

SSN COLLEGE OF ENGINEERING, KALAVAKKAM
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Compiler Lab – UCS 1602

Programming Assignment-3 -Elimination of Immediate Left Recursion using C

Write a program in C to find whether the given grammar is Left Recursive or not. If it is found to be left recursive, convert the grammar in such a way that the left recursion is removed.

Example

G: $E \rightarrow E+T \mid T$
 $T \rightarrow T * F \mid F$
 $F \rightarrow i$

Apply the following rule

If a production is of the form $A \rightarrow A\alpha \mid \beta$, convert that into $A \rightarrow \beta A', A' \rightarrow \epsilon \mid \alpha A'$

Grammar G is converted into G' as follows:

G': $E \rightarrow TE'$
 $E' \rightarrow +TE' \mid \epsilon$
 $T \rightarrow FT'$
 $T' \rightarrow *FT' \mid \epsilon$
 $F \rightarrow i$