

**CS-5340/6340, Written Assignment #1**  
**DUE: Tuesday, September 4, 2018 by 11:59pm**

1. (33 pts)

- (a) John/NOUN might/MOD go/VERB to/PREP school/NOUN to/INF learn/VERB welding/GER .
- (b) Fires/NOUN broke/VERB out/PART near/PREP Moab/NOUN without/PREP warning/GER .
- (c) Kate/NOUN , who/RELPRO is/VERB brilliant/ADJ , builds/VERB robots/NOUN .
- (d) Susan/NOUN loves/VERB her/PERPRO house/NOUN but/CONJ may not/MOD stay/VERB there/ADV .
- (e) Sleeping/GER bags/NOUN can/MOD keep/VERB people/NOUN from/PREP freezing/GER on/PREP camping/GER trips/NOUN .
- (f) To/INF quit/VERB smoking/GER , Joe/NOUN never/ADV buys/VERB cigarettes/NOUN , which/RELPRO he/PERPRO craves/VERB .
- (g) Tom/NOUN makes/VERB up/PART stories/NOUN about/PREP imaginary/ADJ monsters/NOUN .
- (h) She/PERPRO delicately/ADV brought up/PART a/ART sensitive/ADJ topic/NOUN to/PREP Bill/NOUN .

2. (20 pts)

- (a) The bird quickly built an amazing nest for its young.

ACTIVE voice

- (b) George has been having serious problems with his back.

ACTIVE voice

- (c) Mary does not want help with her car.

ACTIVE voice

- (d) The window of the Toyota Prius was broken during a hail storm.

PASSIVE voice

- (e) Too much money has been spent on unnecessary trips to Europe.

PASSIVE voice

- (f) He could barely understand the writing on the chalkboard.

ACTIVE voice

- (g) Both girls from Utah were chosen for the summer program.

PASSIVE voice

- (h) John was told about the election results by his neighbor.

PASSIVE voice

- (i) Tina received several awards for her athletic skills.

ACTIVE voice

- (j) The boy had seen many bears near the family's cabin.

ACTIVE voice

3. (20 pts)

- (a) His grandmother/Subject left her son/Indirect Object many valuable jewels/Direct Object .
- (b) The cat/Subject was chased by a barking dog.
- (c) Tom Brady/Subject passed the football/Direct Object to his wide receiver.
- (d) Don't forget your car keys/Direct Object again.
- (e) George/Subject mailed his daughter/Indirect Object a letter/Direct Object at her summer camp.
- (f) IBM/Subject awarded a bonus/Direct Object to John for his inventions.
- (g) You/Subject should pick your favorite movie/Direct Object !
- (h) The old man/Subject promised the boy/Indirect Object a lawn mowing job/Direct Object in summer.
- (i) Susan/Subject was extremely happy about the news/Direct Object .
- (j) The woman with very long hair/Subject was blocking the view/Direct Object in the movie theater.

4. (12 pts) List all of the context-free grammar rules that are depicted in the parse trees above. You only need to list grammar rules for the non-terminal symbols S, NP, VP, and PP. You do not need to list rules for the non-terminal symbols associated with part-of-speech tag assignments (i.e., noun, verb, etc.).

$$S \rightarrow NP VP$$

$$S \rightarrow NP S VP$$

$$S \rightarrow VP PP$$

$$NP \rightarrow noun$$

$$NP \rightarrow art noun$$

$$NP \rightarrow noun PP$$

$$NP \rightarrow art noun PP$$

$$NP \rightarrow perpro noun$$

$$VP \rightarrow verb$$

$$VP \rightarrow verb NP$$

$$VP \rightarrow adv verb NP PP$$

$$PP \rightarrow prep NP$$

5. (15 pts)

(a) *drive*

**NP** I am driving a truck.

**PP** I drive to school everyday.

(b) *laugh*

**None**

(c) *wear*

**NP** She is wearing a red hat.

(d) *hope*

**that S** I hope that she can pass the exam.

(e) *point*

**NP** He pointed the way to the stadium.

**PP** The arrow is pointing to the North.

Question #6 is for CS-6340 students ONLY!

6. (12 pts)

(a) G1

art?adj \* noun+

(b) G2

art?adj \* noun+

(c) G3

art?adj?noun+

(d) G4

art?adj \* noun+

## ELECTRONIC SUBMISSION INSTRUCTIONS

You should submit the answers to this assignment **in pdf format** on our course's CANVAS site by 11:59pm on Tuesday, September 4.