Department of Computer Science and engineering, SVNIT Surat

System Software

Tutorial 3

1. Construct predictive parsing table for following grammar. And verify (give moves of the parser) for the string "id+id*id".
   E -> TE'
   E' -> +TE' | Є
   T -> FT'
   T' -> *FT' | Є
   F -> (E) | id
2. Check the grammar is LL(1) or not:
   1. S -> AaAb | BbBa
      A -> Є
      B -> Є
   2. S -> iEtSS'
      S' -> eS | Є
      E -> b
3. Given the grammar
   S -> a | (L)
   L -> L,S | S
   (i). Is the above grammar LL(1) ? Justify your answer.
   (ii). What changes are necessary to make it suitable for LL(1) parser?
   (iii). Show the moves made by the LL(1) predictive parser on the input (a, (a,a)).
4. Consider a Grammar G as follows:
   S -> W
   W -> ZXY | XY
   Y -> c | Є
   Z -> a | d
   X -> Xb | Є
   Draw the LL(1) parsing table for the given grammar.
5. Consider the following grammar G:
   S -> Ae
   A -> CbD
   C -> BC | Є
   B -> cdD | acdD
   D -> c | Є
   In LL(1) parse table of above grammar G, How many cells are having multiple entries?.