

**START OF QUIZ**

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## Question 1

Topic: Lecture 1

Source: Lecture 1

Many languages are losing speakers over time. Briefly describe why this might be happening, and how NLP is contributing to this effect. (1)

## Question 2

Topic: Lecture 4

Source: Lecture 4

Describe the key differences between the forward and backward steps of the forward-backward algorithm. (1)

### Question 3

Topic: Lecture 3

Source: Lecture 3

What are the benefits of using adapter layers instead of fine-tuning? (1)

## Question 4

Topic: Lecture 2

Source: Lecture 2

Describe the concept of negative transfer with an example. (1)

## Question 5

Topic: Lecture 1

Source: Lecture 1

Describe why “language endangerment” and “language extinction” are contentious term. (1)

## Question 6

Topic: Lecture 3

Source: Lecture 3

Imagine that we have a huge amount of unlabeled data in Marathi - enough to train some contextual word embeddings. We want to start creating some tools, and want to use our an embedding set from Hindi to start tagging Marathi. Given that Marathi and Hindi are related languages written in the same script (with some differences), how can we leverage every bit of information we have, and what else might we need to maximize the quality of our Marathi tools? (2)

## Question 7

Topic: Lecture 4

Source: Lecture 4

I've said a few times that the syntax dominates the signal (especially for languages with less free word order). Where have we seen this, and what does it mean for semi-supervised tagging? (2)



## Question 8

Topic: Lecture 2

Source: Lecture 2

In transfer learning, how do you decide which layers of a pre-trained model to freeze and which to fine-tune when adapting it to a new language or task? Give an example of when you might choose to freeze or fine-tune specific layers. (2)

## Question 9

Topic: Long

Source: Lecture 3

Imagine that we want to take what we know about adapter layers and word embeddings to approach shared embedding space in a very different way. We have several multi-lingual embeddings in HRLs that we know are in the same space. We also have embeddings that we've trained for a LRL, but that are in a different space. We concatenate the embeddings, freezing the HRLs, but not the LRL embeddings, and then pass them through a prediction layer for POS tagging. Do you think this would work? Would it be better to try to predict the HRL or LRL (or do it as multi-task learning)? (3)

**END OF QUIZ**