Ex. $E \rightarrow (L) | a$
$L \rightarrow L, E | E$

Soln.

$I_0:$ $E' \rightarrow \cdot E$

I_6 goto $(I_4,)$

$E \rightarrow \cdot (L)$ $\qquad$ $E \rightarrow (L) \cdot$

$E \rightarrow \cdot a$

$I_1:$ goto (I_0, E)

I_7 goto $(I_4,)$

$E' \rightarrow E \cdot$ $\qquad\qquad\qquad$ $L \rightarrow L, \cdot E$

$E \rightarrow \cdot (L)$

I_2 goto $(I_0, ()$ $\qquad\qquad$ $E \rightarrow \cdot a$

$E \rightarrow (\cdot L)$ $\qquad\qquad$ I_8 goto (I_7, E)

$L \rightarrow \cdot L, E$ $\qquad\qquad$ $L \rightarrow L, E \cdot$

$L \rightarrow \cdot E$

$E \rightarrow \cdot (L)$

$E \rightarrow \cdot a$

I_3 goto (I_0, a),

$E \rightarrow a \cdot$

I_4 goto (I_2, L)

$E \rightarrow (L \cdot)$

$L \rightarrow L \cdot, E$

$I_5:$ goto (I_2, E)

$L \rightarrow E \cdot$

Construct SRL Parsing Table

Ex.

① $S \rightarrow AaAb \mid BbBa$

  $A \rightarrow \epsilon$

  $B \rightarrow \epsilon$

2. $S \rightarrow AS \mid b$

  $A \rightarrow SA \mid a$

3. $E \rightarrow (L) \mid a$

  $L \rightarrow EL \mid \epsilon$

Constructing Canonical LR Parsing Table.

Ex.

$S' \rightarrow S$	$A \rightarrow \alpha \cdot B\beta$
$S \rightarrow CC$	FIRST (βa)
$C \rightarrow cC \mid d$	

$A \rightarrow \alpha \cdot B\beta$

$I_0:$ $S \rightarrow \cdot S, \$$

$S \rightarrow \cdot CC, \$$

$C \rightarrow \cdot cC, c/d$

$C \rightarrow \cdot d, c/d$

$I_1:$ goto (I_0, S)

$S \rightarrow S \cdot , \$$

$I_2:$ goto (I_0, C)

$S \rightarrow C \cdot C, \$$

$C \rightarrow \cdot cC, \$$

$C \rightarrow \cdot d, \$$

$I_3:$ goto (I_0, c)

$C \rightarrow c \cdot C, c/d$

$C \rightarrow \cdot cC, c/d$

$C \rightarrow \cdot d, c/d$

canonical collection
of LR(1) items.

$I_4:$ goto (I_0, d)

$C \rightarrow d \cdot, c/d$

$I_5:$ goto (I_2, C)

$S \rightarrow CC \cdot, \$$

$I_6:$ goto (I_2, c)

$C \rightarrow c \cdot C, \$$

$C \rightarrow \cdot cC, \$$

$C \rightarrow \cdot d, \$$

$I_7:$ goto (I_2, d)

$C \rightarrow d \cdot \$$

$I_8:$ goto (I_3, C)

$C \rightarrow cC \cdot, c/d$.

~~$C \rightarrow \cdot cC, c/d$~~

~~$C \rightarrow \cdot d, c/d$~~

I_9 goto (I_6, C)

$C \rightarrow cC \cdot, \$$

Constructing Canonical LR Parsing Table:

State	ACTION			GOTO	
	c	d	$	S	C
0	s3	s4		1	2
1			Acc.		
2	s6	s7			5
3	s3	s4			8
4	r3	r3			
5			r1		
6	s6	s7			9
7			r3		
8	r2	r2			
9			r2		