

HW #2 Solutions

Problem Predictive Parsing

- 1 $A ::= (B)$
- 2 $\quad \mid 0$
- 3 $B ::= A C$
- 4 $C ::= , A C$
- 5 $\quad \mid \epsilon$

Problem 1. First and Follow sets.

	First	Follow
A	(0	eof) ,
B	(0)
C	,))

Problem 2. LL(1) Parse Table

	(0	,)	eof
A	1	2			
B	3	3			
C			4	5	

Because there is only one rule per slot, the grammar is LL(1).

Problem 3. Walkthru for input (0, (0, 0)).

([eof, A], (0,(0,0)), (B)) =>
 ([eof,), B, (], (0,(0,0)), next input + pop) =>
 ([eof,), B], 0,(0,0)), AC) =>
 ([eof,), C, A], 0,(0,0)), 0) =>
 ([eof,), C, 0], 0,(0,0)), next input + pop) =>
 ([eof,), C], ,(0,0)), ,AC) =>
 ([eof,), C, A, ,], ,(0,0)), next input + pop) =>
 ([eof,), C, A], (0,0)), (B)) =>
 ([eof,), C,), B, (], (0,0)), next input + pop) =>
 ([eof,), C,), B], 0,0)), AC) =>
 ([eof,), C,), C, A], 0,0)), 0) =>
 ([eof,), C,), C, 0], 0,0)), next input + pop) =>
 ([eof,), C,), C], ,0)), ,AC) =>
 ([eof,), C,), C, A, ,], ,0)), next input + pop) =>
 ([eof,), C,), C, A], 0)), 0) =>

([eof,), C,), C, 0], 0)), next input + pop) =>
 ([eof,), C,), C],), ϵ) =>
 ([eof,), C,),), next input + pop) =>
 ([eof,), C],), ϵ) =>
 ([eof,),),), next input + pop) =>
 ([eof], eof, accept).