

**Department of Computer Science and Engineering**  
**Language Processing - VII (Shift B)**

**Coding language: Any GUI BASED compiler.**

**Coding Assignment - 4**

Given Grammar:

Without constructing Parsing table: prove that the grammar is not LL(1).

**Coding Assignment - 5:**

Input: Parsing table for any grammar [States, Terminals and Non-Terminals]

Process: Scan operation on parsing table

Output: To decide

- a. Number of positions in parsing table [blank entries] which can be replaced by Error Entry.
- b. Write a method/function/subroutine, which will be invoked for expression grammar, for the strings starting with OPERATOR. For example +ab, should be converted into a+b.

**Coding Assignment-6: SDTS**

Input: Expression Grammar and String

Process: Design rule base, to convert the infix expression into postfix format. The process will convert the input expression into parse tree and using semantic actions, convert the expression into postfix format.

Output:

Postfix expression. [Hint Create table to store the semantic action and perform string comparison]

**Coding Assignment-7: SDTS**

Input: Expression Grammar and String

Process: Design rule base, to convert the infix expression into prefix format. The process will convert the input expression into parse tree and using semantic actions, convert the expression into prefix format.

Output:

Prefix expression. [Hint: Use Queue to store the operators]

[Hint Create table to store the semantic action and perform string comparison]

### **Coding Assignment - 8: SDTS**

Input: Grammar, Semantic Action and String

Process: Demonstrate the implementation of inherited attribute

Output: Sequence of execution.

### **Coding Assignment - 9: SDTS**

Input: Grammar for if-then-else construct, Program Segment and starting address.

Process: Write semantic action and generate address mapping instruction w.r.t starting address.

Output: Semantic instructions for the code

Demonstrate simple and nested "if-then-else" construct.

The code should be tested with sample program segments.

### **Coding Assignment - 10: SDTS**

Input: Array with dimensions and Address of location.

Process: Translation logic to store the address in Row-Major Form and generate the address of location. Translate the instruction into three address code.

The input will be in the form of  $a[i,j] = 10$

Output: Print Address and value.

***Group Size: 03***

***All the Coding Assignments 1 - 10, will be submitted on or before 25<sup>th</sup> September 2015.***

***Students can select assignment on First Come First basis, if available and register selection in department office.***

***The coding assignment if already selected and not submitted, validity of such assignment is 9<sup>th</sup> September 2015.***