

1. Copyright.

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2. *lr1_k_phrase_th* thread.

Parse lr1 k symbols phrase. The *lr1_k_phrase_th* terminal keeps its own local symbol table: map and list. It calls the common backend *term_def_ph* thread extractor of symbol definition.

Example of a lr1 k symbols vocabulary to parse:

```

/*
file: lrksym.txt
Why: LR k symbols vocabulary to parse.
Note: lr1-constant-symbols is shown for clarity. It is the keyword trigger
      that calls this grammar. Parsed is comments onwards.
*/
lr1-constant-symbols
// comments
(file-name      yacco2_k_symbols
,name-space     NS_yacco2_k_symbols){
  eog
  /@
  Used to indicate an end-of-grammar.
  @/
  (sym-class     LR1_eog {
  user-declaration
  LR1_eog();
  ***
  user-implementation
  LR1_eog::LR1_eog()
  T_CTOR("eog",T_LR1_eog_,0,false,false){}
  LR1_eog LR1_eog__;
  yacco2::CAbs_lr1_sym* NS_yacco2_k_symbols::PTR_LR1_eog__ = &LR1_eog__;
  ***
  }
)
      ....
"|t|" AD AB(sym-class LR1_fset_transience_operator)

/@
As they are constants, they are defined globally
to save space / overhead in the typical new create / delete
cycle of terminals. Thar's recycling going on in this green space.
@/
lrk-suffix
  extern yacco2::CAbs_lr1_sym* PTR_LR1_parallel_operator__;
      ....
  extern yacco2::CAbs_lr1_sym* PTR_LR1_eolr__;
  ***
}

```

3. Fsm Clr1_k_phrase_th class.**4. Clr1_k_phrase_th constructor directive.**

⟨Clr1_k_phrase_th constructor directive 4⟩ ≡
lr1_k_phrase_ = 0;

5. Clr1_k_phrase.th op directive.

```

<Clr1_k_phrase.th op directive 5> ≡
  if (lr1_k_phrase_ ≠ 0) {
    delete lr1_k_phrase_;
    lr1_k_phrase_ = 0;
  }
  lr1_k_phrase_ = new T_lr1_k_phrase;
  lr1_k_phrase_→set_rc(*parser_→start_token_, __FILE__, __LINE__);
  AST *t = new AST(*lr1_k_phrase_);
  lr1_k_phrase_→phrase_tree(t);

```

6. Clr1_k_phrase.th user-declaration directive.

```

<Clr1_k_phrase.th user-declaration directive 6> ≡
public: T_lr1_k_phrase *lr1_k_phrase_;

```

7. Clr1_k_phrase.th user-prefix-declaration directive.

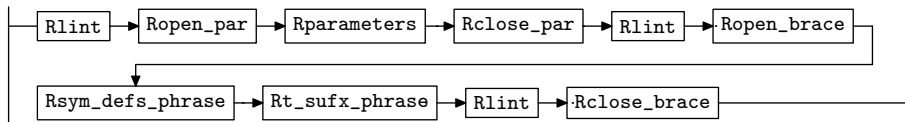
```

<Clr1_k_phrase.th user-prefix-declaration directive 7> ≡
#include "lint_balls.h"
#include "identifier.h"
#include "term_def_ph.h"
#include "c_string.h"
#include "o2_sdc.h"
#include "cweb_or_c_k.h"

```

8. Rlr1_k_phrase rule.

Rlr1_k_phrase



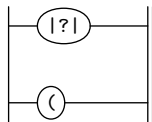
```

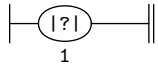
<Rlr1_k_phrase subrule 1 op directive 8> ≡
  Clr1_k_phrase.th * fsm = ( Clr1_k_phrase.th * ) rule_info_→parser_→fsm_tbl_;
  RSVP(fsm→lr1_k_phrase_);
  fsm→lr1_k_phrase_ = 0;

```

9. Ropen_par rule.

Ropen_par

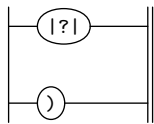
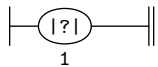


10. *Ropen_par*'s subrule 1.

⟨*Ropen_par* subrule 1 op directive 10⟩ ≡
`CAbs_lr1_sym * sym = new Err_no_open_parenthesis;`
`sym->set_rc(*rule_info->parser->current_token(), __FILE__, __LINE__);`
`RSVP(sym);`
`rule_info->parser->set_stop_parse(true);`

11. *Rclose_par* rule.

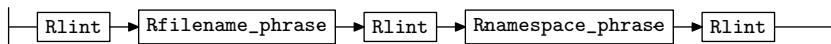
Rclose_par

12. *Rclose_par*'s subrule 1.

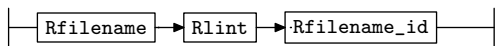
⟨*Rclose_par* subrule 1 op directive 12⟩ ≡
`CAbs_lr1_sym * sym = new Err_no_close_parenthesis;`
`sym->set_rc(*rule_info->parser->current_token(), __FILE__, __LINE__);`
`RSVP(sym);`
`rule_info->parser->set_stop_parse(true);`

13. *Rparameters* rule.

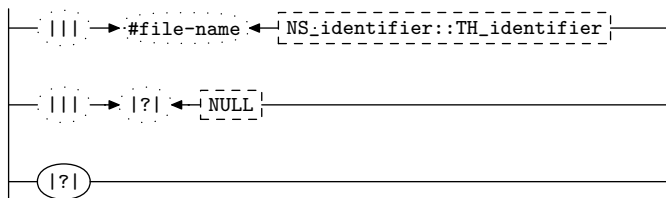
Rparameters

14. *Rfilename_phrase* rule.

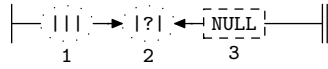
Rfilename_phrase

15. *Rfilename* rule.

Rfilename

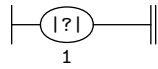


16. Rfilename's subrule 2.



⟨Rfilename subrule 2 op directive 16⟩ ≡
sf-p2--set_auto_delete(true);
CAbs_lr1_sym * *sym* = **new** *Err_no_filename_present*;
sym-set_rc(**sf*-p2--, __FILE__, __LINE__);
 RSVP(*sym*);
rule_info...parser--set_stop_parse(true);

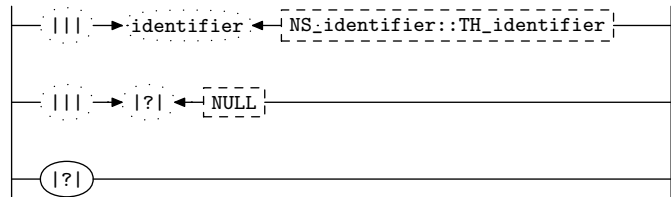
17. Rfilename's subrule 3.



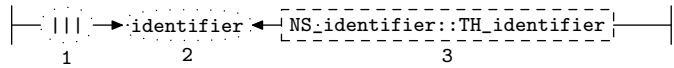
⟨Rfilename subrule 3 op directive 17⟩ ≡
CAbs_lr1_sym * *sym* = **new** *Err_no_filename_present*;
sym-set_rc(**rule_info*...parser--current_token(), __FILE__, __LINE__);
 RSVP(*sym*);
rule_info...parser--set_stop_parse(true);

18. Rfilename_id rule.

Rfilename_id

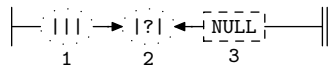


19. Rfilename_id's subrule 1.

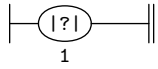


⟨Rfilename_id subrule 1 op directive 19⟩ ≡
Clr1_k_phrase_th * *fsm* = (*Clr1_k_phrase_th* *) *rule_info*...parser--fsm_tbl...;
fsm-lr1_k_phrase_→filename_id(*sf*-p2...);

20. Rfilename_id's subrule 2.



⟨Rfilename_id subrule 2 op directive 20⟩ ≡
sf-p2--set_auto_delete(true);
CAbs_lr1_sym * *sym* = **new** *Err_no_filename_id_present*;
sym-set_rc(**sf*-p2--, __FILE__, __LINE__);
 RSVP(*sym*);
rule_info...parser--set_stop_parse(true);

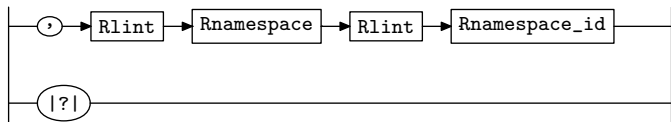
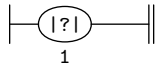
21. *Rfilename_id*'s subrule 3.

⟨*Rfilename_id* subrule 3 op directive 21⟩ ≡

```
CAbs_lr1_sym * sym = new Err_no_filename_id_present;
sym->set_rc(*rule_info_.parser->current_token(), __FILE__, __LINE__);
RSVP(sym);
rule_info_.parser->set_stop_parse(true);
```

22. *Rnamespace_phrase* rule.

Rnamespace_phrase

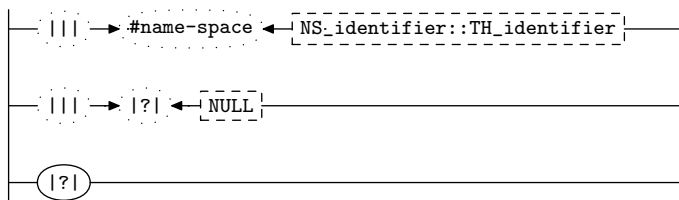
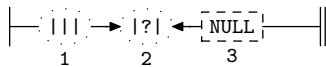
**23. *Rnamespace_phrase*'s subrule 2.**

⟨*Rnamespace_phrase* subrule 2 op directive 23⟩ ≡

```
CAbs_lr1_sym * sym = new Err_no_comma_present;
sym->set_rc(*rule_info_.parser->current_token(), __FILE__, __LINE__);
RSVP(sym);
rule_info_.parser->set_stop_parse(true);
```

24. *Rnamespace* rule.

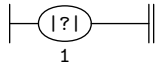
Rnamespace

**25. *Rnamespace*'s subrule 2.**

⟨*Rnamespace* subrule 2 op directive 25⟩ ≡

```
sf-p2->set_auto_delete(true);
CAbs_lr1_sym * sym = new Err_no_namespace_present;
sym->set_rc(*sf-p2--, __FILE__, __LINE__);
RSVP(sym);
rule_info_.parser->set_stop_parse(true);
```

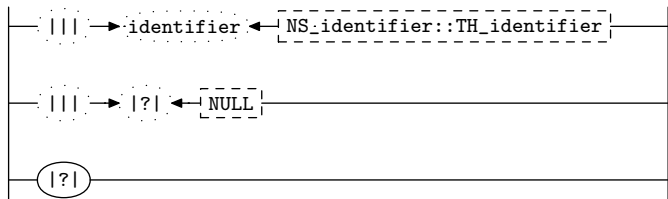
26. Rnamespace's subrule 3.



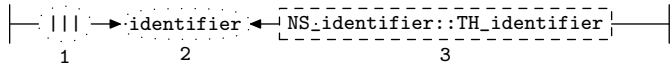
⟨Rnamespace subrule 3 op directive 26⟩ ≡
CAbs_lr1_sym * *sym* = **new** *Err_no_namespace_present*;
sym→*set_rc*(**rule_info*→*parser*→*current_token*(), __FILE__, __LINE__);
RSVP(*sym*);
rule_info→*parser*→*set_stop_parse*(*true*);

27. Rnamespace_id rule.

Rnamespace_id

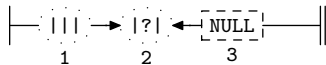


28. Rnamespace_id's subrule 1.



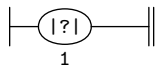
⟨Rnamespace_id subrule 1 op directive 28⟩ ≡
Clr1_k_phrase_th * *fsm* = (*Clr1_k_phrase_th* *) *rule_info*→*parser*→*fsm_tbl*→;
fsm→*lr1_k_phrase_namespace_id*(*sf*→*p2*→);

29. Rnamespace_id's subrule 2.



⟨Rnamespace_id subrule 2 op directive 29⟩ ≡
sf→*p2*→*set_auto_delete*(*true*);
CAbs_lr1_sym * *sym* = **new** *Err_no_namespace_id_present*;
sym→*set_rc*(**sf*→*p2*→, __FILE__, __LINE__);
RSVP(*sym*);
rule_info→*parser*→*set_stop_parse*(*true*);

30. Rnamespace_id's subrule 3.

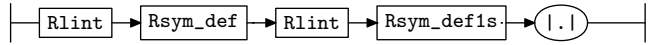


⟨Rnamespace_id subrule 3 op directive 30⟩ ≡
CAbs_lr1_sym * *sym* = **new** *Err_no_namespace_id_present*;
sym→*set_rc*(**rule_info*→*parser*→*current_token*(), __FILE__, __LINE__);
RSVP(*sym*);
rule_info→*parser*→*set_stop_parse*(*true*);

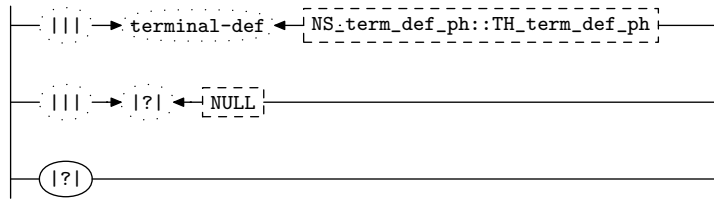
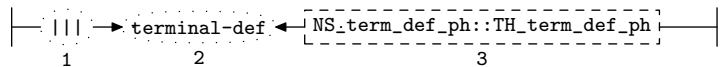
31. *Rsym_defs_phrase* rule.

Use of |.| to make it lr(1).

Rsym_defs_phrase

**32. *Rsym_def* rule.**

Rsym_def

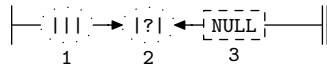
**33. *Rsym_def*'s subrule 1.**

$\langle \text{Rsym_def subrule 1 op directive 33} \rangle \equiv$

```

Clr1_k_phrase_th * fsm = ( Clr1_k_phrase_th * ) rule_info...parser...fsm.tbl...;
sf-p2...classification( T_terminal_def :: lrk);
CAbs_lr1_sym * r = fsm-lr1_k_phrase-add_t_to_alphabet(sf-p2..., rule_info...parser...);
if (r  $\equiv$  0) return;
RSVP(r);
rule_info...parser...set_stop_parse(true);

```

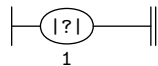
34. *Rsym_def*'s subrule 2.

$\langle \text{Rsym_def subrule 2 op directive 34} \rangle \equiv$

```

sf-p2...set_auto_delete(true);
CAbs_lr1_sym * sym = new Err_no_sym_defs_present;
sym-set_rc(*sf-p2..., __FILE__, __LINE__);
RSVP(sym);
rule_info...parser...set_stop_parse(true);

```

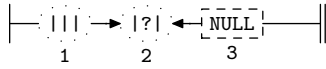
35. *Rsym_def*'s subrule 3.

$\langle \text{Rsym_def subrule 3 op directive 35} \rangle \equiv$

```

CAbs_lr1_sym * sym = new Err_no_sym_defs_present;
sym-set_rc(*rule_info...parser...current_token( ), __FILE__, __LINE__);
RSVP(sym);
rule_info...parser...set_stop_parse(true);

```


40. *Rsym_def1*'s subrule 3.

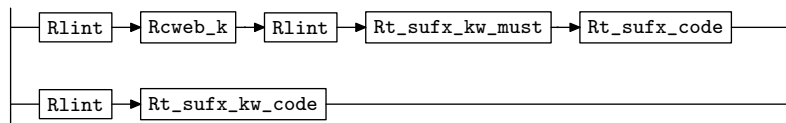
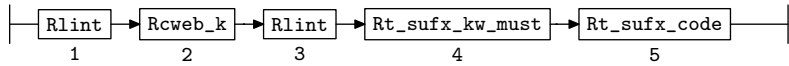
```

⟨Rsym_def1 subrule 3 op directive 40⟩ ≡
  using namespace NS_yacco2_T_enum;
  int id = sf→p2→enumerated_id_;
  if (id ≥ T_Enum::start_ERR ∧ id ≤ T_Enum::end_ERR) {
    RSVP(sf→p2_);
    rule_info→parser→set_stop_parse(true);
  }
  else {
    CAbs_lr1_sym * sym = new Err_not_a_terminal_definition;
    sym→set_rc(*sf→p2_, __FILE_, __LINE_);
    RSVP(sym);
    rule_info→parser→set_stop_parse(true);
  }

```

41. *Rt_sufx_phrase* rule.

Rt_sufx_phrase

42. *Rt_sufx_phrase*'s subrule 1.

```

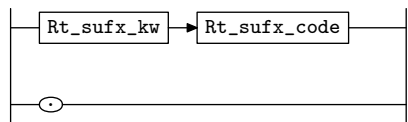
⟨Rt_sufx_phrase subrule 1 op directive 42⟩ ≡
  Clr1_k_phrase_th * fsm = (Clr1_k_phrase_th *) rule_info→parser→fsm_tbl_;
  fsm→lr1_k_phrase→lrk_sufx_code()→add_cweb_marker(sf→p2→cweb_t_);

```

43. *Rt_sufx_kw_code* rule.

If a *cweb* comment is seen, deposit it in the directive's syntax directed code.

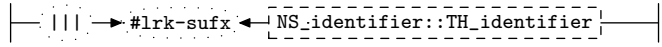
Rt_sufx_kw_code



44. *Rt_sufix_kw* rule.

Drop keyword as it's presence is indicated elsewhere. So pop the cork and let the good times roll.

Rt_sufix_kw

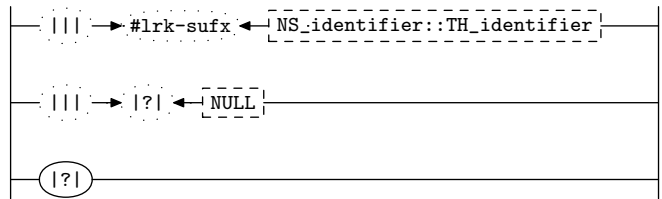
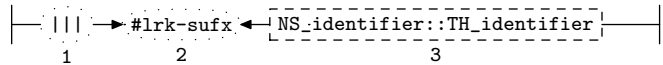


⟨ *Rt_sufix_kw* subrule 1 op directive 44 ⟩ ≡
`sf-p2--set_auto_delete(true);`

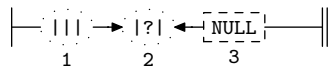
45. *Rt_sufix_kw_must* rule.

Drop keyword as it's presence is indicated elsewhere. So pop the cork and let the good times roll.

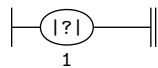
Rt_sufix_kw_must

46. *Rt_sufix_kw_must*'s subrule 1.

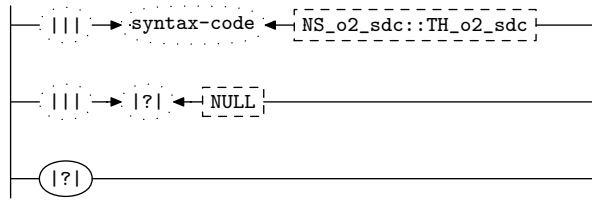
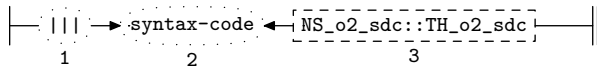
⟨ *Rt_sufix_kw_must* subrule 1 op directive 46 ⟩ ≡
`sf-p2--set_auto_delete(true);`

47. *Rt_sufix_kw_must*'s subrule 2.

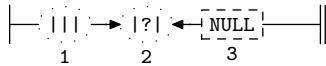
⟨ *Rt_sufix_kw_must* subrule 2 op directive 47 ⟩ ≡
`CAbs_lr1_sym * sym = new Err_missing_lrk_sufix_kw;`
`sym->set_rc(*sf-p2--, __FILE__, __LINE__);`
`RSVP(sym);`
`sf-p2--set_auto_delete(true);`
`rule_info...parser--set_stop_parse(true);`

48. *Rt_sufix_kw_must*'s subrule 3.

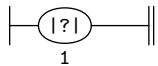
⟨ *Rt_sufix_kw_must* subrule 3 op directive 48 ⟩ ≡
`CAbs_lr1_sym * sym = new Err_missing_lrk_sufix_kw;`
`sym->set_rc(*sf-p1--, __FILE__, __LINE__);`
`RSVP(sym);`
`rule_info...parser--set_stop_parse(true);`
`return;`

49. *Rt_sufix_code* rule.*Rt_sufix_code***50. *Rt_sufix_code*'s subrule 1.**

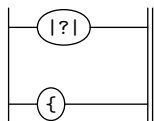
⟨ *Rt_sufix_code* subrule 1 op directive 50 ⟩ ≡
Clr1_k_phrase_th * *fsm* = (*Clr1_k_phrase_th* *) *rule_info...**parser...**fsm.tbl...*;
*fsm-lr1_k_phrase...**lrk_sufix_code(sf-p2...)*;

51. *Rt_sufix_code*'s subrule 2.

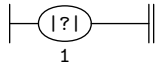
⟨ *Rt_sufix_code* subrule 2 op directive 51 ⟩ ≡
CAbs_lr1_sym * *sym* = **new** *Err_no_syntax_code_present*;
sym→*set_rc*(**sf-p2...*, __FILE__, __LINE__);
RSVP(sym);
sf-p2...→*set_auto_delete(true)*;
*rule_info...**parser...*→*set_stop_parse(true)*;

52. *Rt_sufix_code*'s subrule 3.

⟨ *Rt_sufix_code* subrule 3 op directive 52 ⟩ ≡
CAbs_lr1_sym * *sym* = **new** *Err_no_syntax_code_present*;
sym→*set_rc*(**rule_info...**parser...**start_token...*, __FILE__, __LINE__);
RSVP(sym);
*rule_info...**parser...*→*set_stop_parse(true)*;

53. *Ropen_brace* rule.*Ropen_brace*

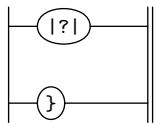
54. Ropen_brace's subrule 1.



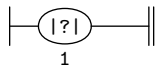
⟨Ropen_brace subrule 1 op directive 54⟩ ≡
`CAbs_lr1_sym * sym = new Err_no_open_brace;`
`sym->set_rc(*rule_info_.parser->current_token(), __FILE__, __LINE__);`
`RSVP(sym);`
`rule_info_.parser->set_stop_parse(true);`

55. Rclose_brace rule.

Rclose_brace



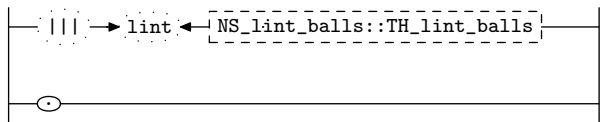
56. Rclose_brace's subrule 1.



⟨Rclose_brace subrule 1 op directive 56⟩ ≡
`CAbs_lr1_sym * sym = new Err_no_close_brace;`
`sym->set_rc(*rule_info_.parser->current_token(), __FILE__, __LINE__);`
`RSVP(sym);`
`rule_info_.parser->set_stop_parse(true);`

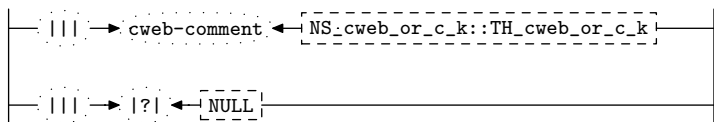
57. Rlint rule.

Rlint



58. Rcweb_k rule.

Rcweb_k

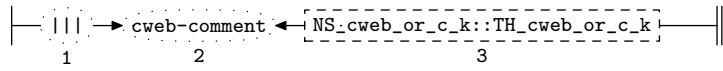


59. Rcweb_k constructor directive.

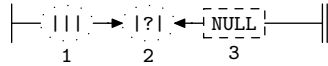
⟨Rcweb_k constructor directive 59⟩ ≡
`cweb_t_ = 0;`

60. Rcweb_k user-declaration directive.

⟨Rcweb_k user-declaration directive 60⟩ ≡
`AST * cweb_t_;`

61. Rcweb_k's subrule 1.

⟨ Rcweb_k subrule 1 op directive 61 ⟩ ≡
Clr1_k_phrase_th * *fsm* = (*Clr1_k_phrase_th* *) *rule_info...parser...fsm_tbl...*;
T_cweb_comment * *k* = *sf-p2...*;
 AST * *cwebk_t_* = new AST(**k*);
cweb_t_ = new AST();
T_cweb_marker * *cw* = new *T_cweb_marker*(*cweb_t_*);
cw-set_rc(**k*, __FILE__, __LINE__);
cweb_t_ = *cw-ast*();
 AST::*set_content*(**cweb_t_*, **cw*);
 AST::*join_pts*(**cweb_t_*, **cwebk_t_*);

62. Rcweb_k's subrule 2.

⟨ Rcweb_k subrule 2 op directive 62 ⟩ ≡
 RSVP(*sf-p2...*);
rule_info...parser...set_stop_parse(*true*);

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

```
/*
  File: lr1_k_phrase_th.fsc
  Date and Time: Fri Jan  2 15:33:43 2015
*/
transitive      y
grammar-name    "lr1_k_phrase_th"
name-space      "NS_lr1_k_phrase_th"
thread-name     "TH_lr1_k_phrase_th"
monolithic      n
file-name       "lr1_k_phrase_th.fsc"
no-of-T         569
list-of-native-first-set-terminals 2
  LR1_questionable_shift_operator
  raw_open_bracket
end-list-of-native-first-set-terminals
list-of-transitive-threads 1
  NS_lint_balls::TH_lint_balls
end-list-of-transitive-threads
list-of-used-threads 5
  NS_cweb_or_c_k::TH_cweb_or_c_k
  NS_identifier::TH_identifier
  NS_lint_balls::TH_lint_balls
  NS_o2_sdc::TH_o2_sdc
  NS_term_def_ph::TH_term_def_ph
end-list-of-used-threads
fsm-comments
"Parse lr1 k symbols phrase."
```

64. Lr1 State Network.

\Rightarrow					State: 1 state type: s/r			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Rlint		22 2 1		ϵ		1 0 1 1	
c	Rlint		22 1 1		lint NS_lint_balls::TH_lint_balls		1 2 3	
c	Rlr1.k.phrase		1 1 1		Rlint <u>Ropen.par</u>		1 4 15	
\Rightarrow	arbitration-code: ϵ				State: 2 state type: s			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
t	Rlint		22 1 2		lint		1 3 3	
\Rightarrow	lint				State: 3 state type: r			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
t	Rlint		22 1 3				1 0 3 1	
\Rightarrow	Rlint				State: 4 state type: s			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Ropen.par		2 1 1		?		4 16 16	
c	Ropen.par		2 2 1		(4 17 17	
t	Rlr1.k.phrase		1 1 2		Ropen.par <u>Rparameters</u>		1 5 15	
\Rightarrow	Ropen.par				State: 5 state type: s/r			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Rlint		22 2 1		ϵ		5 0 5 2	
c	Rlint		22 1 1		lint NS_lint_balls::TH_lint_balls		5 2 3	
t	Rlr1.k.phrase		1 1 3		Rparameters <u>Rclose.par</u>		1 6 15	
c	Rparameters		4 1 1		Rlint <u>Rfilename.phrase</u>		5 18 32	
\Rightarrow	Rparameters				State: 6 state type: s			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Rclose.par		3 1 1		?		6 33 33	
c	Rclose.par		3 2 1)		6 34 34	
t	Rlr1.k.phrase		1 1 4		Rclose.par <u>Rlint$^\epsilon$ Ropen.brace</u>		1 7 15	
\Rightarrow	Rclose.par				State: 7 state type: s/r			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Rlint		22 2 1		ϵ		7 0 7 3	
c	Rlint		22 1 1		lint NS_lint_balls::TH_lint_balls		7 2 3	
t	Rlr1.k.phrase		1 1 5		Rlint <u>Ropen.brace</u>		1 8 15	
\Rightarrow	Rlint				State: 8 state type: s			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Ropen.brace		20 1 1		?		8 35 35	
c	Ropen.brace		20 2 1		{		8 36 36	
t	Rlr1.k.phrase		1 1 6		Ropen.brace <u>Rsym.defs.phrase</u>		1 9 15	
\Rightarrow	Ropen.brace				State: 9 state type: s/r			
\leftarrow	rule	\rightarrow	R# sr# Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA	
c	Rlint		22 2 1		ϵ		9 0 9 2	
c	Rlint		22 1 1		lint NS_lint_balls::TH_lint_balls		9 2 3	
t	Rlr1.k.phrase		1 1 7		Rsym.defs.phrase <u>Rt.suffix.phrase$^\epsilon$ Rlint$^\epsilon$...</u>		1 10 15	

c Rsym_defs_phrase	11	1	1	Rlint <u>Rsym_def</u>	9	37	45
\Rightarrow <u>Rsym_defs_phrase</u>				State: 10 state type: s/r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
c Rlint	22	2	1	ε	10	0	10 4
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls	10	2	3
t Rlr1.k_phrase	1	1	8	Rt_sufx_phrase <u>Rlint^ε Rclose_brace</u>	1	11	15
c Rt_sufx_phrase	15	2	1	Rlint <u>Rt_sufx_kw_code^ε</u>	10	46	51
c Rt_sufx_phrase	15	1	1	Rlint <u>Rcweb_k</u>	10	46	61
\Rightarrow <u>Rt_sufx_phrase</u>				State: 11 state type: s/r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
c Rlint	22	2	1	ε	11	0	11 5
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls	11	2	3
t Rlr1.k_phrase	1	1	9	Rlint <u>Rclose_brace</u>	1	12	15
\Rightarrow <u>Rlint</u>				State: 12 state type: s			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
c Rclose_brace	21	1	1	?	12	13	13
c Rclose_brace	21	2	1	}	12	14	14
t Rlr1.k_phrase	1	1	10	Rclose_brace	1	15	15
\Rightarrow <u> ? </u>				State: 13 state type: r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
t Rclose_brace	21	1	2		12	0	13 6
\Rightarrow <u>}</u>				State: 14 state type: r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
t Rclose_brace	21	2	2		12	0	14 6
\Rightarrow <u>Rclose_brace</u>				State: 15 state type: r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
t Rlr1.k_phrase	1	1	11		1	0	15 6
\Rightarrow <u> ? </u>				State: 16 state type: r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
t Ropen_par	2	1	2		4	0	16 2
\Rightarrow <u>(</u>				State: 17 state type: r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
t Ropen_par	2	2	2		4	0	17 2
\Rightarrow <u>Rlint</u>				State: 18 state type: s			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA
c Rfilename	6	3	1	?	18	62	62
c Rfilename	6	1	1	# file-name NS_identifier::TH_identifier	18	63	65
c Rfilename	6	2	1	? NULL	18	63	64
t Rparameters	4	1	2	Rfilename_phrase <u>Rlint^ε Rnamespace_phrase</u>	5	19	32
c Rfilename_phrase	5	1	1	Rfilename <u>Rlint^ε Rfilename_id</u>	18	66	72
\Rightarrow <u>Rfilename_phrase</u>				State: 19 state type: s/r			
← rule	→ R#	sr#	Po	← subrule element	→ Brn	Gto	Red LA

c Rlint	22	2	1	ϵ		19	0	19	7
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls		19	2	3	
t Rparameters	4	1	3	Rlint <u>Rnamespace_phrase</u>		5	20	32	
\Rightarrow <i>Rlint</i> State: 20 state type: <i>s</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
c Rnamespace_phrase	8	2	1	?	20	21	21		
c Rnamespace_phrase	8	1	1	,	20	22	30		
t Rparameters	4	1	4	Rnamespace_phrase <u>Rlint$^\epsilon$</u>	5	31	32		
\Rightarrow <i> ? </i> State: 21 state type: <i>r</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
t Rnamespace_phrase	8	2	2		20	0	21	8	
\Rightarrow <i>,</i> State: 22 state type: <i>s/r</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
c Rlint	22	2	1	ϵ	22	0	22	2	
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls	22	2	3		
t Rnamespace_phrase	8	1	2	Rlint <u>Rnamespace</u>	20	23	30		
\Rightarrow <i>Rlint</i> State: 23 state type: <i>s</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
c Rnamespace	9	3	1	?	23	73	73		
c Rnamespace	9	1	1	# name-space NS_identifier::TH_identifier	23	74	76		
c Rnamespace	9	2	1	<i> ? </i> NULL	23	74	75		
t Rnamespace_phrase	8	1	3	Rnamespace <u>Rlint$^\epsilon$ Rnamespace_id</u>	20	24	30		
\Rightarrow <i>Rnamespace</i> State: 24 state type: <i>s/r</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
c Rlint	22	2	1	ϵ	24	0	24	2	
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls	24	2	3		
t Rnamespace_phrase	8	1	4	Rlint <u>Rnamespace_id</u>	20	25	30		
\Rightarrow <i>Rlint</i> State: 25 state type: <i>s</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
c Rnamespace_id	10	3	1	?	25	26	26		
c Rnamespace_id	10	1	1	identifier NS_identifier::TH_identifier	25	27	29		
c Rnamespace_id	10	2	1	<i> ? </i> NULL	25	27	28		
t Rnamespace_phrase	8	1	5	Rnamespace_id	20	30	30		
\Rightarrow <i> ? </i> State: 26 state type: <i>r</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
t Rnamespace_id	10	3	2		25	0	26	8	
\Rightarrow <i> arbitration-code: ϵ</i> State: 27 state type: <i>s</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
t Rnamespace_id	10	2	2	?	25	28	28		
t Rnamespace_id	10	1	2	identifier	25	29	29		
\Rightarrow <i> ? </i> State: 28 state type: <i>r</i>									
\leftarrow rule	\rightarrow R#	sr#	Po	\leftarrow subrule element	\rightarrow Brn	Gto	Red	LA	
t Rnamespace_id	10	2	3		25	0	28	8	

\Rightarrow <i>identifier</i>		State: 29 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace_id	10 1 3		25 0 29 8
\Rightarrow <i>Rnamespace_id</i>		State: 30 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace_phrase	8 1 6		20 0 30 8
\Rightarrow <i>Rnamespace_phrase</i>		State: 31 state type: <i>s/r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
c Rlint	22 2 1 ϵ		31 0 31 9
c Rlint	22 1 1 lint NS_lint_balls::TH_lint_balls		31 2 3
t Rparameters	4 1 5 Rlint		5 32 32
\Rightarrow <i>Rlint</i>		State: 32 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rparameters	4 1 6		5 0 32 9
\Rightarrow <i> ? </i>		State: 33 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rclose_par	3 1 2		6 0 33 10
\Rightarrow <i>)</i>		State: 34 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rclose_par	3 2 2		6 0 34 10
\Rightarrow <i> ? </i>		State: 35 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Ropen_brace	20 1 2		8 0 35 2
\Rightarrow <i>{</i>		State: 36 state type: <i>r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Ropen_brace	20 2 2		8 0 36 2
\Rightarrow <i>Rlint</i>		State: 37 state type: <i>s</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
c Rsym_def	12 3 1 ?		37 77 77
c Rsym_def	12 1 1 terminal-def NS_term_def_ph::TH_term_def_ph		37 78 80
c Rsym_def	12 2 1 ? NULL		37 78 79
t Rsym_defs_phrase	11 1 2 Rsym_def <u>Rlintϵ</u> <u>Rsym_def1sϵ</u> ...		9 38 45
\Rightarrow <i>Rsym_def</i>		State: 38 state type: <i>s/r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
c Rlint	22 2 1 ϵ		38 0 38 11
c Rlint	22 1 1 lint NS_lint_balls::TH_lint_balls		38 2 3
t Rsym_defs_phrase	11 1 3 Rlint <u>Rsym_def1sϵ</u> .		9 39 45
\Rightarrow <i>Rlint</i>		State: 39 state type: <i>s/r</i>	
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
c Rsym_def1s	13 3 1 ϵ		39 0 39 11
c Rsym_def1	14 1 1 terminal-def NS_term_def_ph::TH_term_def_ph		39 41 43

c	Rsym_def1	14	3	1	? NULL	39	41	42				
c	Rsym_def1	14	2	1	no key-value present in definition NULL	39	41	44				
c	Rsym_def1s	13	2	1	Rsym_def1s <u>Rsym_def1</u>	39	40	82				
t	Rsym_defs_phrase	11	1	4	Rsym_def1s <u> .</u>	9	40	45				
c	Rsym_def1s	13	1	1	Rsym_def1 <u>Rlint^ε</u>	39	83	84				
⇒ <i>Rsym_def1s</i>						State: 40 state type: ^s						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Rsym_def1		14	1	1		terminal-def NS_term_def_ph::TH_term_def_ph		40	41	43	
c	Rsym_def1		14	3	1		? NULL		40	41	42	
c	Rsym_def1		14	2	1		no key-value present in definition NULL		40	41	44	
t	Rsym_defs_phrase		11	1	5	.			9	45	45	
t	Rsym_def1s		13	2	2	Rsym_def1	<u>Rlint^ε</u>		39	81	82	
⇒ <i> arbitration-code: ε</i>						State: 41 state type: ^s						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsym_def1		14	3	2	?			40	42	42	
t	Rsym_def1		14	1	2		terminal-def		40	43	43	
t	Rsym_def1		14	2	2		no key-value present in definition		40	44	44	
⇒ <i> ? </i>						State: 42 state type: ^r						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsym_def1		14	3	3				40	0	42	11
⇒ <i>terminal-def</i>						State: 43 state type: ^r						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsym_def1		14	1	3				40	0	43	11
⇒ <i>nokey-valuepresentindefinition</i>						State: 44 state type: ^r						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsym_def1		14	2	3				40	0	44	11
⇒ <i> .</i>						State: 45 state type: ^r						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsym_defs_phrase		11	1	6				9	0	45	4
⇒ <i>Rlint</i>						State: 46 state type: ^{s/r}						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Rt_sufx_kw_code		16	2	1	ε			46	0	46	4
c	Rt_sufx_kw		17	1	1		# lrk-sufx NS_identifier::TH_identifier		46	47	49	
c	Rcweb_k		23	1	1		cweb-comment NS_cweb_or_c_k::TH_cweb_or_c_k		46	47	50	
c	Rcweb_k		23	2	1		? NULL		46	47	48	
t	Rt_sufx_phrase		15	2	2	Rt_sufx_kw_code			10	51	51	
c	Rt_sufx_kw_code		16	1	1	Rt_sufx_kw	<u>Rt_sufx_code</u>		46	52	57	
t	Rt_sufx_phrase		15	1	2	Rcweb_k	<u>Rlint^ε Rt_sufx_kw_must</u>		10	58	61	
⇒ <i> arbitration-code: ε</i>						State: 47 state type: ^s						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rcweb_k		23	2	2	?			46	48	48	
t	Rt_sufx_kw		17	1	2	#	lrk-sufx		46	49	49	
t	Rcweb_k		23	1	2		cweb-comment		46	50	50	

\Rightarrow ?					State: 48 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rcweb_k	23	2	3				46	0
							48	2
							Red	LA
\Rightarrow #lrk-sufx					State: 49 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_kw	17	1	3				46	0
							49	2
							Red	LA
\Rightarrow cweb-comment					State: 50 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rcweb_k	23	1	3				46	0
							50	2
							Red	LA
\Rightarrow Rt_sufx_kw_code					State: 51 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_phrase	15	2	3				10	0
							51	4
							Red	LA
\Rightarrow Rt_sufx_kw					State: 52 state type: <i>s</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
c Rt_sufx_code	19	3	1	?			52	53
c Rt_sufx_code	19	1	1	syntax-code NS_o2_sdc::TH_o2_sdc			52	54
c Rt_sufx_code	19	2	1	? NULL			52	54
t Rt_sufx_kw_code	16	1	2	Rt_sufx_code			46	57
							57	
							Red	LA
\Rightarrow ?					State: 53 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_code	19	3	2				52	0
							53	4
							Red	LA
\Rightarrow arbitration-code: ϵ					State: 54 state type: <i>s</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_code	19	2	2	?			52	55
t Rt_sufx_code	19	1	2	syntax-code			52	56
							56	
							Red	LA
\Rightarrow ?					State: 55 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_code	19	2	3				52	0
							55	4
							Red	LA
\Rightarrow syntax-code					State: 56 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_code	19	1	3				52	0
							56	4
							Red	LA
\Rightarrow Rt_sufx_code					State: 57 state type: <i>r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
t Rt_sufx_kw_code	16	1	3				46	0
							57	4
							Red	LA
\Rightarrow Rcweb_k					State: 58 state type: <i>s/r</i>			
← rule	→ R#	sr#	Po	←	subrule element	→	Brn	Gto
c Rlint	22	2	1	ϵ			58	0
c Rlint	22	1	1	lint NS_lint_balls::TH_lint_balls			58	2
t Rt_sufx_phrase	15	1	3	Rlint <u>Rt_sufx_kw_must</u>			10	59
							61	
							Red	LA
\Rightarrow Rlint					State: 59 state type: <i>s</i>			

	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c		Rt_sufx_kw_must		18	3	1		?		59	85	85	
c		Rt_sufx_kw_must		18	2	1		? NULL		59	86	87	
c		Rt_sufx_kw_must		18	1	1		# lrk-sufx NS_identifier::TH_identifier		59	86	88	
t		Rt_sufx_phrase		15	1	4		Rt_sufx_kw_must <u>Rt_sufx_code</u>		10	60	61	
⇒ <i>Rt_sufx_kw_must</i>										State: 60 state type: <i>s</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c		Rt_sufx_code		19	3	1		?		60	53	53	
c		Rt_sufx_code		19	1	1		syntax-code NS_o2_sdc::TH_o2_sdc		60	54	56	
c		Rt_sufx_code		19	2	1		? NULL		60	54	55	
t		Rt_sufx_phrase		15	1	5		Rt_sufx_code		10	61	61	
⇒ <i>Rt_sufx_code</i>										State: 61 state type: <i>r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rt_sufx_phrase		15	1	6				10	0	61	4
⇒ ?										State: 62 state type: <i>r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rfilename		6	3	2				18	0	62	2
⇒ <i>arbitration-code: ε</i>										State: 63 state type: <i>s</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rfilename		6	2	2		?		18	64	64	
t		Rfilename		6	1	2		# file-name		18	65	65	
⇒ ?										State: 64 state type: <i>r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rfilename		6	2	3				18	0	64	2
⇒ # <i>file-name</i>										State: 65 state type: <i>r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rfilename		6	1	3				18	0	65	2
⇒ <i>Rfilename</i>										State: 66 state type: <i>s/r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c		Rlint		22	2	1		ε		66	0	66	2
c		Rlint		22	1	1		lint NS_lint_balls::TH_lint_balls		66	2	3	
t		Rfilename_phrase		5	1	2		Rlint <u>Rfilename_id</u>		18	67	72	
⇒ <i>Rlint</i>										State: 67 state type: <i>s</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c		Rfilename_id		7	3	1		?		67	68	68	
c		Rfilename_id		7	1	1		identifier NS_identifier::TH_identifier		67	69	71	
c		Rfilename_id		7	2	1		? NULL		67	69	70	
t		Rfilename_phrase		5	1	3		Rfilename_id		18	72	72	
⇒ ?										State: 68 state type: <i>r</i>			
	←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t		Rfilename_id		7	3	2				67	0	68	12
⇒ <i>arbitration-code: ε</i>										State: 69 state type: <i>s</i>			

← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rfilename_id	7 2 2 ?		67 70 70
t Rfilename_id	7 1 2 identifier		67 71 71
⇒ ?			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rfilename_id	7 2 3		67 0 70 12
⇒ <i>identifier</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rfilename_id	7 1 3		67 0 71 12
⇒ <i>Rfilename_id</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rfilename_phrase	5 1 4		18 0 72 12
⇒ ?			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace	9 3 2		23 0 73 2
⇒ <i>arbitration-code: ε</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace	9 2 2 ?		23 75 75
t Rnamespace	9 1 2 # name-space		23 76 76
⇒ ?			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace	9 2 3		23 0 75 2
⇒ <i>#name-space</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rnamespace	9 1 3		23 0 76 2
⇒ ?			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rsym_def	12 3 2		37 0 77 11
⇒ <i>arbitration-code: ε</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rsym_def	12 2 2 ?		37 79 79
t Rsym_def	12 1 2 terminal-def		37 80 80
⇒ ?			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rsym_def	12 2 3		37 0 79 11
⇒ <i>terminal-def</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA
t Rsym_def	12 1 3		37 0 80 11
⇒ <i>Rsym_def1</i>			
← rule	→ R# sr# Po ←	subrule element	→ Brn Gto Red LA

c Rlint	22	2	1	ϵ		81	0	81	11
c Rlint	22	1	1	lint NS lint_balls::TH lint_balls		81	2	3	
t Rsym_defls	13	2	3	Rlint		39	82	82	
\Rightarrow <i>Rlint</i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 82 state type: <i>r</i>			
t Rsym_defls		13	2	4		subrule element		\rightarrow	Brn Gto Red LA
						39	0	82	11
\Rightarrow <i>Rsym_def1</i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 83 state type: <i>s/r</i>			
c Rlint		22	2	1	ϵ	subrule element		\rightarrow	Brn Gto Red LA
c Rlint		22	1	1	lint NS lint_balls::TH lint_balls		83	0	83 11
t Rsym_defls		13	1	2	Rlint		83	2	3
							39	84	84
\Rightarrow <i>Rlint</i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 84 state type: <i>r</i>			
t Rsym_defls		13	1	3		subrule element		\rightarrow	Brn Gto Red LA
							39	0	84 11
\Rightarrow <i> ? </i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 85 state type: <i>r</i>			
t Rt_sufx_kw_must		18	3	2		subrule element		\rightarrow	Brn Gto Red LA
							59	0	85 2
\Rightarrow <i> arbitration-code: ϵ</i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 86 state type: <i>s</i>			
t Rt_sufx_kw_must		18	2	2	?	subrule element		\rightarrow	Brn Gto Red LA
t Rt_sufx_kw_must		18	1	2	#lrk-sufx		59	87	87
							59	88	88
\Rightarrow <i> ? </i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 87 state type: <i>r</i>			
t Rt_sufx_kw_must		18	2	3		subrule element		\rightarrow	Brn Gto Red LA
							59	0	87 2
\Rightarrow <i>#lrk-sufx</i>									
\leftarrow rule	\rightarrow	R#	sr#	Po	\leftarrow	State: 88 state type: <i>r</i>			
t Rt_sufx_kw_must		18	1	3		subrule element		\rightarrow	Brn Gto Red LA
							59	0	88 2

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lr1_k_phrase_th Grammar

Date: January 2, 2015 at 15:37

File: lr1_k_phrase_th.lex Ns: NS_lr1_k_phrase_th

Version: 1.0

Debug: false

Grammar Comments:

Type: Thread

Parse lr1 k symbols phrase.

1 element(s) in Lookahead Expression below

eolr

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