

LR(1) tables

The Augmented Grammar	
P0	$S' ::= E$
P1	$E ::= T + E$
P2	$T \mid T$
P3	$T ::= id$
P4	$T ::= (E)$

S0	$[S' ::= \cdot E, \$] \quad E - S1$ $[E ::= \cdot T + E, \$] T - S2$ $[E ::= \cdot T, \$] \quad id - S3$ $[T ::= \cdot id, \$+] \quad (-S4)$ $[T ::= \cdot (E), \$+]$	S5	$[E ::= T + \cdot E, \$] \quad E - S10$ $[E ::= \cdot T + E, \$] \quad T - S2$ $[E ::= \cdot T, \$] \quad id - S3$ $[T ::= \cdot id, \$+] \quad (-S4)$ $[T ::= \cdot (E), \$+]$	S13	$[T ::= (E \cdot,)+] \quad) - S15$
S1	$[S' ::= E \cdot, \$] \quad \$ - accept$	S6	$[T ::= (E \cdot,)+] \quad) - S11$	S14	$[E ::= T + E \cdot,)] \quad) - Reduce(P1)$
S2	$[E ::= T + \cdot E, \$] \quad + - S5$ $[E ::= T + \cdot, \$] \quad \$ - reduce(P2)$	S7	$[E ::= T + \cdot + E,)] \quad + - S12$ $[E ::= T + \cdot,)] \quad) - Reduce(P2)$	S15	$[T ::= (E) \cdot,)+] \quad)+ - reduce(P4)$
S3	$[T ::= id \cdot, \$+] \quad +\$ - Reduce(P3)$	S8	$[T ::= id \cdot,)+] \quad)+ - Reduce(P3)$		
S4	$[T ::= (\cdot E), \$+] \quad E - S6$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$	S9	$[T ::= (\cdot E,)+] \quad E - S13$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$		
		S10	$[E ::= T + E \cdot, \$] \quad \$ - Reduce(P1)$		
		S11	$[T ::= (E) \cdot, \$+] \quad \$+ - reduce(P4)$		
		S12	$[E ::= T + \cdot + E,)] \quad E - S14$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$		

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LALR(1) tables - 1

The Augmented Grammar	
P0	$S' ::= E$
P1	$E ::= T + E$
P2	$T \mid T$
P3	$T ::= id$
P4	$T ::= (E)$

S0	$[S' ::= \cdot E, \$] \quad E - S1$ $[E ::= \cdot T + E, \$] T - S2$ $[E ::= \cdot T, \$] \quad id - S3$ $[T ::= \cdot id, \$+] \quad (-S4)$ $[T ::= \cdot (E), \$+]$	S5	$[E ::= T + \cdot E, \$] \quad E - S10$ $[E ::= \cdot T + E, \$] \quad T - S2$ $[E ::= \cdot T, \$] \quad id - S3$ $[T ::= \cdot id, \$+] \quad (-S4)$ $[T ::= \cdot (E), \$+]$	S13	$[T ::= (E \cdot,)+] \quad) - S15$
S1	$[S' ::= E \cdot, \$] \quad \$ - accept$	S6	$[T ::= (E \cdot,)+] \quad) - S11$	S14	$[E ::= T + E \cdot,)] \quad) - Reduce(P1)$
S2	$[E ::= T + \cdot E, \$] \quad + - S5$ $[E ::= T + \cdot, \$] \quad \$ - reduce(P2)$	S7	$[E ::= T + \cdot + E,)] \quad + - S12$ $[E ::= T + \cdot,)] \quad) - Reduce(P2)$	S15	$[T ::= (E) \cdot,)+] \quad)+ - reduce(P4)$
S3	$[T ::= id \cdot, \$+] \quad +\$ - Reduce(P3)$	S8	$[T ::= id \cdot,)+] \quad)+ - Reduce(P3)$		
S4	$[T ::= (\cdot E), \$+] \quad E - S6$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$	S9	$[T ::= (\cdot E,)+] \quad E - S13$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$		
		S10	$[E ::= T + E \cdot, \$] \quad \$ - Reduce(P1)$		
		S11	$[T ::= (E) \cdot, \$+] \quad \$+ - reduce(P4)$		
		S12	$[E ::= T + \cdot + E,)] \quad E - S14$ $[E ::= \cdot T + E,)] \quad T - S7$ $[E ::= \cdot T,)] \quad id - S8$ $[T ::= \cdot id,)+] \quad (-S9)$ $[T ::= \cdot (E),)+]$		

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LALR(1) tables – 1

The Augmented Grammar	
P0	$S' ::= E$
P1	$E ::= T + E$
P2	$E ::= T$
P3	$T ::= id$
P4	$T ::= (E)$

S0	$[S' ::= E, \$] \quad E - S1$ $[E ::= T + E, \$] T - S2$ $[E ::= T, \$] \quad id - S3$ $[T ::= id, \$ +] \quad (- S4)$ $[T ::= (E), \$ +]$	S5	$[E ::= T + E, \$] \quad E - S10$ $[E ::= T + E, \$] \quad T - S2$ $[E ::= T, \$] \quad id - S3$ $[T ::= id, \$ +] \quad (- S4)$ $[T ::= (E), \$ +]$	S13	$[T ::= (E +,) +] \quad - S11$
S1	$[S' ::= E +, \$] \quad \$ - accept$	S6	$[T ::= (E +, \$ +] \quad) - S11$	S14	$[E ::= T + E +,)] \quad - Reduce(P1)$
S2	$[E ::= T + E, \$] \quad + - S5$ $[E ::= T +, \$] \quad \$ - reduce(P2)$	S7	$[E ::= T + + E,)] \quad + - S12$ $[E ::= T +,)] \quad) - Reduce(P2)$		
S3	$[T ::= id +, \$ +] \quad +\$ - Reduce(P3)$	S8	$[T ::= id +,)] \quad)+ - Reduce(P3)$		
S4	$[T ::= (E), \$ +] \quad E - S6$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$	S9	$[T ::= (E +,) +] \quad E - S13$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$		
		S10	$[E ::= T + E +, \$] \quad \$ - Reduce(P1)$		
		S11	$[T ::= (E) +, \$ +] \quad \$ + - reduce(P4)$		
		S12	$[E ::= T + + E,)] \quad E - S14$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$		

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LALR(1) tables – 2

The Augmented Grammar	
P0	$S' ::= E$
P1	$E ::= T + E$
P2	$E ::= T$
P3	$T ::= id$
P4	$T ::= (E)$

S0	$[S' ::= E, \$] \quad E - S1$ $[E ::= T + E, \$] T - S2$ $[E ::= T, \$] \quad id - S3$ $[T ::= id, \$ +] \quad (- S4)$ $[T ::= (E), \$ +]$	S5	$[E ::= T + E, \$] \quad E - S10$ $[E ::= T + E, \$] \quad T - S2$ $[E ::= T, \$] \quad id - S3$ $[T ::= id, \$ +] \quad (- S4)$ $[T ::= (E), \$ +]$	S13	$[T ::= (E +,) +] \quad - S11$
S1	$[S' ::= E +, \$] \quad \$ - accept$	S6	$[T ::= (E +, \$ +] \quad) - S11$	S14	$[E ::= T + E +,)] \quad - Reduce(P1)$
S2	$[E ::= T + E, \$] \quad + - S5$ $[E ::= T +, \$] \quad \$ - reduce(P2)$	S7	$[E ::= T + + E,)] \quad + - S12$ $[E ::= T +,)] \quad) - Reduce(P2)$		
S3	$[T ::= id +, \$ +] \quad +\$ - Reduce(P3)$	S8	$[T ::= id +,)] \quad)+ - Reduce(P3)$		
S4	$[T ::= (E), \$ +] \quad E - S6$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$	S9	$[T ::= (E +,) +] \quad E - S13$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$		
		S10	$[E ::= T + E +, \$] \quad \$ - Reduce(P1)$		
		S11	$[T ::= (E) +, \$ +] \quad \$ + - reduce(P4)$		
		S12	$[E ::= T + + E,)] \quad E - S14$ $[E ::= T + E,)] \quad T - S7$ $[E ::= T,)] \quad id - S8$ $[T ::= id,) +] \quad (- S9)$ $[T ::= (E),) +]$		

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LALR(1) tables – 2

The Augmented Grammar		S5	S13
P0	S' ::= E	[E ::= T + E, \$] E - S10	[T ::= (E +,) +] - S11
P1	E ::= T + E	[E ::= T + E, \$] T - S2	
P2	T	[E ::= T, \$] id - S3	
P3	T ::= id	[T ::= id, \$ +] (- S4	
P4	T ::= (E)	[T ::= (E), \$ +]	
S0	[S' ::= E, \$] E - S1	S6 [T ::= (E), \$ +] - S11	
	[E ::= T + E, \$] T - S2	S7 [E ::= T + E,] +- S12	
	[E ::= T, \$] id - S3	[E ::= T,)] - Reduce(P2)	
	[T ::= id, \$ +] (- S4	S8 [T ::= id +,)] +- - Reduce(P3)	
	[T ::= (E), \$ +]	S9 [T ::= (E), +] E - S13	
S1	[S' ::= E +, \$] \$ - accept	[E ::= T + E,)] T - S7	
S2	[E ::= T + E, \$] +- S5	[E ::= T,)] id - S8	
	[E ::= T +, \$] \$ - reduce(P2)	[T ::= id,) +] (- S9	
S3	[T ::= id +, \$ +] +\$ - Reduce(P3)	[T ::= (E), +]	
S4	[T ::= (E), \$ +] E - S6	S10 [E ::= T + E +, \$] \$ - Reduce(P1)	
	[E ::= T + E,)] T - S7	S11 [T ::= (E) +, \$ +] \$ + - reduce(P4)	
	[E ::= T,)] id - S8	S12 [E ::= T + E,)] E - S10	
	[T ::= id,) +] (- S9	[E ::= T + E,)] T - S7	
	[T ::= (E), +]	[E ::= T,)] id - S8	
		[T ::= id,) +] (- S9	
		[T ::= (E), +]	

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LALR(1) tables – 3

The Augmented Grammar		S5	S13
P0	S' ::= E	[E ::= T + E, \$] E - S10	[T ::= (E +,) +] - S11
P1	E ::= T + E	[E ::= T + E, \$] T - S2	
P2	T	[E ::= T, \$] id - S3	
P3	T ::= id	[T ::= id, \$ +] (- S4	
P4	T ::= (E)	[T ::= (E), \$ +]	
S0	[S' ::= E, \$] E - S1	S6 [T ::= (E), \$ +] - S11	
	[E ::= T + E, \$] T - S2	S7 [E ::= T + E,)] +- S12	
	[E ::= T, \$] id - S3	[E ::= T,)] - Reduce(P2)	
	[T ::= id, \$ +] (- S4	S8 [T ::= id +,)] +- - Reduce(P3)	
	[T ::= (E), \$ +]	S9 [T ::= (E), +] E - S13	
S1	[S' ::= E +, \$] \$ - accept	[E ::= T + E,)] T - S7	
S2	[E ::= T + E, \$] +- S5	[E ::= T,)] id - S8	
	[E ::= T +, \$] \$ - reduce(P2)	[T ::= id,) +] (- S9	
S3	[T ::= id +, \$ +] +\$ - Reduce(P3)	[T ::= (E), +]	
S4	[T ::= (E), \$ +] E - S6	S10 [E ::= T + E +, \$] \$ - Reduce(P1)	
	[E ::= T + E,)] T - S7	S11 [T ::= (E) +, \$ +] \$ + - reduce(P4)	
	[E ::= T,)] id - S8	S12 [E ::= T + E,)] E - S10	
	[T ::= id,) +] (- S9	[E ::= T + E,)] T - S7	
	[T ::= (E), +]	[E ::= T,)] id - S8	
		[T ::= id,) +] (- S9	
		[T ::= (E), +]	

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LALR(1) tables – 3

The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= • E, \$] E - S1 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]	S5	[E ::= T + • E, \$] E - S10 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]
S1	[S' ::= E •, \$] \$ - accept	S6	[T ::= (E•, \$) +]) - S11
S2	[E ::= T + • E, \$] +- S5 [E ::= T +, \$] \$ - reduce(P2)	S7	[E ::= T + • E,)] +- S12 [E ::= T +,)]) - Reduce(P2)
S3	[T ::= id •, \$ +] +\$ - Reduce(P3)	S8	[T ::= id •,) +])+ - Reduce(P3)
S4	[T ::= (• E), \$ +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]	S9	[T ::= (• E,) +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]
		S10	[E ::= T + E •, \$] \$ - Reduce(P1)
		S11	[T ::= (E)•, \$ +] \$+ - reduce(P4)
		S12	[E ::= T + • E,)] E - S10 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]

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LALR(1) tables – 4

The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= • E, \$] E - S1 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]	S5	[E ::= T + • E, \$] E - S10 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]
S1	[S' ::= E •, \$] \$ - accept	S6	[T ::= (E•, \$) +]) - S11
S2	[E ::= T + • E, \$] +- S5 [E ::= T +, \$] \$ - reduce(P2)	S7	[E ::= T + • E,)] +- S12 [E ::= T +,)]) - Reduce(P2)
S3	[T ::= id •, \$ +] +\$ - Reduce(P3)	S8	[T ::= id •,) +])+ - Reduce(P3)
S4	[T ::= (• E), \$ +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]	S9	[T ::= (• E,) +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]
		S10	[E ::= T + E •, \$] \$ - Reduce(P1)
		S11	[T ::= (E)•, \$ +] \$+ - reduce(P4)
		S12	[E ::= T + • E,)] E - S10 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S8 [T ::= • id,) +] (- S9 [T ::= • (E),) +]

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LALR(1) tables – 4

• The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= E, \$] E - S1 [E ::= T + E, \$] T - S2 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S4 [T ::= (E), \$ +]	S5	[E ::= T + E, \$] E - S10 [E ::= T + E, \$] T - S2 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S4 [T ::= (E), \$ +]
S1	[S' ::= E, \$] \$ - accept	S6	[T ::= (E), \$ +]) - S11
S2	[E ::= T + E, \$] + - S5 [E ::= T, \$] \$ - reduce(P2)	S7	[E ::= T + E, \$] + - S12 [E ::= T, \$]) - Reduce(P2)
S3	[T ::= id, \$ +] +)\$ - Reduce(P3)	S9	[T ::= (E), \$ +] E - S6 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]
S4	[T ::= (E), \$ +] E - S6 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]	S10	[E ::= T + E, \$] \$ - Reduce(P1)
		S11	[T ::= (E), \$ +] \$ + - reduce(P4)
		S12	[E ::= T + E, \$] E - S10 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]

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LALR(1) tables – 5

• The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= E, \$] E - S1 [E ::= T + E, \$] T - S2 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S4 [T ::= (E), \$ +]	S5	[E ::= T + E, \$] E - S10 [E ::= T + E, \$] T - S2 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S4 [T ::= (E), \$ +]
S1	[S' ::= E, \$] \$ - accept	S6	[T ::= (E), \$ +]) - S11
S2	[E ::= T + E, \$] + - S5 [E ::= T, \$] \$ - reduce(P2)	S7	[E ::= T + E, \$] + - S12 [E ::= T, \$]) - Reduce(P2)
S3	[T ::= id, \$ +] +)\$ - Reduce(P3)	S9	[T ::= (E), \$ +] E - S6 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]
S4	[T ::= (E), \$ +] E - S6 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]	S10	[E ::= T + E, \$] \$ - Reduce(P1)
		S11	[T ::= (E), \$ +] \$ + - reduce(P4)
		S12	[E ::= T + E, \$] E - S10 [E ::= T + E, \$] T - S7 [E ::= T, \$] id - S3 [T ::= id, \$ +] (- S9 [T ::= (E), \$ +]

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LALR(1) tables – 5

The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= • E, \$] E - S1 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]	S5	[E ::= T + • E, \$] E - S10 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]
S1	[S' ::= E •, \$] \$ - accept	S6	[T ::= (E•, \$) +]) - S11
S2	[E ::= T + • E, \$] + - S5 [E ::= T +, \$] \$ - reduce(P2)	S7	[E ::= T + • E,)] + - S12 [E ::= T +,)]) - Reduce(P2)
S3	[T ::= id •, \$ +] +) \$ - Reduce(P3)	S10	[E ::= T + E •, \$] \$ - Reduce(P1)
S4	[T ::= • (E), \$ +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S3 [T ::= • id,) +] (- S4 [T ::= • (E),) +]	S11	[T ::= (E)•, \$ +] \$ + - reduce(P4)
		S12	[E ::= T + • E,)] E - S10 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S3 [T ::= • id,) +] (- S4 [T ::= • (E),) +]

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LALR(1) tables – 6

The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= • E, \$] E - S1 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]	S5	[E ::= T + • E, \$] E - S10 [E ::= • T + E, \$] T - S2 [E ::= • T, \$] id - S3 [T ::= • id, \$ +] (- S4 [T ::= • (E), \$ +]
S1	[S' ::= E •, \$] \$ - accept	S6	[T ::= (E•, \$) +]) - S11
S2	[E ::= T + • E, \$] + - S5 [E ::= T +, \$] \$ - reduce(P2)	S7	[E ::= T + • E,)] + - S12 [E ::= T +,)]) - Reduce(P2)
S3	[T ::= id •, \$ +] +) \$ - Reduce(P3)	S10	[E ::= T + E •, \$] \$ - Reduce(P1)
S4	[T ::= • (E), \$ +] E - S6 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S3 [T ::= • id,) +] (- S4 [T ::= • (E),) +]	S11	[T ::= (E)•, \$ +] \$ + - reduce(P4)
		S12	[E ::= T + • E,)] E - S10 [E ::= • T + E,)] T - S7 [E ::= • T,)] id - S3 [T ::= • id,) +] (- S4 [T ::= • (E),) +]

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LALR(1) tables – 6

The Augmented Grammar	
P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= E , \$] E - S1 [E ::= T + E , \$] T - S2 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]	S5	[E ::= T + E , \$] E - S10 [E ::= T + E , \$] T - S2 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]
S1	[S' ::= E , \$] \$ - accept	S6	[T ::= (E) , \$ +]) - S11
S2	[E ::= T + E , \$] + - S5 [E ::= T , \$] \$ - reduce(P2)	S10	[E ::= T + E , \$] \$ - Reduce(P1)
S3	[T ::= id , \$ +] +) \$ - Reduce(P3)	S11	[T ::= (E) , \$ +] \$ + - reduce(P4)
S4	[T ::= (E) , \$ +] E - S6 [E ::= T + E , \$] T - S7 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]	S12	[E ::= T + E , \$] E - S10 [E ::= T + E , \$] T - S2 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]

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P0	S' ::= E
P1	E ::= T + E
P2	T
P3	T ::= id
P4	T ::= (E)

S0	[S' ::= E , \$] E - S1 [E ::= T + E , \$] T - S2 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]	S5	[E ::= T + E , \$] E - S10 [E ::= T + E , \$] T - S2 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]
S1	[S' ::= E , \$] \$ - accept	S6	[T ::= (E) , \$ +]) - S11
S2	[E ::= T + E , \$] + - S5 [E ::= T , \$] \$ - reduce(P2)	S10	[E ::= T + E , \$] \$ - Reduce(P1)
S3	[T ::= id , \$ +] +) \$ - Reduce(P3)	S11	[T ::= (E) , \$ +] \$ + - reduce(P4)
S4	[T ::= (E) , \$ +] E - S6 [E ::= T + E , \$] T - S7 [E ::= T , \$] id - S3 [T ::= id , \$ +] (- S4 [T ::= (E) , \$ +]		

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LALR(1) tables

• The Augmented Grammar

P0 $S' ::= E$
 P1 $E ::= T + E$
 P2 $\quad | T$
 P3 $T ::= id$
 P4 $T ::= (E)$

S0	[$S' ::= E, \$$] E - S1 [$E ::= T + E, \$$] T - S2 [$E ::= T, \$$] id - S3 [$T ::= id, \$ +$] (- S4 [$T ::= (E), \$ +$]	S5	[$E ::= T + E, \$$] E - S10 [$E ::= T + E, \$$] T - S2 [$E ::= T, \$$] id - S3 [$T ::= id, \$ +$] (- S4 [$T ::= (E), \$ +$]
S1	[$S' ::= E, \$$] \$ - accept	S6	[$T ::= (E), \$ +$]) - S11
S2	[$E ::= T + E, \$$] + - S5 [$E ::= T, \$$] \$) - reduce(P2)	S10	[$E ::= T + E, \$$] \$ - Reduce(P1)
S3	[$T ::= id, \$ +$] +)\$ - Reduce(P3)	S11	[$T ::= (E), \$ +$] \$)+ - reduce(P4)
S4	[$T ::= (E), \$ +$] E - S6 [$E ::= T + E,)$] T - S7 [$E ::= T,)$] id - S3 [$T ::= id,) +$] (- S4 [$T ::= (E),) +$]		