START OF QUIZ
Student ID:
88636006,Green,Shiao-Li

Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

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 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 2

Topic: Lecture 5
Source: Lecture 5

Write a regex pattern that matches any valid email address (i.e., with basic rules like user@domain.com). What challenges might you face in accurately matching all possible email formats? (1)

Question 3

Topic: Lecture 6
Source: Lecture 6

How would we find all images in an HTML document? (1)

Question 4

Topic: Lecture 5
Source: Lecture 5

There are two ways of matching a pattern against the start of a string. Describe them. (1)

Question 5

Topic: Lecture 8
Source: Lecture 8

What are two advantages of using .py files over .ipynb files for deployment, and two reasons why .ipynb files are preferred for prototyping or development? (1)

Question 6

Topic: Lecture 8
Source: Lecture 8

In class, I mentioned that we always want to close a file correctly. Beyond freeing up system resources, it also "flushes the buffer", which ensures that any current read or write operations that are in the job queue, but haven't yet been processed, are completed. Knowing what you do about encodings, what is a possible ramification of not flushing the buffer? Explain at least 2. (2)

Question 7

Topic: Lecture 7
Source: Lecture 7

Do you think that we could do lemmatization before machine translation? Provide 1 argument that for why it might help, and one for why it might make things more complicated. List any assumptions that might make your answer more complicated. (2)

Question 8

Topic: Lecture 6
Source: Lecture 6

Suppose you've trained a Named Entity Recognition (NER) model using XML-annotated text data, but it consistently fails to recognize locations. What steps would you take to determine if the problem lies with the model, the training data, or both? What resources would you need to investigate further? (2)

Question 9

Topic: Long
Source: Lecture 8

Imagine that you find an important file buried on a hard drive found in the basement of a university. You are trying to access the data, but realize it is corrupted. Some of the bits have been flipped (switched from 0 to 1, or 1 to 0), and others have been completely deleted. You don't know the encoding, and you don't know the language the data is written in. What are some tests you could run to try to establish and restore at least some of the data? (Hint: remember that a "byte" is 8-bits, and that UTF-8 is 1 byte, or 8 bits, UTF-16 is 2 bytes, or 16 bits, and UTF-32 is 4 bytes, or 32 bits). (3)

END OF QUIZ