# START OF QUIZ
# Student ID:
# 80162985,Sirwani,kartik

## Question 1

Topic: Lecture 3
Source: Lecture 3

Explain why the following rule is not valid in a CFG: NP VB -> DT NN VB (1)

## Question 2

Topic: Lecture 1
Source: Lecture 1

English is an SVO (Subject-Verb-Object) language, but only most of the time. Can you think of an example where this order is violated? Why do you think this doesn't confuse speakers of English? (1)

## Question 3

Topic: Lecture 2
Source: Lecture 2

What properties of English syntax make regular expressions suitable for chunking? Do you think that this functionality would extend to many other languages? Briefly explain. (1)

## Question 4

Topic: Lecture 4
Source: Lecture 4

Why do we not evaluate parsers by the number of correct nodes in the tree? (1)

## Question 5

Topic: Lecture 1
Source: Lecture 1

Write the parenthetic parse of the following sentence: "Yertle the Turtle is king of the pond." (1)

## Question 6

Topic: Lecture 2
Source: Lecture 2

Imagine you're working on analysing customer feedback, and your boss wants you to identify the most common complaints. How might you use your parsing knowledge to automate and distill the most common complaints? You can assume that complaints have already been labeled with the product they are complaining about. You can also assume that just sorting the frequency of tokens is going to be insufficient. (2)

## Question 7

Topic: Lecture 4
Source: Lecture 4

Given two parse trees, calculate the PARSEVAL score. Also briefly describe whether any errors are "syntacto-semantic" errors (ie, an error that requires real-world knowledge to arrive at the correct parse). 1: (S (NP (DT The) (JJ quick) (JJ brown) (NN fox)) (VP (VBZ jumps) (PP (IN over) (NP (DT the) (JJ lazy) (NN dog))))) (2): (S (NP (NP (DT The) (NP (JJ quick) (NP (JJ brown) (NN fox))))) (VP (VBZ jumps) (PP (IN over) (NP (DT the) (JJ lazy) (NN dog)))))

## Question 8

Topic: Lecture 3
Source: Lecture 3

Imagine, if you will, a "mildly-context-sensitive" grammar, that only allows for one non-terminal to appear as a contextual marker (let's call it "CON"). Anything not involving CON has to satisfy CFG rules. Do you think that this would be restrictive enough to satisfy the small number of cases that don't satisfy context-freedom, without just being a CSG in disguise? (2)

## Question 9

Topic: Long
Source: Lecture 4

Imagine you're building a tool to help second language learners of language X. You have a grammar of their first language (L1), and a grammar of the language they are trying to learn (X). How might you build a tool that learns how to translate a production from L1 into X? Describe any additional data or tools you might need, and the process you would use to learn a "production-translation grammar". Also explain how you could use this to create illustrative examples of how the syntax of language X works.

# END OF QUIZ