Week 3 Quiz

[redacted]

1 point

1。
Suppose a query has a total of 4 relevant documents in the collection. System A and System B have each retrieved 10 documents, and the relevance status of the ranked lists is shown below:

System A: [- + - - - - - - - -]

System B: [+ + - - - - - - - -]

where the leftmost entry corresponds to the highest ranked document, and the rightmost entry corresponds to the lowest ranked document. A “+” indicates a relevant document and a “-” corresponds to a non-relevant one. For example, the top ranked document retrieved by System A is non-relevant, whereas the top ranked document retrieved by B is relevant.

What is the **precision at 10 documents** of both systems?

- ○ P(A) = 1/40 P(B)= 2/40
- ● P(A) = 1/10 P(B)= 2/10
- ○ P(A) = 1/4 P(B)= 2/4
- ○ P(A) = 9/10 P(B)= 8/10

1 point

2.
Assume the same scenario as in Question 1. What is the **recall** of both systems?

- ○ R(A) = 9/10 R(B)= 8/10
- ○ R(A) = 1/40 R(B)= 2/40
- ○ R(A) = 1/10 R(B)= 2/10
- ● R(A) = 1/4 R(B)= 2/4

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1 point

3.
Assume the same scenario as in Question 1. What is the **average precision** of both systems?

- ● AP(A) = 1/8 AP(B) = 1/2
- ○ AP(A) = 1/20 AP(B) = 1/5
- ○ AP(A) = 1/10 AP(B) = 1/5
- ○ AP(A) = 7/20 AP(B) = 7/10

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1 point

4.
Assume you have two retrieval systems X and Y. For a specific query, system X has a higher precision at 10 documents compared to Y. Can system Y have a higher **average precision** on the same query?

- ○ No
- ● Yes

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1 point

5.
Can a retrieval system have an F1 score of 0.75 and a precision of 0.5?

- ( ) Yes
- (•) No

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1 point

6.
For any ranked list of search results, precision at 10 documents is **always** higher than precision at 20 documents.

- (•) False
- ( ) True

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1 point

7.
What can you say about the precision-recall (PR) curve?

- (•) The ideal system should have the PR curve as a horizontal line.
- ( ) It is always monotonically increasing.
- ( ) It is always monotonically decreasing.

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1 point

8.

Which is correct about average precision?

- (●) It combines precision and recall.
- ( ) It does not show the difference between ranks of relevant documents.

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1 point

9。
Which of the following is NOT true about Cranfield evaluation methodology?

- (●) It does not involve humans to make relevance judgments.
- ( ) It simulates real document collections.
- ( ) It simulates user queries.

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1 point

10。
Which of following is wrong about nDCG@k?

- ( ) It has a range between 0 and 1.
- ( ) It can be used to compare across queries.
- (●) It discounts only top ranked documents.