START OF QUIZ
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Question 1

Topic: Lecture 1
Source: Lecture 1

How would you convert a string into a list of characters? (1)

Question 2

What is the Big O time complexity of finding the elements in a set that intersect with an iterable (ie, string, list, etc)? Briefly explain. (1)

Question 3

When we nest deep structures in dictionaries, we lose their O(1) benefits. Can you think of a better way to represent complex data sets? (1)

Question 4

What method would you use to check if a string contains only numeric digits (including decimals) without using any additional libraries? (1)

Question 5

Topic: Lecture 2
Source: Lecture 2

How does Zipf's law help explain the distribution of word frequencies in a corpus? What impacts does that have on our algorithms? (1)

Question 6

Attributive adverbs are a type of adverb that provides "flavour" to speech verbs (example: "she said quickly"; "he spoke loudly"). They are often frowned upon in formal writing, because they can be replaced with other verbs: "blurted" or "shouted", in the example. Write a quick function that finds them in the Brown corpus, and reports how many sentences in 1000 have them. (2)

Question 7

If you were to analyze a corpus for stylistic differences, how might you determine: the formality of the language; whether it's written or spoken; its sentiment? Assume that we don't have existing ML tools or enough data to train one. (2)

Question 8

Topic: Lecture 4
Source: Lecture 4

In French, negation is often indicated by "ne ... pas" (ie, "je ne parle pas" - "I am not speaking"; "tu ne conduis pas" - "You are not driving", etc.). However, in speech, one of the two is often dropped: "je ne parle." or "tu conduis pas.". Using this information, how would you determine whether a corpus was composed of written or spoken French? You don't need to write the code, but explain the logic that you would use to come to this conclusion. (2)

Question 9

Topic: Long
Source: Lecture 1

Write a function that validates if a string matches a phone number format, such as (123) 456-7890. What types of invalid inputs should the function check for? Are there edge cases we would be willing to accept? How would we handle those? Write 3 test cases - 2 that should pass, and one that should fail. (3)

END OF QUIZ