LR(1)

Step:

Augmented grammer, calculation of first, Transition digram, LR(1) parcsing table

Example: Check the grammer is LR(1) or not

$S \rightarrow AaAb \mid BbBa$

$A \rightarrow \in$

$B \rightarrow \in$

Soln:

S-1: Augmented grammer,

$S' \rightarrow .S$ — (0)

$S \rightarrow .AaAb$ — (1)

$S \rightarrow .BbBa$ — (2)

$A \rightarrow .$ — (3)

$B \rightarrow .$ — (4)

S-2: calculation of first set

First (B) = {∈ y

First (A) = {∈ y

First (S) = {a, b y

Augmented grammer

(0) $S' \rightarrow .S$

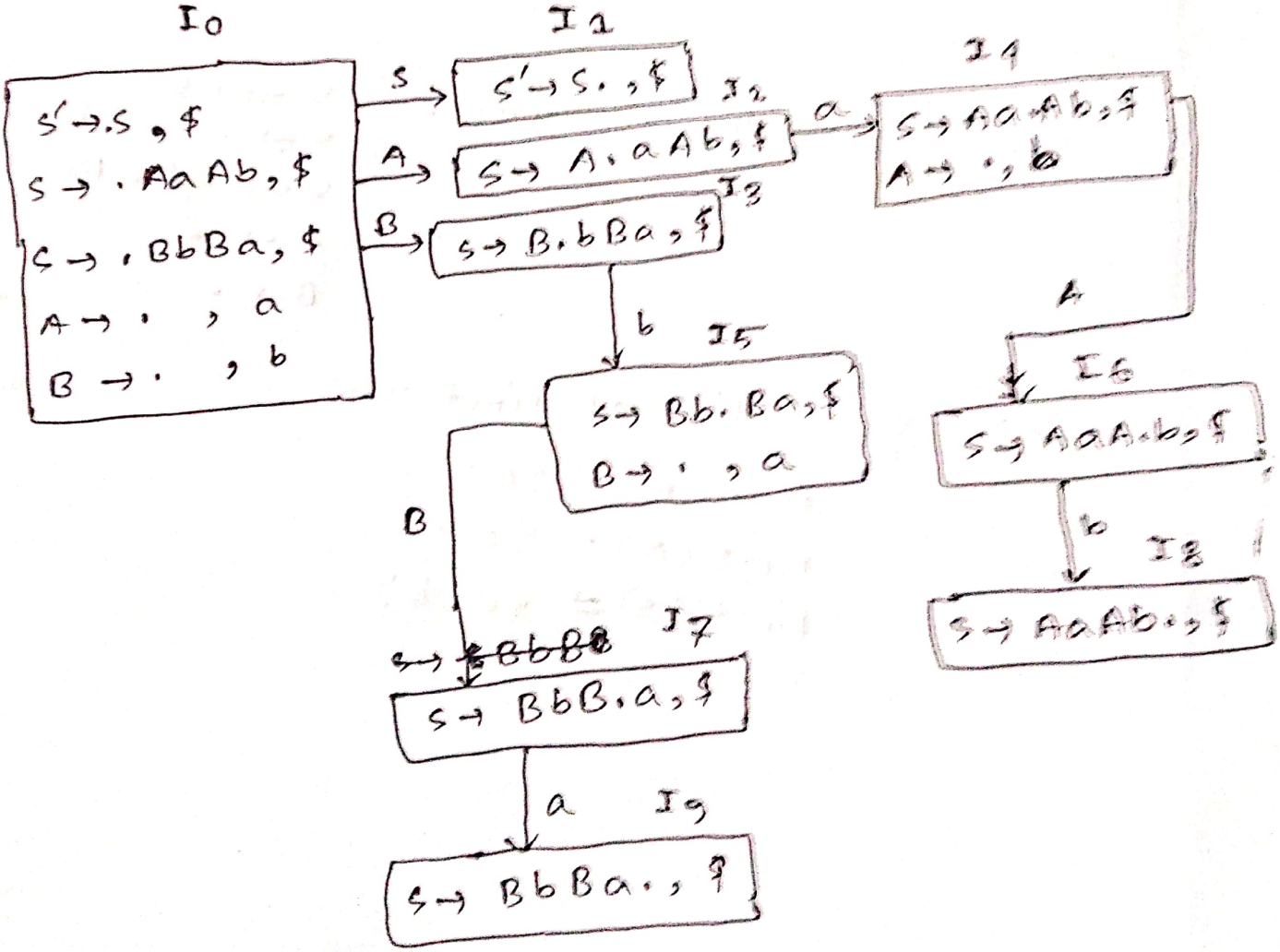
(1) $S \rightarrow .AaAb$

(2) $S \rightarrow .BbBa$

(3) $A \rightarrow .$

(4) $B \rightarrow .$

Transition Diagram



LR(1) Parsing table:

	Teminal			Non-terminal →		
state	Action			Goto		
	a	b	$	S	A	B
I_0	P_3	P_4		1	2	3
I_1			accept			
I_2	S_4					
I_3		S_5				
I_4		P_3			6	
I_5	P_4					7
I_6		S_8				
I_7	S_9					
I_8			P_1			
I_9			P_2			

Result: table does not contain thus given grammer is LR(1)