START OF QUIZ
Student ID: 70152863,Khan,Muhammad Mujtaba

Question 1

Topic: Lecture 1
Source: Lecture 1

Suppose we are filling the table for the Levenshtein distance algorithm. We are in cell (x, y). The values of cell (x-1, y-1), (x-1, y), and (x, y-1) are 2, 2, and 2, respectively. What is the value we will put in cell (x, y), given that the letters are NOT equal? (1)

Question 2

Topic: Lecture 3
Source: Lecture 3

Describe the noisy channel model, and how it can be used to represent POS-tagging. (1)

Question 3

Topic: Lecture 3
Source: Lecture 3

In your own words, explain the Markov assumption, and how it is used in language modeling. (1)

Question 4

Topic: Lecture 2
Source: Lecture 2

Explain the purpose of a centroid in K-means clustering, and how we can think of it with respect to its cluster. (1)

Question 5

Topic: Lecture 2
Source: Lecture 2

Desribe the concept of cluster homogeneity, and how it relates to precision. (1)

Question 6

Topic: Lecture 1
Source: Lecture 1

What is the primary concern of a semantic vector space (ie, a vector space representing meaning), and how does it relate to our use of cosine similarity to measure word similarity? Can you think of any sorts of words for which it might be very difficult to satisfy this concern? (2)

Question 7

Topic: Lecture 4
Source: Lecture 4

Let's imagine we're modifying our HMM to handle 2nd-order Markov operations (ie, consider the previous two states). Does anything in the model fundamentally change? Describe which aspects of the forward/Viterbi algorithm would need to be modified, if any. (2)

Question 8

Topic: Lecture 4
Source: Lecture 4

Imagine that we are doing OCR (optical character recognition; ie, the translation of handwritten text into digital text) instead of POS tagging. Do you think we could use an HMM? If so, what would the states, transitions, and emissions be? If not, describe why it's an inappropriate tool for the task. (2)

Question 9

Topic: Long
Source: Lecture 4

Please see the long question from lecture 4 in the quiz bank on Github. (3)

END OF QUIZ