START OF QUIZ
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I agree that all answers provided are in my own words, and that I will not discuss the contents of this quiz with any of my fellow students until after the exam period has completed for everyone. Furthermore, any response that used generative AI tools has been rephrased into my own interpretation, and has been appropriately cited.

Signature: _____

Question 1

Topic: Lecture 5
Source: Lecture 5

There are two ways of matching a pattern against the start of a string. Describe them. (1)

Question 2

Topic: Lecture 7
Source: Lecture 7

Can you think of any classes of words in English where the stem and the lemma will always be identical? Why is that of little interest to us? (1)

Question 3

Topic: Lecture 8
Source: Lecture 8

Why do Python programmers like working with (t/c)sv files? When are they appropriate, and what advantages do they provide over .txt files? (1)

Question 4

Topic: Lecture 7
Source: Lecture 7

What might the training data for a sentence segmenter look like? Do you think it would be easy or hard to train? Explain briefly. (1)

Question 5

Topic: Lecture 5
Source: Lecture 5

List one advantage that regular expressions have over string comparison, and one disadvantage to using them. (1)

Question 6

Topic: Lecture 6
Source: Lecture 6

Consider using XML to represent a machine learning model's architecture. What XML tags might be useful for representing layers, activation functions, and connections between layers (you don't need to describe a deep-learning architecture - describe one you're familiar with)? If this doesn't seem possible, explain why not. (2)

Question 7

Topic: Lecture 6
Source: Lecture 6

Suppose you've trained a Named Entity Recognition (NER) model using XML-annotated text data, but it consistently fails to recognize locations. What steps would you take to determine if the problem lies with the model, the training data, or both? What resources would you need to investigate further? (2)

Question 8

Topic: Lecture 8
Source: Lecture 8

Imagine that you're working with a linguist who is not very good with technology. They store all of their data in .docx files, scattered across their desktop. What arguments would you make for them to convert to .tsv or .json, and how would you alleviate their worries that they wouldn't be able to access or modify their information (no, you can't teach them Python)? (2)

Question 9

Topic: Long
Source: Lecture 6

You've been hired by a company that is working with their own version of XML that they call "NQAXML" (Not-Quite-As-eXtensible Markup Language). It provides stronger restrictions on tag names (they must be all uppercase, and no longer than 10 characters long), and it doesn't allow nested spans with identically-named tags. Like HTML, it also has a set of tags that must appear in every document. Describe your process for creating a data validator that takes an XML file, and ensures that it satisties the rules of NQAXML. (3)

END OF QUIZ