

**1. Copyright.**

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## 2. Eol Thread.

This thread's claim-to-fame is its end-of-line matching for Unix, Mac, or Windows variants. See *Rdelimiters* rule for the variant in end-of-line recognition. The other thing of interest is its use of the meta terminal `|.|`. Without it in the subrule, the traditional way is to subtract “x0a” from *eolr* representing “all terminals” in the Terminal alphabet within the lookahead expression of “parallel-thread-function” to prevent a shift / reduce conflict due to the “xod” common prefix subrules. This works but is very inefficient in the size of the lookahead set generated caused by the number of terminals in the Terminal alphabet. The `|.|` approach adds a shift in the subrule but only “eolr” in its reduce set whereas the traditional way has to binary search thru the lookahead set of approximately .5k terminals to see if the current token is a member. Under current set implementation, this is expensive as the partition number is binary searched first followed by the element within the 8 member set.

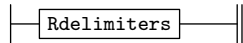
How does `|.|` work? Being a meta-terminal, it is not part of the token stream. It is one of the parsing conditionals tested for by its presence within the finite automaton's current state. `|+|` is another such meta terminal example.

Use a global pointer to it as it is just an indicator. The new / delete cycle is too expensive.

## 3. Fsm Ceol class.

## 4. Reol rule.

Reol



Return the *eol* token back to the caller.

⟨ Reol subrule 1 op directive 4 ⟩ ≡

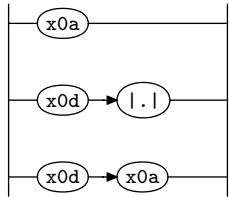
```
CAbs_lr1_sym * sym = NS_yacco2_terminals::PTR_eol_;
sym->set_rc(*rule_info_.parser->start_token_, __FILE__, __LINE__);
RSVP(sym);
```

**5. Rdelimiters rule.**

**6. Rdelimiters rule.**

The comments indicate the associated end-of-line variants. The Mac subrule shows the use of the |.| to escape from a shift / reduce conflict due to the common prefix “x0d”. As it is not in the token stream, it is a very effective way to deal with this type of conflict.

Rdelimiters



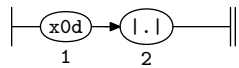
**7. Rdelimiters’s subrule 1.**

lf: Unix



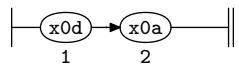
**8. Rdelimiters’s subrule 2.**

cr: Mac. Note use of the |.| to remove the shift / reduce conflict. This is caused by the general lookahead boundary of *eolr*.



**9. Rdelimiters’s subrule 3.**

cr:lf Windows



10. First Set Language for  $O_2^{linker}$ .

```
/*
  File: eol.fsc
  Date and Time: Fri Jan  2 15:33:33 2015
*/
transitive      n
grammar-name    "eol"
name-space      "NS_eol"
thread-name     "TH_eol"
monolithic      n
file-name       "eol.fsc"
no-of-T         569
list-of-native-first-set-terminals 2
  raw_lf
  raw_cr
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
"end-of-line recognizer --- Unix, Mac, and Microsoft supported styles."
```

11. Lr1 State Network.

⇒					State: 1 state type: <i>s</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
c	Rdelimiters		2 1 1	x0a			1 2 2
c	Rdelimiters		2 2 1	x0d			1 3 4
c	Rdelimiters		2 3 1	x0d			1 3 5
c	Reol		1 1 1	Rdelimiters			1 6 6
⇒ <i>x0a</i>					State: 2 state type: <i>r</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
t	Rdelimiters		2 1 2				1 0 2 1
⇒ <i>x0d</i>					State: 3 state type: <i>s</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
t	Rdelimiters		2 2 2	.			1 4 4
t	Rdelimiters		2 3 2	x0a			1 5 5
⇒ .					State: 4 state type: <i>r</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
t	Rdelimiters		2 2 3				1 0 4 1
⇒ <i>x0a</i>					State: 5 state type: <i>r</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
t	Rdelimiters		2 3 3				1 0 5 1
⇒ <i>Rdelimiters</i>					State: 6 state type: <i>r</i>		
←	<b>rule</b>	→	<b>R# sr# Po</b>	←	<b>subrule element</b>	→	<b>Brn Gto Red LA</b>
t	Reol		1 1 2				1 0 6 1

**12. Index.**

|.|: 6.

\_\_FILE\_\_: 4.

\_\_LINE\_\_: 4.

*CAbs\_lr1\_sym*: 4.

*eol*: 4.

*eobr*: 2, 8.

*NS\_yacco2\_terminals*: 4.

*parser\_*: 4.

*PTR\_eol\_*: 4.

*Rdelimiters*: 4.

*Rdelimiters*: 2, 5, 6, 7, 8, 9.

*Reol*: 4.

*RSVP*: 4.

*rule\_info\_*: 4.

*set\_rc*: 4.

*start\_token\_*: 4.

*sym*: 4.

⟨ Reol subrule 1 op directive 4 ⟩

# eol Grammar

Date: January 2, 2015 at 15:35

File: eol.lex

Ns: NS\_eol

Version: 1.0

Debug: false

Grammar Comments:

Type: Thread

end-of-line recognizer — Unix, Mac, and Microsoft supported styles.

1 element(s) in Lookahead Expression below

eolr

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