

**START OF QUIZ**

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## Question 1

Topic: Lecture 7

Source: Lecture 7

Other than characters, we didn't really discuss subword units for inflection. Do you think that BPE would be useful in an inflectional model? Explain briefly. (1)

## Question 2

Topic: Lecture 5

Source: Lecture 5

Imagine that we wanted to create POS embeddings in the same way that we create word embeddings. Explain one way that it would be very similar to word embeddings, and one that it would be very different. (1)

### Question 3

Topic: Lecture 6

Source: Lecture 6

In class, we discussed why a “Universal Morphology” might not actually be possible. Briefly explain why. (1)

## Question 4

Topic: Lecture 8

Source: Lecture 8

Why do you think that LLMs learn syntax earlier in the model than morphology? (1)

## Question 5

Topic: Lecture 6

Source: Lecture 6

Even if we're only interested in lemmas, do you think it's worthwhile to produce MSDs, as well? Why or why not? (1)

## Question 6

Topic: Lecture 7

Source: Lecture 7

Imagine that we want to improve the quality of a morphological inflector/analyser, and we want to do so through multi-task learning (ie, two decoders predicting different tasks, with a composite loss function). Can you think of a task that might benefit morphological processing? Explain. (2)

## Question 7

Topic: Lecture 5

Source: Lecture 5

Imagine that we have some pre-trained multilingual embeddings of really high quality. We train a POS tagger for a very common language, with lots of data, embedding the data with the multilingual embeddings. At inference, we then replace the input with another language. Do you think the tagger would beat a majority baseline? Explain your reasoning, and list any assumptions. (2)



## Question 8

Topic: Lecture 8

Source: Lecture 8

Imagine we have a good neural morphological analyzer, and we want to inject the knowledge into a larger NLP DL model (like an LLM, etc.). How might we do so in an efficient way? (2)

## Question 9

Topic: Long

Source: Lecture 6

Linguistic determinism is the (somewhat outdated, and originally quite racist) idea that the language we speak shapes the way that we see the world. Although it's been shown to only have a small influence on humans (called weak determinism), there haven't really been many studies that look into it in machines. However, given that our methodologies are so heavily influenced by embedding spaces, we can say that modern ML models are entirely shaped by the language they speak (the language here being the constraints of the embedding space). If we had a well-annotated morphological corpus, how might we set up an experiment to test this theory? (3)

**END OF QUIZ**