline BOW system (# wins : #ties : # losses).

*Your .zip / .tgz file must include files named HW1-Exp-1.1a.qry, HW1-Exp-1.1a.param, etc., in the QryEval directory. The experimental results shown below **must** be reproducible by these files.*

		PRF			
	No PRF (Exp-1.1a)	5 docs 5 terms (Exp-1.1b)	10 docs 10 terms (Exp-1.1c)	20 docs 20 terms (Exp-1.1d)	30 docs 30 terms (Exp-1.1e)
MRR	0.0000	0.0000	0.0000	0.0000	0.0000
P@10	0.0000	0.0000	0.0000	0.0000	0.0000
P@20	0.0000	0.0000	0.0000	0.0000	0.0000
P@30	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@10	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@20	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@30	0.0000	0.0000	0.0000	0.0000	0.0000
MAP	0.0000	0.0000	0.0000	0.0000	0.0000
win/tie/loss	n/a	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00
Run Time	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss

	PRF			
	n_1 docs m_1 terms (Exp-1.2a)	n_2 docs m_2 terms (Exp-1.2b)	n_3 docs m_3 terms (Exp-1.2c)	n_4 docs m_4 terms (Exp-1.2d)
MRR	0.0000	0.0000	0.0000	0.0000
P@10	0.0000	0.0000	0.0000	0.0000
P@20	0.0000	0.0000	0.0000	0.0000
P@30	0.0000	0.0000	0.0000	0.0000
NDCG@10	0.0000	0.0000	0.0000	0.0000
NDCG@20	0.0000	0.0000	0.0000	0.0000
NDCG@30	0.0000	0.0000	0.0000	0.0000
MAP	0.0000	0.0000	0.0000	0.0000
win/tie/loss	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00
Run Time	mm:ss	mm:ss	mm:ss	mm:ss

1.3   Documents and Terms: Analysis

Discuss the effects of varying the number of feedback documents (sample size; amount of evidence) and learned query length (relevance model detail) on retrieval accuracy and computational cost. There are a wide range of issues that you might discuss. You may discuss what seems most appropriate or interesting from your experiments.

<u>Do not</u> 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 <u>show what you learned</u> from the experiments. We are primarily interested in your observations about <u>general trends</u>, not quirky queries. Usually a good analysis addresses several issues. This advice applies to all of the analysis sections.

Recommended length: Less than ¾ of a page.

2   Initial Ranking Quality

2.1   Initial Ranking Quality: Parameters

Document the parameters used in your experiments. Briefly describe the configurations used in your experiments and your reasons for selecting those configurations.

2.2 Initial Ranking Quality: Experimental Results

	baseline (Exp-1.xy)	Ranked Boolean (Exp-2.1a)	config2 (Exp-2.1b)	config$_3$ (Exp-2.1c)	config$_4$ (Exp-2.1d)
MRR	0.0000	0.0000	0.0000	0.0000	0.0000
P@10	0.0000	0.0000	0.0000	0.0000	0.0000
P@20	0.0000	0.0000	0.0000	0.0000	0.0000
P@30	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@10	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@20	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@30	0.0000	0.0000	0.0000	0.0000	0.0000
MAP	0.0000	0.0000	0.0000	0.0000	0.0000
win/tie/loss	n/a	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00
Run Time	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss

The Exp-1.xy result from Section 1.2 is used as a baseline for comparison. Identify the baseline.

2.3 Initial Ranking Quality: Analysis

Discuss the behavior / usefulness of the different fields. You may find it useful to compare the behavior of different queries and/or documents to develop a better understanding of what the different fields tend to contain and how effectively the two algorithms use them.

3   PRF for Other Fields

3.1   PRF for Other Fields: Parameters

Document the parameters used in your experiments. Briefly describe the configurations used in your experiments and your reasons for selecting those configurations.

Hint: Parameter sweeps don't show much imagination.

3.2 PRF for Other Fields: Experimental Results

	baseline (Exp-x.yz)	config₁ (Exp-3.1b)	config₂ (Exp-3.1c)	config₃ (Exp-3.1d)	config₄ (Exp-3.1e)
MRR	0.0000	0.0000	0.0000	0.0000	0.0000
P@10	0.0000	0.0000	0.0000	0.0000	0.0000
P@20	0.0000	0.0000	0.0000	0.0000	0.0000
P@30	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@10	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@20	0.0000	0.0000	0.0000	0.0000	0.0000
NDCG@30	0.0000	0.0000	0.0000	0.0000	0.0000
MAP	0.0000	0.0000	0.0000	0.0000	0.0000
win/tie/loss	n/a	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00	00 : 00 : 00
Run Time	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss

The Exp-x.yz result from Section 1.2 or Section 2.2 is used as a baseline for comparison. Identify the baseline.

3.3   PRF for Other Fields: Analysis

Discuss the value of different combinations of document representations. You may find it useful to compare the behavior of different queries and/or documents to develop a better understanding of how your combinations behaved.