START OF QUIZ
Student ID:
37289428,Yun,Michelle

Question 1

Topic: Topic4
Source: Lecture 4

What is the main difference between the Viterbi algorithm and the Forward algorithm, and why does it allow us to find the optimal path through a sequence?

Question 2

Topic: Topic2
Source: Lecture 2

Why do outliers cause problems for clustering algorithms like k-means? How can we deal with them?

Question 3

Topic: Topic1
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, 1, and 2, respectively. What is the value we will put in cell (x, y), given that the letters are NOT equal?

Question 4

Topic: Topic3
Source: Lecture 3

Imagine that we are doing machine translation instead of POS-tagging. What would be the equivalent of emission probabilities and transition probabilities? Explain.

Question 5

Topic: Topic3
Source: Lecture 3

If our vocabulary consists of just symbols A and B, and our corpus consists of the sequence: B A B A B A, and we build a bigram language model by applying add-one smoothing to the MLE from the corpus, what is the probability of P(B||A)? Please show your work.

Question 6

Topic: Topic1
Source: Lecture 1

Discuss why one might do unsupervised learning instead of supervised learning.

Question 7

Topic: Topic2
Source: Lecture 2

Why is the Forgy initialization sub-optimal?

Question 8

Topic: Topic4
Source: Lecture 4

How is it that EM can arrive at a good solution, even if we have a random initialization of parameters?

Question 9

Topic: Coding
Source: Lecture 2

Imagine we have three clusters [[X, Y], [M, N, P], [A, B, C, D]], and a point [R]. Write a function that determines which cluster to add R to, given the mean linkage criterion.

END OF QUIZ