

The action of an LALR parser for grammar G_1 on the string $(x+y*z)*x$

0: $(x+y*z)*x\$$	0(4E8+6T9*7z5:)*x\$
s4	r6, goto 10
0(4:x+y*z)*x\$	0(4E8+6T9*7F10:)*x\$
s5	r3, goto 9
0(4x5:+y*z)*x\$	0(4E8+6T9:)*x\$ T->T*F
r6, goto 3	r1, goto 8
0(4F3:+y*z)*x\$ F->x	0(4E8:)*x\$ E->E+T
r4, goto 2	s11
0(4T2:+y*z)*x\$ T->F	0(4E8)11:*x\$
r2, goto 8	r5, goto 3
0(4E8:+y*z)*x\$ E->T	0F3:*x\$ F->(E)
s6	r4, goto 2
0(4E8+6:y*z)*x\$	0T2:*x\$ T->F
s5	s7
0(4E8+6y5:*z)*x\$	0T2*7:x\$
r6, goto 3	s5
0(4E8+6F3:*z)*x\$ F->y	0T2*7x5:\$
r4, goto 9	r6, goto 10
0(4E8+6T9:*z)*x\$ T->F	0T2*7F10:\$
s7	r3, goto 2
0(4E8+6T9*7:z)*x\$	0T2:\$
s5	r2, goto 1
	0E1:\$
	halt

1. $E \rightarrow E_{1 \text{ or } 8} +_6 T_9$
2. $E \rightarrow T_2$
3. $T \rightarrow T_{2 \text{ or } 9} *_7 F_{10}$
4. $T \rightarrow F_3$
5. $F \rightarrow ({}_4 E_8)_{11}$
6. $F \rightarrow \text{id}_5$

	id	+	*	()	eof	E	T	F
0									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									

ACTION
GOTO

Figure 1: Grammar G_1 and an LALR Parser for that Grammar

1. $S \rightarrow a_2$
2. $S \rightarrow w_3 S_4$
3. $S \rightarrow i_5 S_6$
4. $S \rightarrow i_5 S_6 e_7 S_8$
5. $S \rightarrow b_9 L_{10} n_{11}$
6. $L \rightarrow L_{10} S_{12}$
7. $L \rightarrow \text{epsilon}$

	a	w	i	e	b	n	eof	S	L
0									
1							halt		
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

ACTION
GOTO

Figure 2: Another Context-free Grammar and an LALR Parser Table to Fill in