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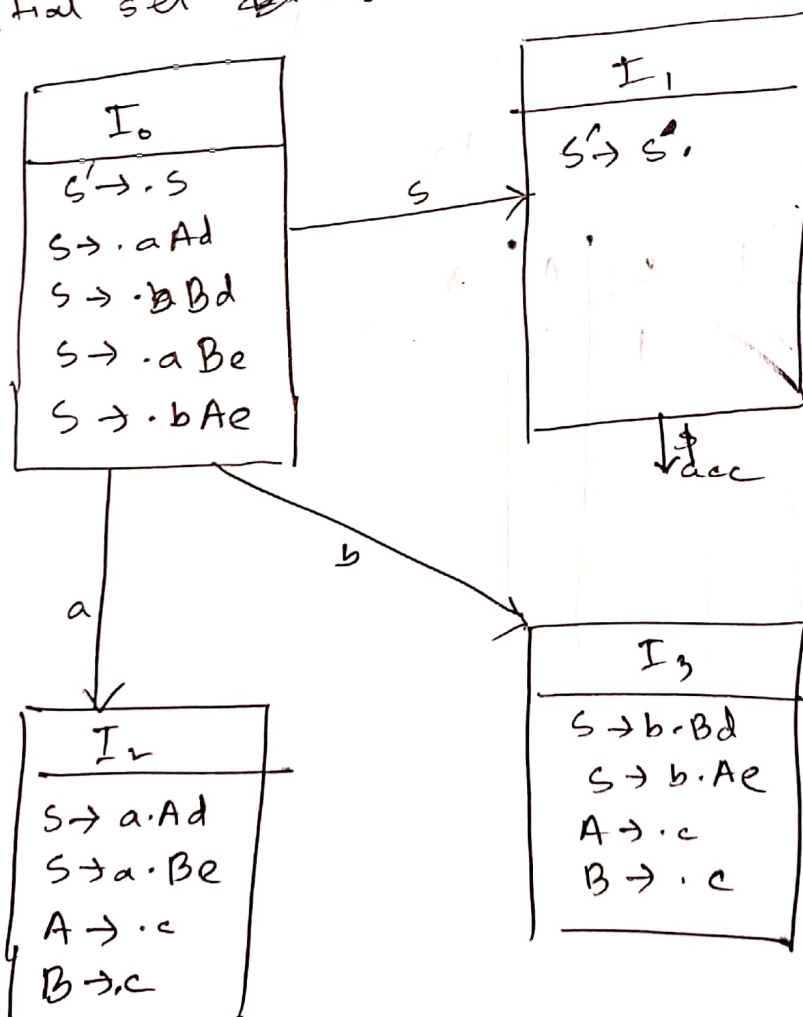① Augmented grammar,

$S' \rightarrow S$

$S \rightarrow a A d \;\; |\;bBd\;|\;bBd\;|\;aBe\;|\;bAe$

~~$S \rightarrow$~~

$A \rightarrow c$

$B \rightarrow c$

Initial set ~~$\emptyset$~~ I_0,

I_0

$S' \rightarrow \cdot S$
$S \rightarrow \cdot a A d$
$S \rightarrow \cdot b B d$
$S \rightarrow \cdot a B e$
$S \rightarrow \cdot b A e$

I_1

$S' \rightarrow S \cdot$

$\downarrow \$ acc$

I_2

$S \rightarrow a \cdot A d$
$S \rightarrow a \cdot B e$
$A \rightarrow \cdot c$
$B \rightarrow \cdot c$

I_3

$S \rightarrow b \cdot B d$
$S \rightarrow b \cdot A e$
$A \rightarrow \cdot c$
$B \rightarrow \cdot c$

②

~~State~~

State	Action						Goto		
	a	b	c	d	e	$	3	4	B
0	s2	s3					1		
1						acc			

③

This should as same as the answer of ①

$S' \to S$

$S \to aAd \mid bBd \mid aBe \mid bAe$

$A \to c$

$B \to c$

I_0

$S' \to .S$
$S \to .aAd$
$S \to .bBd$
$S \to .aBe$
$S \to .bAe$

→ S →

I_1

$S' \to S.$

$ → acc

I_2

$S \to a.Ad$
$S \to a.Be$
$A \to .c$
$B \to .c$

I_3

$S \to b.Bd$
$S \to b.Ae$
$A \to .c$
$B \to .c$
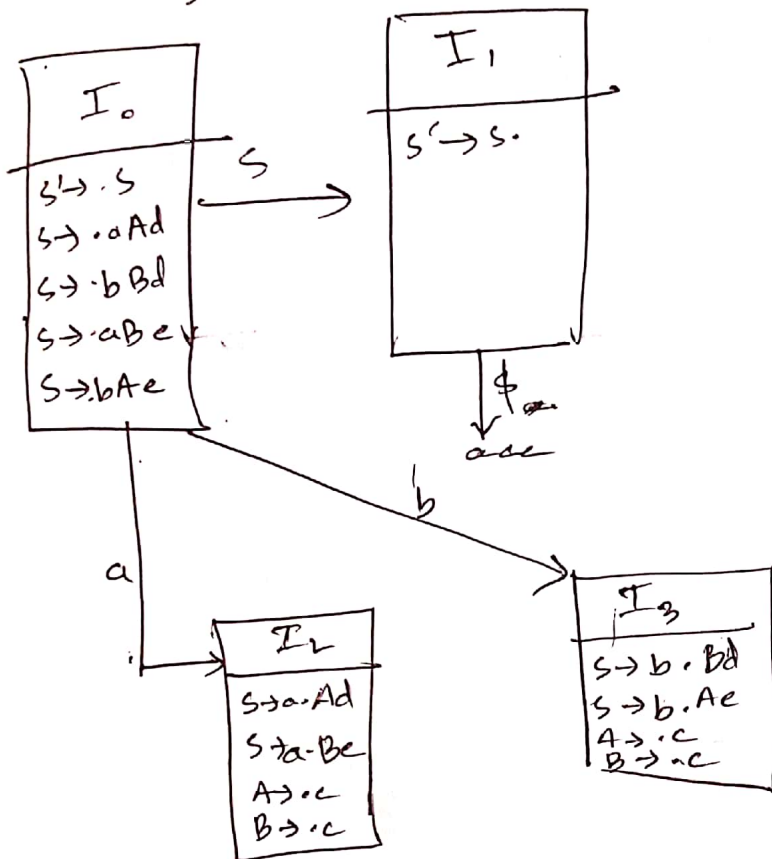
④ We know number of states of ~~et~~ SLR and LALR are same. CLR has more number of states. Because, CLR's items are ~~up~~ including look-aheads, and ~~different~~ it significantly increases number of combination or closures. However, LALR merges all the closures in CLR having similar items ~~excluding~~ and merges the look-aheds. However, LALR may have reduce-reduce conflict.

So,

number of states in SLR = number of states in LALR

$<$ number states in CLR