Lab Assignment 4

Syntax Analysis/Parsing

NOTE: Refer lecture notes, Chapter 4.

Q1. Write a program to remove left-recursion from grammar G given as input.

Example Input:

Example Output:

Q2. Write a program that takes a grammar as input and produces an equivalent left-factored grammar as output.

Example Input:

$$A \rightarrow aAB \mid aBc \mid aAc$$

Example Output:

$$A \rightarrow aA'$$
 $A' \rightarrow AD / Bc$
 $D \rightarrow B / c$

Q3. We discussed about a basic top-down parsing approach (**Recursive-descent parsing**) that may require backtracking. Implement a recursive descent parser for the following expression grammar: