

**1. Copyright.**

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**2. *linker\_preamble\_code* thread.**

Extract linker's preamble code.

**3. Fsm *Clinker\_preamble\_code* class.****4. *Clinker\_preamble\_code* constructor directive.**

⟨*Clinker\_preamble\_code* constructor directive 4⟩ ≡  
*empty\_sdc\_ = true;*  
*chrs\_.clear();*

**5. *Clinker\_preamble\_code* op directive.**

⟨*Clinker\_preamble\_code* op directive 5⟩ ≡  
*parser\_--set\_use\_all\_shift\_on();*  
*empty\_sdc\_ = true;*  
*chrs\_.clear();*  
*CAbs\_lr1\_sym \* sym = parser\_--start\_token\_--;*  
**switch** (*sym-enumerated\_id\_--*) {  
**case** *T\_Enum::T\_LR1\_eog\_:* **break;**  
**default:** **return;**  
**}**  
*parser\_--set\_use\_all\_shift\_off();*

**6. *Clinker\_preamble\_code* user-declaration directive.**

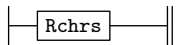
⟨*Clinker\_preamble\_code* user-declaration directive 6⟩ ≡  
**public:** *std::string chrs\_;*  
**bool** *empty\_sdc\_;*

**7. *Clinker\_preamble\_code* user-prefix-declaration directive.**

⟨*Clinker\_preamble\_code* user-prefix-declaration directive 7⟩ ≡  
**#include** "string.h"  
**#include** "c\_comments.h"  
**#include** "c\_string.h"  
**#include** "c\_literal.h"  
**#include** "linker\_id.h"

**8. *Rlinker\_preamble\_code* rule.**

*Rlinker\_preamble\_code*



**9. Rlinker\_preamble\_code op directive.**

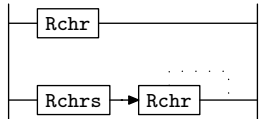
```

⟨Rlinker_preamble_code op directive 9⟩ ≡
  Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info_.parser_--fsm_tbl_;
  CAbs_lr1_sym * sym(0);
  if (fsm→empty_sdc_ ≡ true) {
    sym = new Err_preamble_srce_code_not_present;
    sym→set_rc(*rule_info_.parser_--start_token_, __FILE__, __LINE__);
    RSVP(sym);
    rule_info_.parser_--set_stop_parse(true);
    return;
  }
  sym = new T_syntax_code(fsm→chrs_.c_str());
  sym→set_rc(*rule_info_.parser_--start_token_, __FILE__, __LINE__);
  RSVP(sym);

```

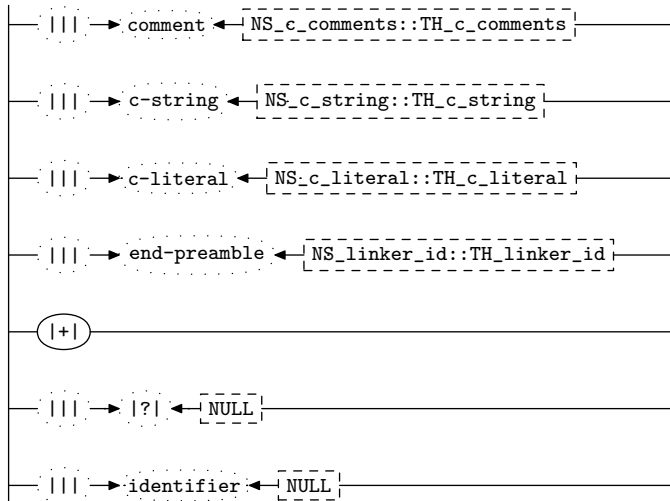
**10. Rchrs rule.**

Rchrs



**11. Rchr rule.**

Rchr



**12. Rchr op directive.**

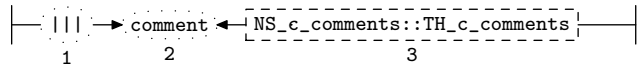
```

⟨Rchr op directive 12⟩ ≡
  if (rule_info_.parser_→stop_parse_ ≡ true) return;
  if (rule_info_.parser_→use_all_shift_ ≡ false) return; /* end-preamble seen */
  CAbs_lr1_sym * la_sym = rule_info_.parser_→current_token();

  using namespace NS_yacco2_T_enum;
  using namespace NS_yacco2_terminals; /* watch for overrun */

  if (la_sym→enumerated_id_ ≡ T_Enum::T_LR1_eog_) {
    CAbs_lr1_sym * sym = new Err_end_preamble_kv_not_present;
    sym→set_rc(*la_sym, __FILE__, __LINE__);
    RSVP(sym);
    rule_info_.parser_→set_stop_parse(true);
  }

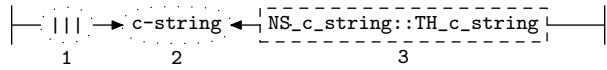
```

**13. Rchr's subrule 1.**

```

⟨Rchr subrule 1 op directive 13⟩ ≡
  Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info_.parser_→fsm_tbl_;
  T_comment * k = sf→p2_;
  k→set_auto_delete(true); /* delete it when it pops from stack */
  fsm→chrs_ += k→comment_data()→c_str();

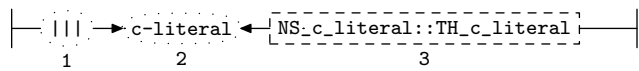
```

**14. Rchr's subrule 2.**

```

⟨Rchr subrule 2 op directive 14⟩ ≡
  Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info_.parser_→fsm_tbl_;
  T_c_string * k = sf→p2_;
  k→set_auto_delete(true); /* delete it when it pops from stack */
  /* add back the bounding double quotes */
  fsm→chrs_ += '"';
  fsm→chrs_ += k→c_string()→c_str();
  fsm→chrs_ += '"';
  fsm→empty_sdc_ = false;

```

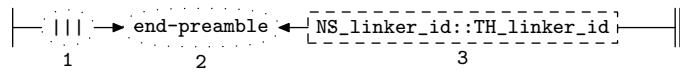
**15. Rchr's subrule 3.**

```

⟨Rchr subrule 3 op directive 15⟩ ≡
  Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info_.parser_→fsm_tbl_;
  T_c_literal * k = sf→p2_;
  k→set_auto_delete(true); /* delete it when it pops from stack */
  /* add back the bounding single quotes */
  fsm→chrs_ += "'";
  fsm→chrs_ += k→c_literal()→c_str();
  fsm→chrs_ += "'";
  fsm→empty_sdc_ = false;

```

## 16. Rchr's subrule 4.



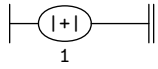
⟨Rchr subrule 4 op directive 16⟩ ≡

```

Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info_.parser_--fsm_tbl_--;
rule_info_.parser_--set_use_all_shift_off ();
if ( fsm→empty_sdc_ ≡ true ) {
    CAbs_lr1_sym * sym = new Err_preamble_srce_code_not_present;
    sym→set_rc (*rule_info_.parser_--start_token_--, __FILE_--, __LINE_--);
    RSVP (sym);
    rule_info_.parser_--set_stop_parse (true);
    return;
}

```

## 17. Rchr's subrule 5.

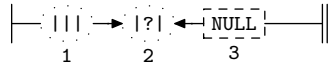


⟨Rchr subrule 5 op directive 17⟩ ≡

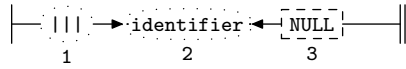
```

Clinker_preamble_code * fsm = ( Clinker_preamble_code * ) rule_info...parser...fsm_tbl...;
CAbs_lr1_sym * k = sf-p1...;
switch (k-enumerated_id...) {
case T_Enum::T_T_eol_:
{
fsm-chrs_ += "\n";
break;
}
case T_Enum::T_raw_sp_:
{
fsm-chrs_ += " ";
break;
}
case T_Enum::T_raw_ff_:
{
fsm-chrs_ += "\f";
break;
}
case T_Enum::T_raw_vt_:
{
fsm-chrs_ += "\v";
break;
}
case T_Enum::T_raw_ht_:
{
fsm-chrs_ += "\t";
break;
}
case T_Enum::T_raw_cr_:
{
fsm-chrs_ += "\n";
break;
}
case T_Enum::T_raw_lf_:
{
fsm-chrs_ += "\n";
break;
}
default:
{
fsm-chrs_ += *k-id...;
fsm-empty_sdc_ = false;
break;
}
}

```

**18. Rchr's subrule 6.**

⟨ Rchr subrule 6 op directive 18 ⟩ ≡  
 RSVP(*sf-p2*);  
*rule\_info*→*parser*→*set\_stop\_parse*(*true*);

**19. Rchr's subrule 7.**

⟨ Rchr subrule 7 op directive 19 ⟩ ≡  
*Clinker\_preamble\_code* \* *fsm* = ( *Clinker\_preamble\_code* \* ) *rule\_info*→*parser*→*fsm\_tbl*;  
*T\_identifier* \* *k* = *sf-p2*;  
*k*→*set\_auto\_delete*(*true*); /\* delete it when it pops from stack \*/  
*fsm*→*chrs* += *k*→*identifier*()→*c\_str*();

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

```
/*
  File: linker_preamble_code.fsc
  Date and Time: Fri Jan  2 15:33:42 2015
*/
transitive      y
grammar-name    "linker_preamble_code"
name-space     "NS_linker_preamble_code"
thread-name    "TH_linker_preamble_code"
monolithic     n
file-name      "linker_preamble_code.fsc"
no-of-T        569
list-of-native-first-set-terminals 1
  LR1_all_shift_operator
end-list-of-native-first-set-terminals
list-of-transitive-threads 4
  NS_c_literal::TH_c_literal
  NS_c_comments::TH_c_comments
  NS_linker_id::TH_linker_id
  NS_c_string::TH_c_string
end-list-of-transitive-threads
list-of-used-threads 4
  NS_c_comments::TH_c_comments
  NS_c_literal::TH_c_literal
  NS_c_string::TH_c_string
  NS_linker_id::TH_linker_id
end-list-of-used-threads
fsm-comments
"\\olinker's lexer of preamble code section:\n similar to Pass3 lexer."
```



## 21. Lr1 State Network.

$\Rightarrow$						State: 1 state type: $s$			
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
c	Rchr		3	3	1		c-literal NS_c.literal::TH_c.literal		1 2 5
c	Rchr		3	7	1		identifier NULL		1 2 7
c	Rchr		3	1	1		comment NS_c.comments::TH_c.comments		1 2 4
c	Rchr		3	2	1		c-string NS_c.string::TH_c.string		1 2 6
c	Rchr		3	4	1		end-preamble NS_linker.id::TH_linker.id		1 2 8
c	Rchr		3	6	1		?  NULL		1 2 3
c	Rchr		3	5	1	+			1 9 9
c	Rchrs		2	2	1	Rchrs	<u>Rchr</u>		1 10 11
c	Rlinker_preamble_code		1	1	1	Rchrs			1 10 10
c	Rchrs		2	1	1	Rchr			1 12 12
$\Rightarrow$	<i>arbitration-code</i> : $\epsilon$						State: 2 state type: $s$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	6	2	?			1 3 3
t	Rchr		3	1	2	comment			1 4 4
t	Rchr		3	3	2	c-literal			1 5 5
t	Rchr		3	2	2	c-string			1 6 6
t	Rchr		3	7	2	identifier			1 7 7
t	Rchr		3	4	2	end-preamble			1 8 8
$\Rightarrow$	?						State: 3 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	6	3				1 0 3 1
$\Rightarrow$	<i>comment</i>						State: 4 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	1	3				1 0 4 1
$\Rightarrow$	<i>c-literal</i>						State: 5 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	3	3				1 0 5 1
$\Rightarrow$	<i>c-string</i>						State: 6 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	2	3				1 0 6 1
$\Rightarrow$	<i>identifier</i>						State: 7 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	7	3				1 0 7 1
$\Rightarrow$	<i>end-preamble</i>						State: 8 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	4	3				1 0 8 1
$\Rightarrow$	+						State: 9 state type: $r$		
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn Gto Red LA</b>
t	Rchr		3	5	2				1 0 9 1

$\Rightarrow R_{chrs}$				State: 10 state type: $s/r$								
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn</b>	<b>Gto</b>	<b>Red</b>	<b>LA</b>
t	Rlinker_preamble_code		1	1	2				1	0	10	1
c	Rchr		3	3	1		c-literal NS_c.literal::TH_c.literal		10	2	5	
c	Rchr		3	7	1		identifier NULL		10	2	7	
c	Rchr		3	1	1		comment NS_c.comments::TH_c.comments		10	2	4	
c	Rchr		3	2	1		c-string NS_c.string::TH_c.string		10	2	6	
c	Rchr		3	4	1		end-preamble NS_linker_id::TH_linker_id		10	2	8	
c	Rchr		3	6	1		?  NULL		10	2	3	
c	Rchr		3	5	1	+			10	9	9	
t	Rchrs		2	2	2		Rchr		1	11	11	
$\Rightarrow R_{chr}$				State: 11 state type: $r$								
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn</b>	<b>Gto</b>	<b>Red</b>	<b>LA</b>
t	Rchrs		2	2	3				1	0	11	1
$\Rightarrow R_{chr}$				State: 12 state type: $r$								
$\leftarrow$	<b>rule</b>	$\rightarrow$	<b>R#</b>	<b>sr#</b>	<b>Po</b>	$\leftarrow$	<b>subrule element</b>	$\rightarrow$	<b>Brn</b>	<b>Gto</b>	<b>Red</b>	<b>LA</b>
t	Rchrs		2	1	2				1	0	12	1

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 |?|: 11.  
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# linker\_preamble\_code Grammar

Date: January 2, 2015 at 15:36

File: linker\_preamble\_code.lex Ns: NS\_linker\_preamble\_code

Version: 1.0

Debug: false

Grammar Comments:

Type: Thread

$O_2^{linker}$ 's lexer of preamble code section: similar to Pass3 lexer.

1 element(s) in Lookahead Expression below

eolr

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Clinker_preamble_code op directive .....	<a href="#">5</a>	2
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