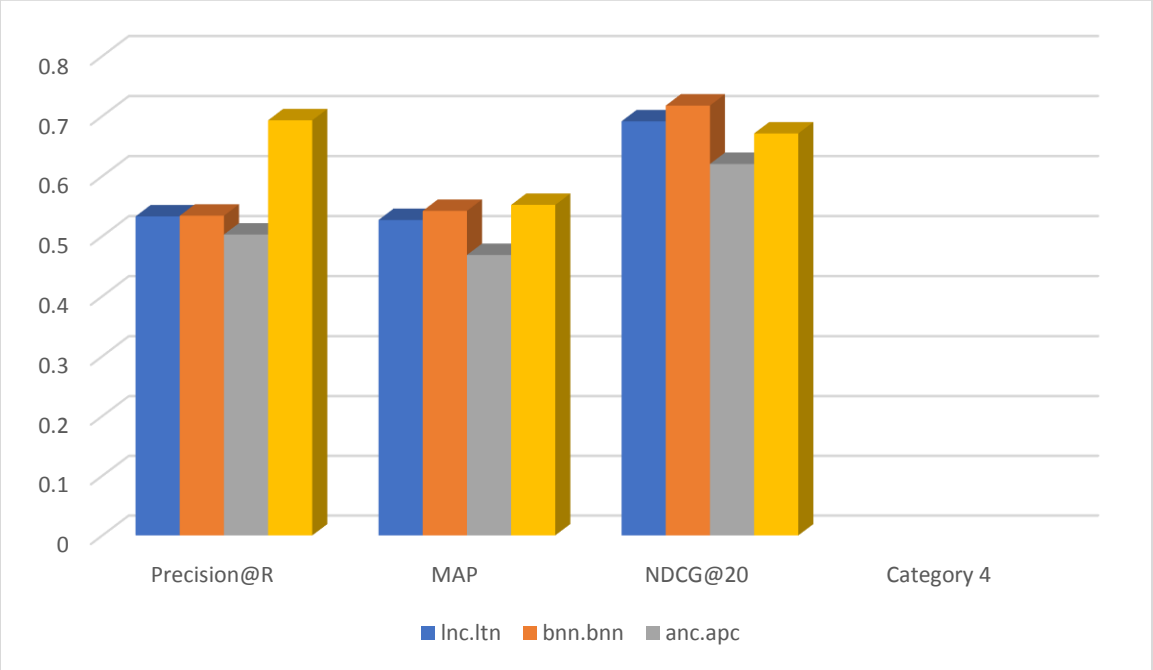
CS 753/853: Topics / Information Retrieval Fall 2019
Programming Assignment 3: TF-IDF

1.test200 benchmark evaluation

Solution : The following table lists the precision messures of our run files using terc_eval tool. The table lists metrics for Precision at R (RPrec), mean-average precision (map) and NDCG@20 (ng_cur_20).



Measures	lnc.ltn	bnn.bnn	anc.apc	Default
Precision@R	0.5328	0.5364	0.5026	0.693
MAP	0.5268	0.542	0.4686	0.552
NDCG@20	0.6912	0.7175	0.6202	0.671

Which of these variants perform best?

Of the varous tf-idf methods we tried, the bnn.bnn variant seemed to perform better than the both methods. it seems to be it is closest to the Lucene default ranking model.

Do they perform better or worse than Lucene's default ranking model?

None of them are better than lucenedefault ranking model.

Using the standard error method, analyze if the the difference significant.

Second highest is lnc.ltn it is secong closest to lucene deffault ranking model.

2. Spearman's Rank Correlation Coefficient.

lnc.ltn 0.461285680325717
bnn.bnn 0.050986974031029794
anc.apc 0.4648760696699176

anc.apc is the best of all the three and is the closet to Lucene's standard model.
As we can see fom the abvev results anc.apc is the closest to the licene's default model while the second closest is lnc.ltc and bnn.bnn is the third closest with the maximum difeerence in ranking

3. Graduate students (voluntary for undergrads): TF-IDF

for Section Queries.
we have retrieved ranking for each section in eacah page in the online file of the test200 benchmark. but we couldn't figure out how to use the hierarchial qrel file for evaluation. we have evaluated the values and find the precision@R i.e 0.693.