

START OF QUIZ

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Question 1

Topic: Lecture 4

Source: Lecture 4

Do you think that children's (age 3-5) picture books would have a higher or lower ratio of adjectives than university literature? Briefly explain your logic. (1)

Question 2

Topic: Lecture 1

Source: Lecture 1

Vowels are often used as a proxy for syllables in words (it's not a perfect correspondence, but it's not bad). Write a function that counts the vowels in a word, without using a loop, using only the tools we went over in Lecture 1 (list comprehension counts as a loop). (2)

Question 3

Topic: Lecture 3

Source: Lecture 3

What properties of dictionaries make them an efficient choice for nesting complex lexicons.

(1)

Question 4

Topic: Lecture 2

Source: Lecture 2

As we expand the size of our corpus, we increase the number of Hapaxes. Do you think this is also true of stopwords? Briefly explain. (1)

Question 5

Topic: Lecture 2

Source: Lecture 2

How does Zipf's law relate to Hapax Legomena? (1)

Question 6

Topic: Lecture 1

Source: Lecture 1

In class, we talked about how `.isdigit()` is insufficient for determining whether we can convert a string to a float. Write a short function `isfloat` that determines whether a provided string is a valid floating point number. (2)

Question 7

Topic: Lecture 4

Source: Lecture 4

We discussed two alternative methods for noise reduction: removing all words above a certain frequency, or only removing those from a curated lexicon. Name an advantage to both.
(1)

Question 8

Topic: Lecture 3

Source: Lecture 3

Although lexicons are often good starting points, they are often less capable than ML methods. What are some reasons (at least 2) that lexicons are insufficient for state-of-the-art training. Briefly explain. (2)

Question 9

Topic: Coding

Source: Coding

Grimm's law is a linguistic phenomenon that describes how sounds in language (mostly related to the Germanic languages like English, Dutch, German, Norwegian, Icelandic, etc.) changed over time (specifically from some progenitor thousands of years old - Germanic languages observed the change, while Romance languages did not). For example, the /p/ sound in Latin evolved into the /f/ sound in English across many words - compare "piscus" with "fish"; "pater" with "father"; "pedus" with "foot" (there are a couple other changes in there, too - see if you can spot them!). If you had a time machine, and could bring a computational toolkit to help Jacob Grimm formulate his law, what would you need, in terms of lexicons, keeping in mind that the /p/ -> /f/ change is only one of a handful of sound changes, and that the changes occurred over dozens of languages? Explain (with pseudocode, if necessary), how you would start to identify trends in the data (assuming that your computer still works in the 19th century)? (3)

END OF QUIZ