Homework 1

1. Consider Grammar G:



(1) Compute FIRST and FOLLOW for each nonterminal

(2) Proof G is an LL(1) grammar

(3) Construct its predictive Table

(4) Construct its recursive-descent parser.

1. Which of the following grammars are LL(1) grammars.



1. Consider Grammar.



(1) Construct LL(1) predictive table for the grammar.

(2) Show the analysis steps for sentence

1. Can we change the following grammar to the LL(1) type? If yes, please write its LL(1) form.



Answer:

We eliminate left recursion.



FIRST()=FIRST()={} FOLLOW() ={$}

FIRST() = { } FOLLOW() = {$}

FIRST()=FIRST()={} FOLLOW() = { $}

FIRST()={} FOLLOW() = {}

FIRST() = { } FOLLOW() = {}

FIRST() = FIRST()UFRIST()={}U{  }={   }

FOLLOW() = { $}

FIRST()=FIRST()={  } FOLLOW() = { $}

FIRST()={  } FOLLOW() = {}

The grammar is an LL(1) grammar.