

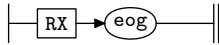
1. *lr1\_pa1* grammar.

A LR1 GRAMMAR FROM ACTA INFORMATICA 7 249-268(1977) A PRACTICAL GENERAL METHOD FOR CONSTRUCTING LR(K) PARSERS BY DAVID PAGER P. 256 GRAMMAR G2

2. Fsm Clr1\_pa1\_rul\_fsm class.

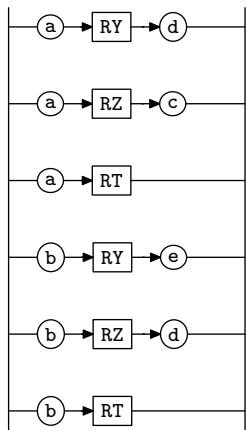
3. *Rlr1\_pa1* rule.

Rlr1\_pa1



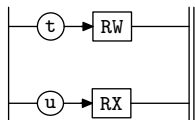
4. RX rule.

RX



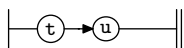
5. RY rule.

RY



6. RZ rule.

RZ



7. RT rule.

RT



8. RW rule.

RW

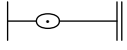


2 RV RULE

lr1\_pa1 Grammar §9

9. RV rule.

RV



**10. First Set Language for  $O_2^{linker}$ .**

```
/*
  File: lr1_pa1.fsc
  Date and Time: Tue Sep 16 13:27:53 2014
*/
transitive      n
grammar-name    "lr1_pa1"
name-space      "NS_lr1_pa1"
thread-name     "Clr1_pa1_rul_fsm"
monolithic      y
file-name       "lr1_pa1.fsc"
no-of-T         569
list-of-native-first-set-terminals 2
  raw_a
  raw_b
end-list-of-native-first-set-terminals
list-of-transitive-threads 0
end-list-of-transitive-threads
list-of-used-threads 0
end-list-of-used-threads
fsm-comments
"test out lr1"
```

## 11. Lr1 State Network.

$\Rightarrow$						State: 1 state type: $s$			
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RX		2	1	1	a			1 2 19
c	RX		2	2	1	a			1 2 21
c	RX		2	3	1	a			1 2 22
c	RX		2	4	1	b			1 8 12
c	RX		2	5	1	b			1 8 14
c	RX		2	6	1	b			1 8 15
c	Rlr1_pal		1	1	1	RX <u>eog</u>			1 23 24
$\Rightarrow^a$							State: 2 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RY		3	1	1	t			2 3 6
c	RZ		4	1	1	t			2 3 4
c	RY		3	2	1	u			2 7 16
c	RT		5	1	1	u			2 7 17
t	RX		2	1	2	RY <u>d</u>			1 18 19
t	RX		2	2	2	RZ <u>c</u>			1 20 21
t	RX		2	3	2	RT			1 22 22
$\Rightarrow^t$							State: 3 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RZ		4	1	2	u			2 4 4
c	RW		6	1	1	u			3 4 5
t	RY		3	1	2	RW			2 6 6
$\Rightarrow^u$							State: 4 state type: $s/r^2$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RZ		4	1	3				2 0 4 1
c	RV		7	1	1	$\epsilon$			4 0 4 2
t	RW		6	1	2	RV			3 5 5
$\Rightarrow^{RV}$							State: 5 state type: $r$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RW		6	1	3				3 0 5 2
$\Rightarrow^{RW}$							State: 6 state type: $r$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RY		3	1	3				2 0 6 2
$\Rightarrow^u$							State: 7 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RX		2	1	1	a			7 2 19
c	RX		2	2	1	a			7 2 21
c	RX		2	3	1	a			7 2 22
c	RX		2	4	1	b			7 8 12
c	RX		2	5	1	b			7 8 14
c	RX		2	6	1	b			7 8 15
t	RY		3	2	2	RX			2 16 16
t	RT		5	1	2	RX <u>a</u>			2 16 17

$\Rightarrow^b$ 

←	rule	→	R#	sr#	Po	←
c	RY		3	1	1	t
c	RZ		4	1	1	t
c	RY		3	2	1	u
c	RT		5	1	1	u
t	RX		2	4	2	RY <u>e</u>
t	RX		2	5	2	RZ <u>d</u>
t	RX		2	6	2	RT

State: 8 state type:  $s$ 

subrule element

→	Brn	Gto	Red	LA
	8	9	6	
	8	9	10	
	8	7	16	
	8	7	17	
	7	11	12	
	7	13	14	
	7	15	15	

 $\Rightarrow^t$ 

←	rule	→	R#	sr#	Po	←
t	RZ		4	1	2	u
c	RW		6	1	1	u
t	RY		3	1	2	RW

State: 9 state type:  $s$ 

subrule element

→	Brn	Gto	Red	LA
	8	10	10	
	9	10	5	
	8	6	6	

 $\Rightarrow^u$ 

←	rule	→	R#	sr#	Po	←
t	RZ		4	1	3	
c	RV		7	1	1	$\epsilon$
t	RW		6	1	2	RV

State: 10 state type:  $s/r^2$ 

subrule element

→	Brn	Gto	Red	LA
	8	0	10	3
	10	0	10	4
	9	5	5	

 $\Rightarrow^{RY}$ 

←	rule	→	R#	sr#	Po	←
t	RX		2	4	3	e

State: 11 state type:  $s$ 

subrule element

→	Brn	Gto	Red	LA
	7	12	12	

 $\Rightarrow^e$ 

←	rule	→	R#	sr#	Po	←
t	RX		2	4	4	

State: 12 state type:  $r$ 

subrule element

→	Brn	Gto	Red	LA
	7	0	12	5

 $\Rightarrow^{RZ}$ 

←	rule	→	R#	sr#	Po	←
t	RX		2	5	3	d

State: 13 state type:  $s$ 

subrule element

→	Brn	Gto	Red	LA
	7	14	14	

 $\Rightarrow^d$ 

←	rule	→	R#	sr#	Po	←
t	RX		2	5	4	

State: 14 state type:  $r$ 

subrule element

→	Brn	Gto	Red	LA
	7	0	14	5

 $\Rightarrow^{RT}$ 

←	rule	→	R#	sr#	Po	←
t	RX		2	6	3	

State: 15 state type:  $r$ 

subrule element

→	Brn	Gto	Red	LA
	7	0	15	5

 $\Rightarrow^{RX}$ 

←	rule	→	R#	sr#	Po	←
t	RY		3	2	3	
t	RT		5	1	3	a

State: 16 state type:  $s/r$ 

subrule element

→	Brn	Gto	Red	LA
	2	0	16	2
	2	17	17	

 $\Rightarrow^a$ 

←	rule	→	R#	sr#	Po	←
t	RT		5	1	4	

State: 17 state type:  $r$ 

subrule element

→	Brn	Gto	Red	LA
	2	0	17	5



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- RT: [7](#).
- RV: [8](#).
- RV: [9](#).
- RW: [5](#).
- RW: [8](#).
- RX: [3](#), [5](#), [7](#).
- RX: [4](#).
- RY: [4](#).
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- RZ: [6](#).

# lr1\_pa1 Grammar

Date: September 16, 2014 at 14:59

File: lr1\_pa1.lex

Ns: NS\_lr1\_pa1

Version: 1.0

Debug: true

Grammar Comments:

Type: Monolithic

test out lr1

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RZ rule .....	6	1
RT rule .....	7	1
RW rule .....	8	1
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