

1. Copyright.

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2. *o2_linker_opts* grammar.

O2's linker frontend command line parser. The `argv[]` data passed by “`int main(int argc, char* argv[])`” is mapped into raw char tokens and placed into a container for lexical assessment. `c++` comments can be sprinkled thru out the command line. There are no options for the linker just the “fsc” extension file. For example, to process *O2*'s grammars the linker command line is

```
/usr/local/yacco2/bin/o2linker /yacco2/compiler/grammars/yacco2.fsc
```

3. Fsm *Co2_linker_opts* class.**4. *Co2_linker_opts* constructor directive.**

```
<Co2_linker_opts constructor directive 4> ≡
  file_to_compile_.clear();
```

5. *Co2_linker_opts* op directive.

```
<Co2_linker_opts op directive 5> ≡
  parser_--set_use_all_shift_on();
  file_to_compile_.clear();
```

6. *Co2_linker_opts* user-declaration directive.

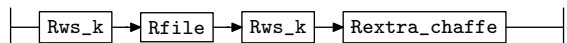
```
<Co2_linker_opts user-declaration directive 6> ≡
public: std::string file_to_compile_;
```

7. *Co2_linker_opts* user-prefix-declaration directive.

```
<Co2_linker_opts user-prefix-declaration directive 7> ≡
#include "ws.h"
#include "eol.h"
#include "c_comments.h"
#include "xc_str.h"
#include "unq_str.h"
```

8. *Ro2_lcl_opts* rule.

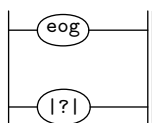
Ro2_lcl_opts

**9. *Ro2_lcl_opts* op directive.**

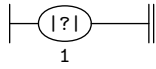
```
<Ro2_lcl_opts op directive 9> ≡
  TOKEN_GAGGLE * err_queue = ( TOKEN_GAGGLE * ) rule_info_.parser_--error_queue();
  if (err_queue->empty()) return;
```

10. *Rextra_chaffe* rule.

Rextra_chaffe



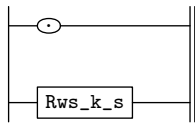
11. *Rextra_chaffe's* subrule 2.



⟨Rextra_chaffe subrule 2 op directive 11⟩ ≡
`rule_info__parser__set_use_all_shift_off();`
`CAbs_lr1_sym * sym = new Err_cmd_line_chaffe();`
`sym->set_rc(*rule_info__parser__current_token(), __FILE__, __LINE__);`
`ADD_TOKEN_TO_ERROR_QUEUE(*sym);`
`rule_info__parser__set_stop_parse(true);`

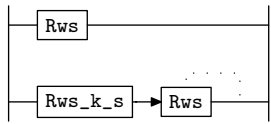
12. *Rws_k* rule.

Rws_k



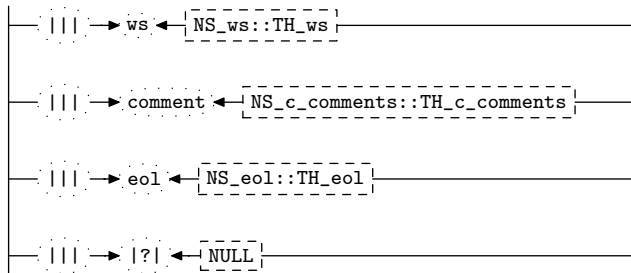
13. *Rws_k_s* rule.

Rws_k_s

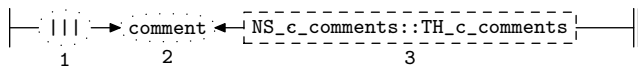


14. *Rws* rule.

Rws

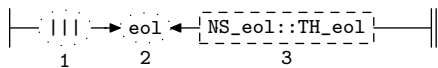


15. *Rws's* subrule 2.



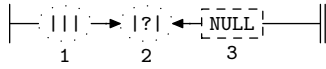
⟨Rws subrule 2 op directive 15⟩ ≡
`sf-p2__set_auto_delete(true);`

16. *Rws's* subrule 3.



⟨Rws subrule 3 op directive 16⟩ ≡
`sf-p2__set_auto_delete(true);`

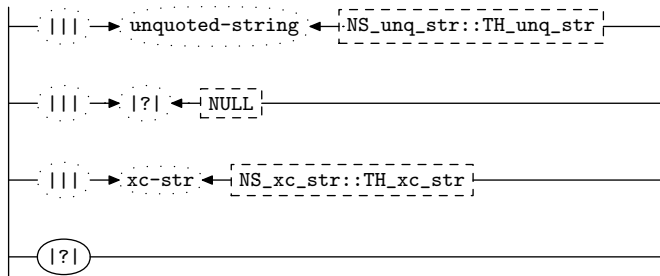
17. Rws's subrule 4.



⟨Rws subrule 4 op directive 17⟩ ≡
rule_info__parser__set_use_all_shift_off();
 ADD_TOKEN_TO_ERROR_QUEUE(*sf→p2__);
rule_info__parser__set_stop_parse(true);

18. Rfile rule.

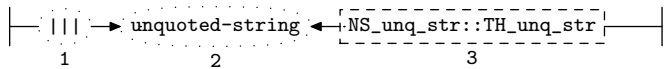
Rfile



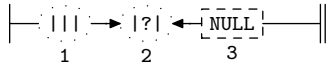
19. Rfile user-declaration directive.

⟨Rfile user-declaration directive 19⟩ ≡
public: void *edit_file*(*CAbs_lr1_sym* * *Sym*) { **using namespace** NS_yacco2_err_symbols;
using namespace NS_yacco2_k_symbols; *Co2_linker_opts* * *fsm* = (*Co2_linker_opts* *)
 rule_info__parser__fsm_tbl__;
 std::ifstream *ifile*;
 ifile.open(*fsm→file_to_compile_c_str*());
 if (*ifile.good*()) {
 ifile.close();
 return;
 }
 CAbs_lr1_sym * *sym* = **new** *Err_bad_filename*(*fsm→file_to_compile_*);
 sym→set_rc(**Sym*, __FILE__, __LINE__);
 ADD_TOKEN_TO_ERROR_QUEUE(**sym*);
 rule_info__parser__set_stop_parse(true); } ;

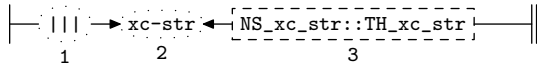
20. Rfile's subrule 1.



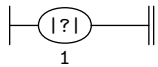
⟨Rfile subrule 1 op directive 20⟩ ≡
T_unquoted_string * *uqstr* = *sf→p2__*; *Co2_linker_opts* * *fsm* = (*Co2_linker_opts* *)
 rule_info__parser__fsm_tbl__;
 fsm→file_to_compile_ += *uqstr→unquoted_string*()→*c_str*();
 edit_file(*uqstr*);
 sf→p2__→set_auto_delete(true);

21. Rfile's subrule 2.

⟨ Rfile subrule 2 op directive 21 ⟩ ≡
rule_info__parser__set_use_all_shift_off ();
 ADD_TOKEN_TO_ERROR_QUEUE(**sf*-*p2*);

22. Rfile's subrule 3.

⟨ Rfile subrule 3 op directive 22 ⟩ ≡
T_xc_str * *xcstr* = *sf*-*p2*; *Co2_linker_opts* * *fsm* = (*Co2_linker_opts* *) *rule_info__parser__fsm_tbl*;
fsm-*file_to_compile* += *xcstr*-*c_string*()-*c_str*();
edit_file(*xcstr*);

23. Rfile's subrule 4.

⟨ Rfile subrule 4 op directive 23 ⟩ ≡
rule_info__parser__set_use_all_shift_off ();
CAbs_lr1_sym * *sym* = **new** *Err_no_filename*();
sym-*set_rc*(**rule_info__parser__current_token*(), __FILE__, __LINE__);
 ADD_TOKEN_TO_ERROR_QUEUE(**sym*);
rule_info__parser__set_stop_parse(*true*);

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

```
/*
  File: o2_linker_opts.fsc
  Date and Time: Fri Jan  2 15:33:46 2015
*/
transitive      y
grammar-name    "o2_linker_opts"
name-space     "NS_o2_linker_opts"
thread-name    "Co2_linker_opts"
monolithic     y
file-name      "o2_linker_opts.fsc"
no-of-T        569
list-of-native-first-set-terminals 1
  LR1_questionable_shift_operator
end-list-of-native-first-set-terminals
list-of-transitive-threads 5
  NS_ws::TH_ws
  NS_c_comments::TH_c_comments
  NS_unq_str::TH_unq_str
  NS_xc_str::TH_xc_str
  NS_eol::TH_eol
end-list-of-transitive-threads
list-of-used-threads 5
  NS_c_comments::TH_c_comments
  NS_eol::TH_eol
  NS_unq_str::TH_unq_str
  NS_ws::TH_ws
  NS_xc_str::TH_xc_str
end-list-of-used-threads
fsm-comments
"\\Olinker's Command line options parser."
```

25. 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	Rws_k		3	1	1	\leftarrow	ϵ	\rightarrow	1 0 1 1
c	Rws		5	2	1		comment NS_c.comments::TH_c.comments	\rightarrow	1 2 5
c	Rws		5	3	1		eol NS_eol::TH_eol	\rightarrow	1 2 4
c	Rws		5	1	1		ws NS_ws::TH_ws	\rightarrow	1 2 6
c	Rws		5	4	1		? NULL	\rightarrow	1 2 3
c	Ro2_lcl_opts		1	1	1	Rws_k	<u>Rfile</u>	\rightarrow	1 7 12
c	Rws_k		3	2	1	Rws_k_s		\rightarrow	1 13 13
c	Rws_k_s		4	2	1	Rws_k_s	<u>Rws</u>	\rightarrow	1 13 14
c	Rws_k_s		4	1	1	Rws		\rightarrow	1 15 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	Rws		5	4	2	?		\rightarrow	1 3 3
t	Rws		5	3	2	eol		\rightarrow	1 4 4
t	Rws		5	2	2	comment		\rightarrow	1 5 5
t	Rws		5	1	2	ws		\rightarrow	1 6 6
\Rightarrow	?						State: 3 state type: r		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
t	Rws		5	4	3			\rightarrow	1 0 3 1
\Rightarrow	eol						State: 4 state type: r		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
t	Rws		5	3	3			\rightarrow	1 0 4 1
\Rightarrow	comment						State: 5 state type: r		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
t	Rws		5	2	3			\rightarrow	1 0 5 1
\Rightarrow	ws						State: 6 state type: r		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
t	Rws		5	1	3			\rightarrow	1 0 6 1
\Rightarrow	Rws_k						State: 7 state type: s		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
c	Rfile		6	4	1	?		\rightarrow	7 16 16
c	Rfile		6	2	1		? NULL	\rightarrow	7 17 18
c	Rfile		6	3	1		xc_str NS_xc_str::TH_xc_str	\rightarrow	7 17 19
c	Rfile		6	1	1		unquoted-string NS_unq_str::TH_unq_str	\rightarrow	7 17 20
t	Ro2_lcl_opts		1	1	2	Rfile	<u>Rws_k^{ϵ} Rextra_chaffe</u>	\rightarrow	1 8 12
\Rightarrow	Rfile						State: 8 state type: s/r		
\leftarrow	rule	\rightarrow	R#	sr#	Po	\leftarrow	subrule element	\rightarrow	Brn Gto Red LA
c	Rws_k		3	1	1	ϵ		\rightarrow	8 0 8 2
c	Rws		5	2	1		comment NS_c.comments::TH_c.comments	\rightarrow	8 2 5
c	Rws		5	3	1		eol NS_eol::TH_eol	\rightarrow	8 2 4
c	Rws		5	1	1		ws NS_ws::TH_ws	\rightarrow	8 2 6
c	Rws		5	4	1		? NULL	\rightarrow	8 2 3

t	Ro2_lcl_opts	1	1	3	Rws_k	<u>Rextra_chaffe</u>	1	9	12			
c	Rws_k	3	2	1	Rws_k_s		8	13	13			
c	Rws_k_s	4	2	1	Rws_k_s	<u>Rws</u>	8	13	14			
c	Rws_k_s	4	1	1	Rws		8	15	15			
\Rightarrow <i>Rws_k</i>						State: 9 state type: <i>s</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Rextra_chaffe		2	2	1	?			9	10	10	
c	Rextra_chaffe		2	1	1	eog			9	11	11	
t	Ro2_lcl_opts		1	1	4	Rextra_chaffe			1	12	12	
\Rightarrow <i> ? </i>						State: 10 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rextra_chaffe		2	2	2				9	0	10	3
\Rightarrow <i>eog</i>						State: 11 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rextra_chaffe		2	1	2				9	0	11	3
\Rightarrow <i>Rextra_chaffe</i>						State: 12 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Ro2_lcl_opts		1	1	5				1	0	12	3
\Rightarrow <i>Rws_k_s</i>						State: 13 state type: <i>s/r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rws_k		3	2	2				1	0	13	1
c	Rws		5	2	1		comment NS_c.comments::TH_c.comments		13	2	5	
c	Rws		5	3	1		eol NS_eol::TH_eol		13	2	4	
c	Rws		5	1	1		ws NS_ws::TH_ws		13	2	6	
c	Rws		5	4	1		? NULL		13	2	3	
t	Rws_k_s		4	2	2	Rws			1	14	14	
\Rightarrow <i>Rws</i>						State: 14 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rws_k_s		4	2	3				1	0	14	1
\Rightarrow <i>Rws</i>						State: 15 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rws_k_s		4	1	2				1	0	15	1
\Rightarrow <i> ? </i>						State: 16 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rfile		6	4	2				7	0	16	1
\Rightarrow <i> arbitration-code: ε</i>						State: 17 state type: <i>s</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rfile		6	2	2	?			7	18	18	
t	Rfile		6	3	2	xc-str			7	19	19	
t	Rfile		6	1	2	unquoted-string			7	20	20	
\Rightarrow <i> ? </i>						State: 18 state type: <i>r</i>						
←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA

t Rfile 6 2 3

7 0 18 1

⇒ *xc-str*

State: 19 state type: *r*
subrule element

← **rule** → R# sr# Po ←
t Rfile 6 3 3

→ Brn Gto Red LA
7 0 19 1

⇒ *unquoted-string*

State: 20 state type: *r*
subrule element

← **rule** → R# sr# Po ←
t Rfile 6 1 3

→ Brn Gto Red LA
7 0 20 1

26. Index.

ϵ : 12.
 ||| : 14, 18.
 |?| : 10, 14, 18.
 __FILE__ : 11, 19, 23.
 __LINE__ : 11, 19, 23.
 ADD_TOKEN_TO_ERROR_QUEUE : 11, 17, 19, 21, 23.
 c_str : 19, 20, 22.
 c_string : 22.
 CAbs_lr1_sym : 11, 19, 23.
 clear : 4, 5.
 close : 19.
 comment : 14.
 Co2_linker_opts : 19, 20, 22.
 current_token : 11, 23.
 edit_file : 19, 20, 22.
 empty : 9.
 eog : 10.
 eol : 14.
 Err_bad_filename : 19.
 Err_cmd_line_chaffe : 11.
 Err_no_filename : 23.
 err_queue : 9.
 error_queue : 9.
 file_to_compile : 4, 5, 6, 19, 20, 22.
 fsm : 19, 20, 22.
 fsm_tbl : 19, 20, 22.
 good : 19.
 ifile : 19.
 ifstream : 19.
 NS_c_comments::TH_c_comments : 14.
 NS_eol::TH_eol : 14.
 NS_unq_str::TH_unq_str : 18.
 NS_ws::TH_ws : 14.
 NS_xc_str::TH_xc_str : 18.
 NS_yacco2_err_symbols : 19.
 NS_yacco2_k_symbols : 19.
 NULL : 14, 18.
 open : 19.
 o2_linker_opts : 2.
 parser : 5, 9, 11, 17, 19, 20, 21, 22, 23.
 p2 : 15, 16, 17, 20, 21, 22.
 Rextra_chaffe : 8.
 Rextra_chaffe : 10, 11.
 Rfile : 18, 20, 21, 22, 23.
 Rfile : 8.
 Ro2_lcl_opts : 8.
 rule_info : 9, 11, 17, 19, 20, 21, 22, 23.
 Rws : 14, 15, 16, 17.
 Rws : 13.
 Rws_k : 8.
 Rws_k_s : 12, 13.
 Rws_k : 12.
 Rws_k_s : 13.
 set_auto_delete : 15, 16, 20.
 set_rc : 11, 19, 23.
 set_stop_parse : 11, 17, 19, 23.
 set_use_all_shift_off : 11, 17, 21, 23.
 set_use_all_shift_on : 5.
 sf : 15, 16, 17, 20, 21, 22.
 std : 6, 19.
 string : 6.
 Sym : 19.
 sym : 11, 19, 23.
 T_unquoted_string : 20.
 T_xc_str : 22.
 TOKEN_GAGGLE : 9.
 true : 11, 15, 16, 17, 19, 20, 23.
 unquoted-string : 18.
 unquoted_string : 20.
 uqstr : 20.
 ws : 14.
 xc-str : 18.
 xcstr : 22.

- ⟨ Co2_linker_opts constructor directive 4 ⟩
- ⟨ Co2_linker_opts op directive 5 ⟩
- ⟨ Co2_linker_opts user-declaration directive 6 ⟩
- ⟨ Co2_linker_opts user-prefix-declaration directive 7 ⟩
- ⟨ Rextra_chaffe subrule 2 op directive 11 ⟩
- ⟨ Rfile subrule 1 op directive 20 ⟩
- ⟨ Rfile subrule 2 op directive 21 ⟩
- ⟨ Rfile subrule 3 op directive 22 ⟩
- ⟨ Rfile subrule 4 op directive 23 ⟩
- ⟨ Rfile user-declaration directive 19 ⟩
- ⟨ Ro2_lcl_opts op directive 9 ⟩
- ⟨ Rws subrule 2 op directive 15 ⟩
- ⟨ Rws subrule 3 op directive 16 ⟩
- ⟨ Rws subrule 4 op directive 17 ⟩

o2_linker_opts Grammar

Date: January 2, 2015 at 15:37

File: o2_linker_opts.lex

Ns: NS_o2_linker_opts

Version: 1.0

Debug: false

Grammar Comments:

Type: Monolithic

O_2^{linker} 's Command line options parser.

	Section	Page
Copyright	1	1
<i>o2_linker_opts</i> grammar	2	2
Fsm Co2_linker_opts class	3	2
Co2_linker_opts constructor directive	4	2
Co2_linker_opts op directive	5	2
Co2_linker_opts user-declaration directive	6	2
Co2_linker_opts user-prefix-declaration directive	7	2
<i>Ro2_lcl_opts</i> rule	8	2
Ro2_lcl_opts op directive	9	2
<i>Rextra_chaffe</i> rule	10	2
<i>Rextra_chaffe</i> 's subrule 2	11	3
<i>Rws_k</i> rule	12	3
<i>Rws_k_s</i> rule	13	3
<i>Rws</i> rule	14	3
<i>Rws</i> 's subrule 2	15	3
<i>Rws</i> 's subrule 3	16	3
<i>Rws</i> 's subrule 4	17	4
<i>Rfile</i> rule	18	4
Rfile user-declaration directive	19	4
<i>Rfile</i> 's subrule 1	20	4
<i>Rfile</i> 's subrule 2	21	5
<i>Rfile</i> 's subrule 3	22	5
<i>Rfile</i> 's subrule 4	23	5
First Set Language for O_2^{linker}	24	6
Lr1 State Network	25	7
Index	26	10