

1. LR1_tst grammar.

This grammar tests out mergers against the reduce / reduce states. There are 2 sets of rules RAx and RBx where x is 1 or 2 that produce reduce / reduce conflict states.

The objectives are:

- 1) is the grammar LR1? which it is
- 2) proper splitting of conflict states by merging into different closure states

2. Fsm Clr1_tst_fsm class.**3. Clr1_tst_fsm constructor directive.**

```
<Clr1_tst_fsm constructor directive 3> ≡ /* test out Clr1_tst_fsm fsm constructor emit code */
```

4. Clr1_tst_fsm destructor directive.

```
<Clr1_tst_fsm destructor directive 4> ≡ /* test out Clr1_tst_fsm fsm destructor emit code */
```

5. Clr1_tst_fsm failed directive.

```
<Clr1_tst_fsm failed directive 5> ≡ /* test out Clr1_tst_fsm fsm failed emit code */
return true;
```

6. Clr1_tst_fsm op directive.

```
<Clr1_tst_fsm op directive 6> ≡ /* test out Clr1_tst_fsm fsm op emit code */
```

7. Clr1_tst_fsm user-declaration directive.

```
<Clr1_tst_fsm user-declaration directive 7> ≡ /* test out Clr1_tst_fsm fsm user-declaration code */
public:
```

8. Clr1_tst_fsm user-imp-sym directive.

```
<Clr1_tst_fsm user-imp-sym directive 8> ≡ /* test out Clr1_tst_fsm fsm user-imp-sym emit code */
```

9. Clr1_tst_fsm user-imp-tbl directive.

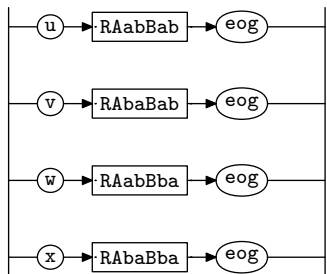
```
<Clr1_tst_fsm user-imp-tbl directive 9> ≡ /* test out Clr1_tst_fsm fsm user-imp-tbl emit code */
```

10. Clr1_tst_fsm user-implementation directive.

```
<Clr1_tst_fsm user-implementation directive 10> ≡
/* test out Clr1_tst_fsm fsm user-implementation code */
```

11. Rlr1_tst rule.

Rlr1_tst

**12. Rlr1_tst constructor directive.**

```
<Rlr1_tst constructor directive 12> ≡ /* test out Rlr1_tst rule constructor emit code */
```

13. Rlr1_tst destructor directive.

$\langle \text{Rlr1_tst destructor directive 13} \rangle \equiv \quad /* \text{ test out Rlr1_tst rule destructor emit code } */$

14. Rlr1_tst op directive.

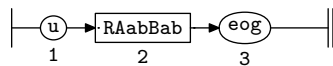
$\langle \text{Rlr1_tst op directive 14} \rangle \equiv \quad /* \text{ test out Rlr1_tst rule op emit code } */$

15. Rlr1_tst user-declaration directive.

$\langle \text{Rlr1_tst user-declaration directive 15} \rangle \equiv \quad /* \text{ test out Rlr1_tst rule user-declaration code } */$
public:

16. Rlr1_tst user-implementation directive.

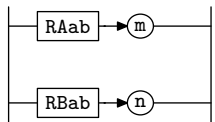
$\langle \text{Rlr1_tst user-implementation directive 16} \rangle \equiv \quad /* \text{ test out Rlr1_tst rule user-implementation code } */$

17. Rlr1_tst's subrule 1.

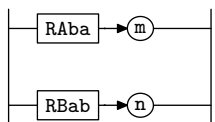
$\langle \text{Rlr1_tst subrule 1 op directive 17} \rangle \equiv \quad /* \text{ test out subrule u RAabBab eog op emit code } */$

18. RAabBab rule.

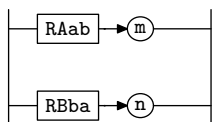
RAabBab

**19. RAbaBab rule.**

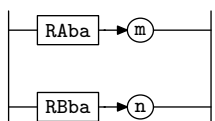
RAbaBab

**20. RAabBba rule.**

RAabBba

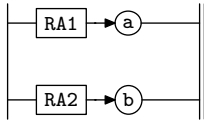
**21. RAbaBba rule.**

RAbaBba



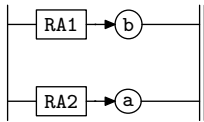
22. RAab rule.

RAab



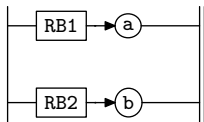
23. RAba rule.

RAba



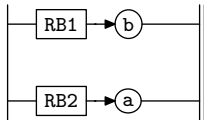
24. RBab rule.

RBab



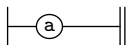
25. RBba rule.

RBba



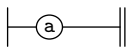
26. RA1 rule.

RA1



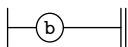
27. RA2 rule.

RA2



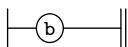
28. RB1 rule.

RB1



29. RB2 rule.

RB2



30. First Set Language for O_2^{linker} .

```
/*
  File: lr1_tst.fsc
  Date and Time: Mon Sep 15 20:09:16 2014
*/
transitive      n
grammar-name    "lr1_tst"
name-space      "NS_lr1_tst"
thread-name     "TH_lr1_tst"
monolithic      n
file-name       "lr1_tst.fsc"
no-of-T         569
list-of-native-first-set-terminals 4
  raw_u
  raw_v
  raw_w
  raw_x
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 compatibility against 2 sets of reduce /reduce conflict states"
```

31. Lr1 State Network.

\Rightarrow	←	rule	→	R#	sr#	Po	←	State: 1 state type: ^s	→	Brn	Gto	Red	LA
								subrule element					
	c	Rlr1.tst		1	1	1	u			1	2	4	
	c	Rlr1.tst		1	2	1	v			1	5	7	
	c	Rlr1.tst		1	3	1	w			1	8	10	
	c	Rlr1.tst		1	4	1	x			1	11	13	

\Rightarrow^u	←	rule	→	R#	sr#	Po	←	State: 2 state type: ^s	→	Brn	Gto	Red	LA
								subrule element					
	c	RA1		10	1	1	a			2	14	14	
	c	RA2		11	1	1	a			2	14	14	
	c	RB2		13	1	1	b			2	15	15	
	c	RB1		12	1	1	b			2	15	15	
	t	Rlr1.tst		1	1	2	RAabBab <u>eog</u>			1	3	4	
	c	RAabBab		2	1	1	RAab <u>m</u>			2	16	17	
	c	RAabBab		2	2	1	RBab <u>n</u>			2	18	19	
	c	RAab		6	1	1	RA1 <u>a</u>			2	20	21	
	c	RAab		6	2	1	RA2 <u>b</u>			2	22	23	
	c	RBab		8	1	1	RB1 <u>a</u>			2	24	25	
	c	RBab		8	2	1	RB2 <u>b</u>			2	26	27	

$\Rightarrow^{RAabBab}$	←	rule	→	R#	sr#	Po	←	State: 3 state type: ^s	→	Brn	Gto	Red	LA
								subrule element					
	t	Rlr1.tst		1	1	3	eog			1	4	4	

\Rightarrow^{eog}	←	rule	→	R#	sr#	Po	←	State: 4 state type: ^r	→	Brn	Gto	Red	LA
								subrule element					
	t	Rlr1.tst		1	1	4				1	0	4	1

\Rightarrow^v	←	rule	→	R#	sr#	Po	←	State: 5 state type: ^s	→	Brn	Gto	Red	LA
								subrule element					
	c	RA1		10	1	1	a			5	28	28	
	c	RA2		11	1	1	a			5	28	28	
	c	RB2		13	1	1	b			5	15	15	
	c	RB1		12	1	1	b			5	15	15	
	t	Rlr1.tst		1	2	2	RAbaBab <u>eog</u>			1	6	7	
	c	RAbaBab		3	1	1	RAba <u>m</u>			5	29	30	
	c	RAbaBab		3	2	1	RBab <u>n</u>			5	31	32	
	c	RAba		7	1	1	RA1 <u>b</u>			5	33	34	
	c	RAba		7	2	1	RA2 <u>a</u>			5	35	36	
	c	RBab		8	1	1	RB1 <u>a</u>			5	24	25	
	c	RBab		8	2	1	RB2 <u>b</u>			5	26	27	

$\Rightarrow^{RAbaBab}$	←	rule	→	R#	sr#	Po	←	State: 6 state type: ^s	→	Brn	Gto	Red	LA
								subrule element					
	t	Rlr1.tst		1	2	3	eog			1	7	7	

\Rightarrow^{eog}	←	rule	→	R#	sr#	Po	←	State: 7 state type: ^r	→	Brn	Gto	Red	LA
								subrule element					
	t	Rlr1.tst		1	2	4				1	0	7	1

\Rightarrow^w					State: 8 state type: s			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
c	RA1		10	1	1	a		8 14 14
c	RA2		11	1	1	a		8 14 14
c	RB2		13	1	1	b		8 37 37
c	RB1		12	1	1	b		8 37 37
t	Rlr1.tst		1	3	2	RAabBba <u>eog</u>		1 9 10
c	RAabBba		4	1	1	RAab <u>m</u>		8 38 39
c	RAabBba		4	2	1	RBba <u>n</u>		8 40 41
c	RAab		6	1	1	RA1 <u>a</u>		8 20 21
c	RAab		6	2	1	RA2 <u>b</u>		8 22 23
c	RBba		9	1	1	RB1 <u>b</u>		8 42 43
c	RBba		9	2	1	RB2 <u>a</u>		8 44 45

$\Rightarrow^{RAabBba}$					State: 9 state type: s			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
t	Rlr1.tst		1	3	3	eog		1 10 10

\Rightarrow^{eog}					State: 10 state type: r			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
t	Rlr1.tst		1	3	4			1 0 10 1

\Rightarrow^x					State: 11 state type: s			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
c	RA1		10	1	1	a		11 28 28
c	RA2		11	1	1	a		11 28 28
c	RB2		13	1	1	b		11 37 37
c	RB1		12	1	1	b		11 37 37
t	Rlr1.tst		1	4	2	RAbaBba <u>eog</u>		1 12 13
c	RAbaBba		5	1	1	RAba <u>m</u>		11 46 47
c	RAbaBba		5	2	1	RBba <u>n</u>		11 48 49
c	RAba		7	1	1	RA1 <u>b</u>		11 33 34
c	RAba		7	2	1	RA2 <u>a</u>		11 35 36
c	RBba		9	1	1	RB1 <u>b</u>		11 42 43
c	RBba		9	2	1	RB2 <u>a</u>		11 44 45

$\Rightarrow^{RAbaBba}$					State: 12 state type: s			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
t	Rlr1.tst		1	4	3	eog		1 13 13

\Rightarrow^{eog}					State: 13 state type: r			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
t	Rlr1.tst		1	4	4			1 0 13 1

\Rightarrow^a					State: 14 state type: r^2			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA
t	RA1		10	1	2			2 0 14 2
t	RA2		11	1	2			2 0 14 3

\Rightarrow^b					State: 15 state type: r^2			
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow Brn Gto Red LA

t RB2		13	1	2				2	0	15	3
t RB1		12	1	2				2	0	15	2
$\Rightarrow RAab$						State: 16 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAabBab		2	1	2	m			2	17	17	
$\Rightarrow m$						State: 17 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAabBab		2	1	3				2	0	17	4
$\Rightarrow RBab$						State: 18 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAabBab		2	2	2	n			2	19	19	
$\Rightarrow n$						State: 19 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAabBab		2	2	3				2	0	19	4
$\Rightarrow RA1$						State: 20 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAab		6	1	2	a			2	21	21	
$\Rightarrow a$						State: 21 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAab		6	1	3				2	0	21	5
$\Rightarrow RA2$						State: 22 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAab		6	2	2	b			2	23	23	
$\Rightarrow b$						State: 23 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RAab		6	2	3				2	0	23	5
$\Rightarrow RB1$						State: 24 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RBab		8	1	2	a			2	25	25	
$\Rightarrow a$						State: 25 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RBab		8	1	3				2	0	25	6
$\Rightarrow RB2$						State: 26 state type: s					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RBab		8	2	2	b			2	27	27	
$\Rightarrow b$						State: 27 state type: r					
← rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t RBab		8	2	3				2	0	27	6
$\Rightarrow a$						State: 28 state type: r^2					

← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t RA1	10 1 2		5 0 28 3
t RA2	11 1 2		5 0 28 2
⇒ <i>RAba</i>			
← rule	→ R# sr# Po ←	State: 29 state type: <i>s</i>	subrule element
t RAbaBab	3 1 2 m		→ Brn Gto Red LA
			5 30 30
⇒ <i>m</i>			
← rule	→ R# sr# Po ←	State: 30 state type: <i>r</i>	subrule element
t RAbaBab	3 1 3		→ Brn Gto Red LA
			5 0 30 4
⇒ <i>RBab</i>			
← rule	→ R# sr# Po ←	State: 31 state type: <i>s</i>	subrule element
t RAbaBab	3 2 2 n		→ Brn Gto Red LA
			5 32 32
⇒ <i>n</i>			
← rule	→ R# sr# Po ←	State: 32 state type: <i>r</i>	subrule element
t RAbaBab	3 2 3		→ Brn Gto Red LA
			5 0 32 4
⇒ <i>RA1</i>			
← rule	→ R# sr# Po ←	State: 33 state type: <i>s</i>	subrule element
t RAba	7 1 2 b		→ Brn Gto Red LA
			5 34 34
⇒ <i>b</i>			
← rule	→ R# sr# Po ←	State: 34 state type: <i>r</i>	subrule element
t RAba	7 1 3		→ Brn Gto Red LA
			5 0 34 5
⇒ <i>RA2</i>			
← rule	→ R# sr# Po ←	State: 35 state type: <i>s</i>	subrule element
t RAba	7 2 2 a		→ Brn Gto Red LA
			5 36 36
⇒ <i>a</i>			
← rule	→ R# sr# Po ←	State: 36 state type: <i>r</i>	subrule element
t RAba	7 2 3		→ Brn Gto Red LA
			5 0 36 5
⇒ <i>b</i>			
← rule	→ R# sr# Po ←	State: 37 state type: <i>r</i> ²	subrule element
t RB2	13 1 2		→ Brn Gto Red LA
t RB1	12 1 2		8 0 37 2
			8 0 37 3
⇒ <i>RAab</i>			
← rule	→ R# sr# Po ←	State: 38 state type: <i>s</i>	subrule element
t RAabBba	4 1 2 m		→ Brn Gto Red LA
			8 39 39
⇒ <i>m</i>			
← rule	→ R# sr# Po ←	State: 39 state type: <i>r</i>	subrule element
t RAabBba	4 1 3		→ Brn Gto Red LA
			8 0 39 4
⇒ <i>RBba</i>			
← rule	→ R# sr# Po ←	State: 40 state type: <i>s</i>	subrule element
t RAabBba	4 2 2 n		→ Brn Gto Red LA
			8 41 41

\Rightarrow^n	← rule	→ R# sr# Po ←	State: 41 state type: r	
t RAabBba		4 2 3	subrule element	→ Brn Gto Red LA 8 0 41 4
\Rightarrow^{RB1}	← rule	→ R# sr# Po ←	State: 42 state type: s	
t RBba		9 1 2 b	subrule element	→ Brn Gto Red LA 8 43 43
\Rightarrow^b	← rule	→ R# sr# Po ←	State: 43 state type: r	
t RBba		9 1 3	subrule element	→ Brn Gto Red LA 8 0 43 6
\Rightarrow^{RB2}	← rule	→ R# sr# Po ←	State: 44 state type: s	
t RBba		9 2 2 a	subrule element	→ Brn Gto Red LA 8 45 45
\Rightarrow^a	← rule	→ R# sr# Po ←	State: 45 state type: r	
t RBba		9 2 3	subrule element	→ Brn Gto Red LA 8 0 45 6
\Rightarrow^{RAba}	← rule	→ R# sr# Po ←	State: 46 state type: s	
t RAbaBba		5 1 2 m	subrule element	→ Brn Gto Red LA 11 47 47
\Rightarrow^m	← rule	→ R# sr# Po ←	State: 47 state type: r	
t RAbaBba		5 1 3	subrule element	→ Brn Gto Red LA 11 0 47 4
\Rightarrow^{RBba}	← rule	→ R# sr# Po ←	State: 48 state type: s	
t RAbaBba		5 2 2 n	subrule element	→ Brn Gto Red LA 11 49 49
\Rightarrow^n	← rule	→ R# sr# Po ←	State: 49 state type: r	
t RAbaBba		5 2 3	subrule element	→ Brn Gto Red LA 11 0 49 4

32. Index.

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RAabBba: 11.
RAba: 19, 21.
RAba: 23.
RAbaBab: 19.
RAbaBab: 11.
RAbaBba: 21.
RAbaBba: 11.
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< Clr1.tst_fsm destructor directive 4 >
< Clr1.tst_fsm failed directive 5 >
< Clr1.tst_fsm op directive 6 >
< Clr1.tst_fsm user-declaration directive 7 >
< Clr1.tst_fsm user-imp-sym directive 8 >
< Clr1.tst_fsm user-imp-tbl directive 9 >
< Clr1.tst_fsm user-implementation directive 10 >
< Rlr1.tst constructor directive 12 >
< Rlr1.tst destructor directive 13 >
< Rlr1.tst op directive 14 >
< Rlr1.tst subrule 1 op directive 17 >
< Rlr1.tst user-declaration directive 15 >
< Rlr1.tst user-implementation directive 16 >

lr1_tst Grammar

Date: September 16, 2014 at 15:02

File: lr1_tst.lex

Ns: NS_lr1_tst

Version: 1.0

Debug: true

Grammar Comments:

Type: Thread

test out lr1 compatibility against 2 sets of reduce /reduce conflict states

1 element(s) in Lookahead Expression below

eolr

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Clr1_tst_fsm user-imp-sym directive	8	1
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