

## Team Assignment 6: Chapter 19. $LL(k)$ Grammars

Due Thursday, March 3

Names: \_\_\_\_\_ Section: \_\_\_\_\_ Score: \_\_\_\_/50 pts

1. [15 pts] Use Algorithms 19.4.1 and 19.5.1 to construct the  $FIRST_2$  and  $FOLLOW_2$  sets for variables of the following grammar (Problem 19.6(b), Page 592):

$$S \rightarrow A\#\# \qquad A \rightarrow bBA \mid BcAa \mid \lambda \qquad B \rightarrow acB \mid b$$

2. [15 pts] Give the *lookahead sets* for each *variable* and *rule* of the following grammar (19.2(d), Page 591):

$$S \rightarrow aAbBc \qquad A \rightarrow aA \mid cA \mid \lambda \qquad B \rightarrow bBc \mid bc$$

3. [20 pts] Construct the  $FIRST_3$ ,  $FOLLOW_3$ , and  $LA_3$  for each of the *variables* in the following grammar:

$$S \rightarrow aSA \mid aBS \mid \lambda \qquad A \rightarrow aAc \mid \lambda \qquad B \rightarrow bB \mid bC \qquad C \rightarrow cC \mid c \mid \lambda$$