

**START OF QUIZ**

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## Question 1

Topic: Lecture 7

Source: Lecture 7

What is the purpose of an inverted index? (1)

## Question 2

Topic: Lecture 5

Source: Lecture 5

Why can we represent a rank- $m$  matrix as the sum of  $m$  rank-1 matrices \*or\* the product of an  $n \times m$  matrix and an  $m \times n$  matrix (ie, what is matrix multiplication doing that we can take advantage of)? Explain. (2)

### Question 3

Topic: Lecture 8

Source: Lecture 8

What do we mean by interpolation? (1)

## Question 4

Topic: Lecture 8

Source: Lecture 8

In class, I mentioned that high  $k$  value for BM25 TF weighting rewards documents with many, many instances of a term in them. Explain why that's the case. (2)

## Question 5

Topic: Lecture 5

Source: Lecture 5

The Frobenius norm looks very similar to a distance metric we've already observed. Explain which one. (1)

## Question 6

Topic: Lecture 7

Source: Lecture 7

Define  $P @ R$ . (1)

## Question 7

Topic: Lecture 6

Source: Lecture 6

Why can't we just run an HMM over documents to discover the latent states like we do for POS-tagging? (1)



## Question 8

Topic: Lecture 6

Source: Lecture 6

Imagine we performed LDA on the classes in this block. What might their [Beta / Theta] distributions look like? (2)

## Question 9

Topic: Long

Source: Lecture 5

Imagine that we are working with a language other than English, such as Indonesian, with significant agglutinative morphology (words are inflected through the concatenation of affixes to a lemma). How do you think that this would impact our various vector space models? Which of them would be most affected, and which would be least affected? Explain. (3)

**END OF QUIZ**