

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 8

Source: Lecture 8

Why should you get into the habit of using "with open()"? Are there any downsides? (1)

Question 2

Topic: Lecture 6

Source: Lecture 6

What kinds of tags might be useful in the following text (describe at least two): "But you liked Rashomon!" "That's not how I remember it!" (1)

Question 3

Topic: Lecture 5

Source: Lecture 5

Imagine you have a block of text with paragraphs separated by blank lines. How would you use regex to find the start of each paragraph? What assumptions would you make about the formatting of the text? (1)

Question 4

Topic: Lecture 7

Source: Lecture 7

In class, we built a POS tagger that tries to give a majority tag to a word; if it's out-of-vocabulary, it backs-off to Regexes. This is clearly overly simplistic. List two assumptions that are being violated by this model. (1)

Question 5

Topic: Lecture 8

Source: Lecture 8

Give 2 reasons to use a zip file. (1)

Question 6

Topic: Lecture 7

Source: Lecture 7

I mentioned in class that POS tagging is often viewed as a pre-processing step for many CL tasks. What assumptions are we making (at least 3) when including it in our NLP pipeline? Do you think these are reasonable assumptions, and if they fail, is it worth the effort to solve the problem, or just ignore POS tagging? (2)

Question 7

Topic: Lecture 5

Source: Lecture 5

Imagine we have a spell-checker that can identify common misspellings of words by replacing certain letters with a capture group that contains letters that are nearby on the keyboard. How aggressive of a regex would we want to write for this (ie, how many letters in the word would we want to replace with a group)? Explain. (2)

Question 8

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 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 satisfies the rules of NQAXML. (3)

END OF QUIZ