

**START OF QUIZ**

**Student ID:**

**31181845, Yuan, Su**

## Question 1

Topic: Lecture 8

Source: Lecture 8

What do we mean by interpolation? (1)

## Question 2

Topic: Lecture 7

Source: Lecture 7

From a processing perspective, what is one benefit structured data has over unstructured data, and vice versa. (1)

### Question 3

Topic: Lecture 8

Source: Lecture 8

What is the intuition behind MAP? (1)

## Question 4

Topic: Lecture 7

Source: Lecture 7

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

## Question 5

Topic: Lecture 6

Source: Lecture 6

In class, we talked about bookstores and streaming algorithms classifying books / movies. How can we tell that they don't use a topic modeling algorithm (or, if you think they do, what would be some clues)? (1)

## Question 6

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 7

Topic: Lecture 5

Source: Lecture 5

We often weight our matrices using something like PMI or TF-IDF. Do you think it would make sense to do this after applying SVD? Why or why not? (2)



## Question 8

Topic: Lecture 6

Source: Lecture 6

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

## Question 9

Topic: Long

Source: Lecture 8

In class, I mentioned that we might want to provide a weighted ranking of documents in an IR system (for example, we might have a list of relevant documents already sorted for relevancy, and we want our IR system to not only return those documents high in the returned document list, but in the same order). How might we modify the MAP metric to reward the ordering of the documents, as well? Explain (use an example, if you have to). (3)

**END OF QUIZ**