CSE420: Compiler Design

Assignment 02

Dead Line: 31/03/2018

1. Consider the following grammar, ***G = {bexpr, {bexpr,bterm, bfactor}, {not, or, and, ( ), true, false}, P}***.
   bexpr → bexpr or bterm | bterm

   bterm → bterm and bfactor | bfactor

   bfactor → not bfactor | (bexpr) | true | false

   - Derive the Canonical LR(0) Collections. [6]
   - Determine the LR(0) Automation/ DFA. [2]
   - Construct the LR(0) parse Table. [6]
   - Parse the string "*not(false or (true and false))" using the table constructed.* [4]
   - Determine the LR(1) Automation/ DFA. [10]
   - Construct the LR(1) parse Table. [6]
   - Parse the string "(*not(false or (true and false)))" using the table constructed.* [4]

2. Consider the following grammar:
   S –> V = E

   E –> F | E + F

   F –> V | int | (E)

   V –> id

   - Derive the Canonical LR(0) Collections. [6]
   - Determine the LR(0) Automation/ DFA. [2]
   - Construct the LR(0) parse Table. [6]
   - Parse the string "*id = id+(id+(id+int))" using the table constructed.* [4]
   - Determine the LR(1) Automation/ DFA. [10]
   - Construct the LR(1) parse Table. [6]
   - Parse the string "*id = id+(id+(id+int))" using the table constructed.* [4]