

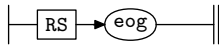
1. *lr1\_sp5* grammar.

A LR1 GRAMMAR FROM DAVID SPECTOR SIGPLAN VOL 23 NO 12 DEC/88

2. Fsm Clr1\_sp5\_fsm class.

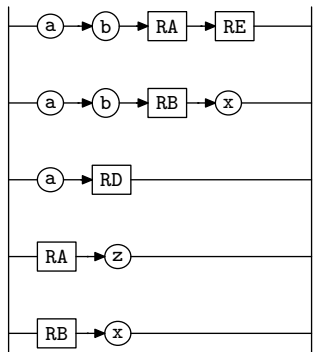
3. *Rlr1\_sp5* rule.

Rlr1\_sp5



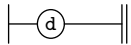
4. RS rule.

RS



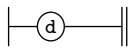
5. RA rule.

RA



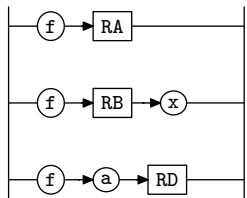
6. RB rule.

RB



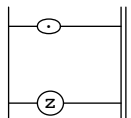
7. RD rule.

RD



8. RE rule.

RE



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

```
/*
  File: LR1_sp5.fsc
  Date and Time: Tue Sep 16 13:28:12 2014
*/
transitive      n
grammar-name    "LR1_sp5"
name-space      "NS_LR1_sp5"
thread-name     "Clr1_sp5_fsm"
monolithic      y
file-name       "LR1_sp5.fsc"
no-of-T         569
list-of-native-first-set-terminals 2
  raw_a
  raw_d
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"
```

10. Lr1 State Network.

$\Rightarrow$						State: 1 state type: $s$			
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RS		2	1	1	a			1 2 7
c	RS		2	2	1	a			1 2 9
c	RS		2	3	1	a			1 2 16
c	RA		3	1	1	d			1 4 4
c	RB		4	1	1	d			1 4 4
c	Rlr1.sp5		1	1	1	RS <u>eog</u>			1 17 18
c	RS		2	4	1	RA <u>z</u>			1 19 20
c	RS		2	5	1	RB <u>x</u>			1 21 22
$\Rightarrow^a$							State: 2 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RS		2	1	2	b			1 3 7
t	RS		2	2	2	b			1 3 9
c	RD		5	1	1	f			2 10 13
c	RD		5	2	1	f			2 10 15
c	RD		5	3	1	f			2 10 12
t	RS		2	3	2	RD			1 16 16
$\Rightarrow^b$							State: 3 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RA		3	1	1	d			3 4 4
c	RB		4	1	1	d			3 4 4
t	RS		2	1	3	RA <u>RE<math>^c</math></u>			1 5 7
t	RS		2	2	3	RB <u>x</u>			1 8 9
$\Rightarrow^d$							State: 4 state type: $r^2$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RA		3	1	2				3 0 4 1
t	RB		4	1	2				3 0 4 2
$\Rightarrow^{RA}$							State: 5 state type: $s/r$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
c	RE		6	1	1	$\epsilon$			5 0 5 3
c	RE		6	2	1	z			5 6 6
t	RS		2	1	4	RE			1 7 7
$\Rightarrow^z$							State: 6 state type: $r$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RE		6	2	2				5 0 6 3
$\Rightarrow^{RE}$							State: 7 state type: $r$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RS		2	1	5				1 0 7 3
$\Rightarrow^{RB}$							State: 8 state type: $s$		
$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	subrule element	$\rightarrow$	Brn Gto Red LA
t	RS		2	2	4	x			1 9 9

$\Rightarrow^x$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 9 state type: $r$				
	t	RS		2	2	5		subrule element	$\rightarrow$	Brn	Gto	Red LA
										1	0	9 3
$\Rightarrow^f$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 10 state type: $s$				
	t	RD		5	3	2	a	subrule element	$\rightarrow$	Brn	Gto	Red LA
	c	RA		3	1	1	d			2	11	12
	c	RB		4	1	1	d			10	4	4
	t	RD		5	1	2	RA			10	4	4
	t	RD		5	2	2	RB $\underline{x}$			2	13	13
										2	14	15
$\Rightarrow^a$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 11 state type: $s$				
	c	RD		5	1	1	f	subrule element	$\rightarrow$	Brn	Gto	Red LA
	c	RD		5	2	1	f			11	10	13
	c	RD		5	3	1	f			11	10	15
	t	RD		5	3	3	RD			11	10	12
										2	12	12
$\Rightarrow^{RD}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 12 state type: $r$				
	t	RD		5	3	4		subrule element	$\rightarrow$	Brn	Gto	Red LA
										2	0	12 3
$\Rightarrow^{RA}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 13 state type: $r$				
	t	RD		5	1	3		subrule element	$\rightarrow$	Brn	Gto	Red LA
										2	0	13 3
$\Rightarrow^{RB}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 14 state type: $s$				
	t	RD		5	2	3	x	subrule element	$\rightarrow$	Brn	Gto	Red LA
										2	15	15
$\Rightarrow^x$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 15 state type: $r$				
	t	RD		5	2	4		subrule element	$\rightarrow$	Brn	Gto	Red LA
										2	0	15 3
$\Rightarrow^{RD}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 16 state type: $r$				
	t	RS		2	3	3		subrule element	$\rightarrow$	Brn	Gto	Red LA
										1	0	16 3
$\Rightarrow^{RS}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 17 state type: $s$				
	t	Rlr1_sp5		1	1	2	eog	subrule element	$\rightarrow$	Brn	Gto	Red LA
										1	18	18
$\Rightarrow^{eog}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 18 state type: $r$				
	t	Rlr1_sp5		1	1	3		subrule element	$\rightarrow$	Brn	Gto	Red LA
										1	0	18 4
$\Rightarrow^{RA}$	$\leftarrow$	rule	$\rightarrow$	R#	sr#	Po	$\leftarrow$	State: 19 state type: $s$				
	t	RS		2	4	2	z	subrule element	$\rightarrow$	Brn	Gto	Red LA
										1	20	20

$\Rightarrow^z$   
 $\leftarrow$  rule  $\rightarrow$  R# sr# Po  $\leftarrow$   
 t RS 2 4 3

State: 20 state type:  $r$   
 subrule element

$\rightarrow$  Brn Gto Red LA  
 1 0 20 3

$\Rightarrow^{RB}$   
 $\leftarrow$  rule  $\rightarrow$  R# sr# Po  $\leftarrow$   
 t RS 2 5 2 x

State: 21 state type:  $s$   
 subrule element

$\rightarrow$  Brn Gto Red LA  
 1 22 22

$\Rightarrow^x$   
 $\leftarrow$  rule  $\rightarrow$  R# sr# Po  $\leftarrow$   
 t RS 2 5 3

State: 22 state type:  $r$   
 subrule element

$\rightarrow$  Brn Gto Red LA  
 1 0 22 3

**11. Index.**

$\epsilon$  : 8.  
eog: 3.  
*lr1\_sp5*: 1.  
RA: 4, 7.  
RA: 5.  
RB: 4, 7.  
RB: 6.  
RD: 4, 7.  
RD: 7.  
RE: 4.  
RE: 8.  
*Rlr1\_sp5*: 3.  
RS: 3.  
RS: 4.

# LR1\_sp5 Grammar

Date: September 16, 2014 at 15:00

File: lr1\_sp5.lex

Ns: NS\_LR1\_sp5

Version: 1.0

Debug: true

Grammar Comments:

Type: Monolithic

test out lr1

	Section	Page
<i>lr1_sp5</i> <b>grammar</b> .....	1	1
Fsm Clr1_sp5_fsm class .....	2	1
<i>Rlr1_sp5</i> rule .....	3	1
RS rule .....	4	1
RA rule .....	5	1
RB rule .....	6	1
RD rule .....	7	1
RE rule .....	8	1
<b>First Set Language for <math>O_2^{linker}</math></b> .....	9	2
<b>Lr1 State Network</b> .....	10	3
<b>Index</b> .....	11	6