

给出拓广文法:

$$S' \rightarrow S \quad S \rightarrow (L) \mid a \quad L \rightarrow L, S \mid S$$

下面构造项目集:

$$I_0 = \text{closure}(\{[S' \rightarrow \cdot S]\}) = \{S' \rightarrow \cdot S, S \rightarrow \cdot (L), S \rightarrow \cdot a\}$$

$$I_1 = \text{goto}(I_0, S) = \text{closure}(\{[S' \rightarrow S \cdot]\}) = \{S' \rightarrow S \cdot\}$$

$$I_2 = \text{goto}(I_0, () = \text{closure}(\{[S \rightarrow (\cdot L)]\}) = \{S \rightarrow (\cdot L), L \rightarrow \cdot L, S, L \rightarrow \cdot S, S \rightarrow \cdot (L), S \rightarrow \cdot a\}$$

$$I_3 = \text{goto}(I_0, a) = \text{closure}(\{[S \rightarrow a \cdot]\}) = \{S \rightarrow a \cdot\}$$

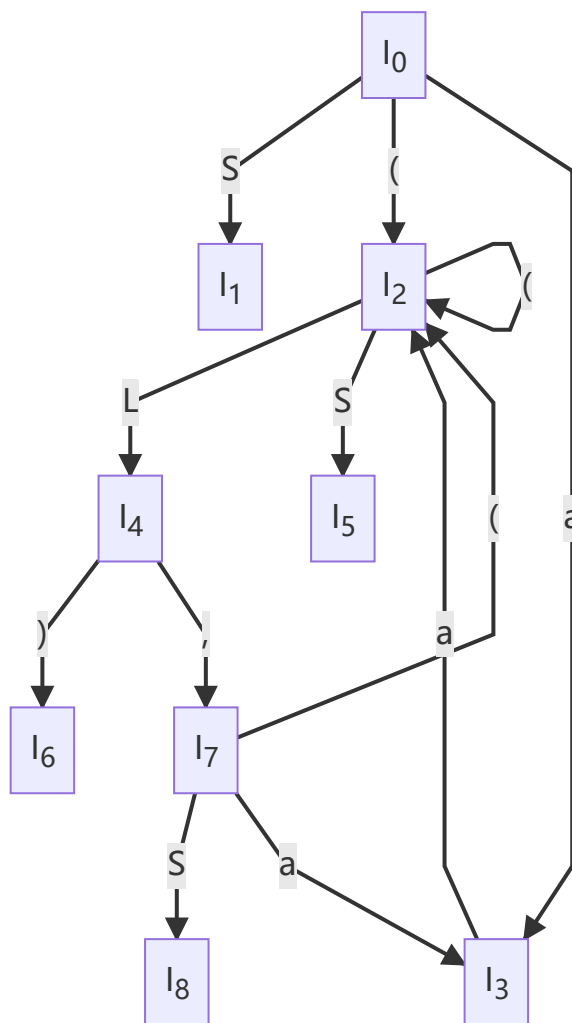
$$I_4 = \text{goto}(I_2, L) = \text{closure}(\{[S \rightarrow (L \cdot)], [L \rightarrow L \cdot, S]\}) = \{S \rightarrow (L \cdot), L \rightarrow L \cdot, S\}$$

$$I_5 = \text{goto}(I_2, S) = \text{closure}(\{[L \rightarrow S \cdot]\}) = \{L \rightarrow S \cdot\}$$

$$I_6 = \text{goto}(I_4, )) = \text{closure}(\{[S \rightarrow (L) \cdot]\}) = \{S \rightarrow (L) \cdot\}$$

$$I_7 = \text{goto}(I_4, ,) = \text{closure}(\{[S \rightarrow L, \cdot S]\}) = \{L \rightarrow L, \cdot S, S \rightarrow \cdot (L), S \rightarrow \cdot a\}$$

$$I_8 = \text{goto}(I_7, S) = \text{closure}(\{[L \rightarrow L, S \cdot]\}) = \{L \rightarrow L, S \cdot\}$$



### 3.19-a

- (0)  $E' \rightarrow E$
- (1)  $E \rightarrow E + T$
- (2)  $E \rightarrow T$
- (3)  $T \rightarrow TF$
- (4)  $T \rightarrow F$
- (5)  $F \rightarrow F*$
- (6)  $F \rightarrow a$
- (7)  $F \rightarrow b$

	b	*	a	+	\$	F	T	E
0	s5		s4			3	2	1
1				s6	acc			
2	s5		s4	r2	r2	7		
3	r4	s8	r4	r4	r4			
4	r6	r6	r6	r6	r6			
5	r7	r7	r7	r7	r7			
6	s5		s4			3	9	
7	r3	s8	r3	r3	r3			
8	r5	r5	r5	r5	r5			
9	s5		s4	r1	r1	7		

### 3.21-a

$$FIRST(AaAb) \cap FIRST(BbBa) = \{a\} \cap \{b\} = \emptyset$$

$$FOLLOW(A) \cap FOLLOW(B) = \{a, b\} \cap \{a, b\} \neq \emptyset$$

所以是LL(1)文法不是SLR(1)文法