SRM Institute of Science and Technology

College of Engineering and Technology

SCHOOL OF COMPUTING

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

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ASSIGNMENT 1

1.

Consider the following grammar:

$$\langle if\_stmt\rangle \rightarrow \textbf{if} \langle logic\_expr\rangle \textbf{ then } \langle stmt\rangle$$
$$| \textbf{ if} \langle logic\_expr\rangle \textbf{ then } \langle stmt\rangle \textbf{ else } \langle stmt\rangle$$
$$\langle stmt\rangle \rightarrow \langle if\_stmt\rangle | \langle any\ non\text{-}if\ statement\rangle$$

Check whether the above grammar is ambiguous

2. A well reputed university has allowed students to choose the courses in particular pattern. It is represented as the given CFG where the term 'Course_n' denotes non terminals and the subject name denotes terminals:

Course_1→Course_2Course_3| discrete_ mathematics |fundamentals_of_computing

Course_2→Course_3 digital_electronics | ε

Course_3→ data_structures

Please help the students to determine which will be the subjects, that can be enrolled in the first instance

3. Sukesh travel to market in left side to purchase an apple and returned in opposite direction, the next day he travelled in opposite direction and purchased an apple and spend the wholeday in the market. travelled to Japan for a month officially with his suitcase and returned back with his same suitcase and have not carried anything in addition .The Productions is given as follows:

Sukesh -> appleSukeshapple'

Sukesh'-> appleSukesh'|∈

Check whether the grammar is LL(1) or not by constructing predictive parsing table