1. Copyright.

2. *enumerate_grammar* **grammar.**
Enumerate a grammar's components. Each component: "rule-def", "subrule-def", "refered-rule", "refered-T" and "eosubrule" contains a string that receives its enumerate literal. This reference will be used throughout the outputed document giving a GPS to the reader.

3. Fsm Cenumerate_grammar class.

4. Cenumerate_grammar op directive.

⟨ Cenumerate_grammar op directive 4 ⟩ ≡
```
rule_no_ = 0;
subrule_no_ = 0;
elem_no_ = 0;
enum_subrule_no_ = 0;
```

5. Cenumerate_grammar user-declaration directive.

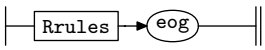
⟨ Cenumerate_grammar user-declaration directive 5 ⟩ ≡
```
public: int rule_no_;
  int subrule_no_;
  int enum_subrule_no_;
  int elem_no_;
```

6. Cenumerate_grammar user-prefix-declaration directive.

⟨ Cenumerate_grammar user-prefix-declaration directive 6 ⟩ ≡
```
#include "o2_externs.h"
```

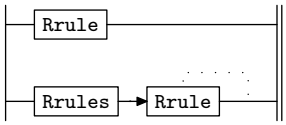
7. *Rfirst_set_rules* **rule.**

```
Rfirst_set_rules
```



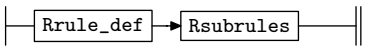
8. *Rrules* **rule.**

```
Rrules
```



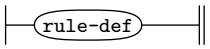
9. *Rrule* **rule.**

```
Rrule
```



10. *Rrule_def* **rule.**

Rrule_def

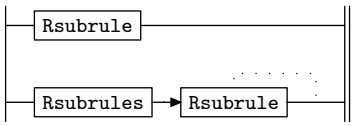


⟨ Rrule_def subrule 1 op directive 10 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__->fsm_tbl__;
fsm->subrule_no_ = 0;
fsm->elem_no_ = 0;
++fsm->rule_no_;
char buf[128];
KCHARP rule_no = "%i";
sprintf(buf, rule_no, fsm->rule_no_);
sf->p1__->grammar_s_enumerate(buf);
```

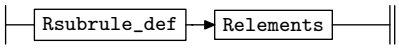
11. *Rsubrules* **rule.**

Rsubrules



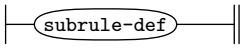
12. *Rsubrule* **rule.**

Rsubrule



13. *Rsubrule_def* **rule.**

Rsubrule_def

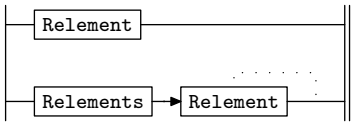


⟨ Rsubrule_def subrule 1 op directive 13 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__->fsm_tbl__;
++fsm->subrule_no_;
++fsm->enum_subrule_no_;
sf->p1__->its_grammar_s_pos(fsm->enum_subrule_no_);
fsm->elem_no_ = 0;
char buf[128];
KCHARP subrule_no = "%i.%i";
sprintf(buf, subrule_no, fsm->rule_no_, fsm->subrule_no_);
sf->p1__->grammar_s_enumerate(buf);
```

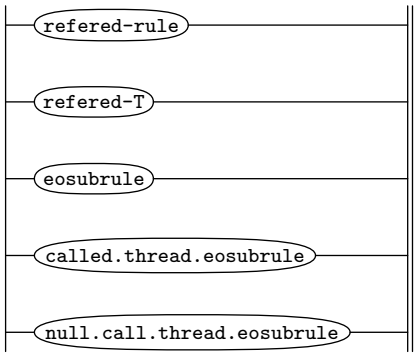
14. *Relements* **rule.**

Relements

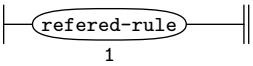


15. *Relement* **rule.**

Relement



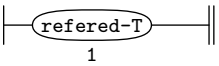
16. *Relement*'**s subrule 1.**



⟨ Relement subrule 1 op directive 16 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__→fsm_tbl__;
++fsm→elem_no_;
char buf[128];
KCHARP elem_no = "%i.%i.%i";
sprintf(buf, elem_no, fsm→rule_no_, fsm→subrule_no_, fsm→elem_no_);
sf→p1__→grammar_s_enumerate(buf);
sf→p1__→element_pos(fsm→elem_no_);
```

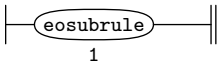
17. *Relement*'**s subrule 2.**



⟨ Relement subrule 2 op directive 17 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__→fsm_tbl__;
++fsm→elem_no_;
char buf[128];
KCHARP elem_no = "%i.%i.%i";
sprintf(buf, elem_no, fsm→rule_no_, fsm→subrule_no_, fsm→elem_no_);
sf→p1__→grammar_s_enumerate(buf);
sf→p1__→element_pos(fsm→elem_no_);
```

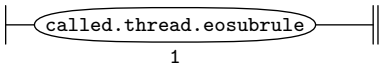
18. *Relement*'s subrule 3.



⟨ Relement subrule 3 op directive 18 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__->fsm_tbl__;
++fsm->elem_no_;
char buf[128];
KCHARP elem_no = "%i.%i.%i";
sprintf(buf, elem_no, fsm->rule_no_, fsm->subrule_no_, fsm->elem_no_);
sf->p1__->grammar_s_enumerate(buf);
sf->p1__->element_pos(fsm->elem_no_);
```

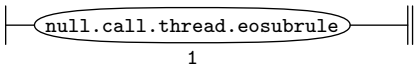
19. *Relement*'s subrule 4.



⟨ Relement subrule 4 op directive 19 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__->fsm_tbl__;
++fsm->elem_no_;
char buf[128];
KCHARP elem_no = "%i.%i.%i";
sprintf(buf, elem_no, fsm->rule_no_, fsm->subrule_no_, fsm->elem_no_);
sf->p1__->grammar_s_enumerate(buf);
sf->p1__->element_pos(fsm->elem_no_);
```

20. *Relement*'s subrule 5.



⟨ Relement subrule 5 op directive 20 ⟩ ≡

```
Cenumerate_grammar * fsm = ( Cenumerate_grammar * ) rule_info__.parser__->fsm_tbl__;
++fsm->elem_no_;
char buf[128];
KCHARP elem_no = "%i.%i.%i";
sprintf(buf, elem_no, fsm->rule_no_, fsm->subrule_no_, fsm->elem_no_);
sf->p1__->grammar_s_enumerate(buf);
sf->p1__->element_pos(fsm->elem_no_);
```

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

```
/*
 File: enumerate_grammar.fsc
 Date and Time: Fri Jan  2 15:33:32 2015
*/
transitive   n
grammar-name "enumerate_grammar"
name-space   "NS_enumerate_grammar"
thread-name  "Cenumerate_grammar"
monolithic   y
file-name    "enumerate_grammar.fsc"
no-of-T      569
list-of-native-first-set-terminals 1
   rule_def
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
"Dump aid: Enumerate grammar's components"
```

22. Lr1 State Network.

⇒ State: 1 state type: ^{s}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Rrule_def		4	1	1	rule-def			1	2	2	
c	Rrules		2	2	1	Rrules *Rrule*			1	3	5	
c	Rfirst_set_rules		1	1	1	Rrules *eog*			1	3	4	
c	Rrules		2	1	1	Rrule			1	20	20	
c	Rrule		3	1	1	Rrule_def *Rsubrules*			1	6	8	

$\Rightarrow^{rule-def}$ State: 2 state type: ^{r}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rrule_def		4	1	2				1	0	2	1

$\Rightarrow^{Rrules}$ State: 3 state type: ^{s}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rfirst_set_rules		1	1	2	eog			1	4	4	
c	Rrule_def		4	1	1	rule-def			3	2	2	
t	Rrules		2	2	2	Rrule			1	5	5	
c	Rrule		3	1	1	Rrule_def *Rsubrules*			3	6	8	

$\Rightarrow^{eog}$ State: 4 state type: ^{r}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rfirst_set_rules		1	1	3				1	0	4	2

$\Rightarrow^{Rrule}$ State: 5 state type: ^{r}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rrules		2	2	3				1	0	5	3

$\Rightarrow^{Rrule\_def}$ State: 6 state type: ^{s}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Rsubrule_def		7	1	1	subrule-def			6	7	7	
t	Rrule		3	1	2	Rsubrules			3	8	8	
c	Rsubrules		5	2	1	Rsubrules *Rsubrule*			6	8	9	
c	Rsubrules		5	1	1	Rsubrule			6	19	19	
c	Rsubrule		6	1	1	Rsubrule_def *Relements*			6	10	16	

$\Rightarrow^{subrule-def}$ State: 7 state type: ^{r}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsubrule_def		7	1	2				6	0	7	4

$\Rightarrow^{Rsubrules}$ State: 8 state type: $^{s/r}$

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rrule		3	1	3				3	0	8	3
c	Rsubrule_def		7	1	1	subrule-def			8	7	7	
t	Rsubrules		5	2	2	Rsubrule			6	9	9	
c	Rsubrule		6	1	1	Rsubrule_def *Relements*			8	10	16	

$\Rightarrow^{Rsubrule}$ State: 9 state type: ^{r}

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsubrules		5	2	3				6	0	9	5

⇒*Rsubrule_def* State: 10 state type: *s*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
c	Relement		9	2	1		refered-T		10	11	11	
c	Relement		9	1	1		refered-rule		10	12	12	
c	Relement		9	3	1		eosubrule		10	13	13	
c	Relement		9	4	1		called thread eosubrule		10	14	14	
c	Relement		9	5	1		null call thread eosubrule		10	15	15	
t	Rsubrule		6	1	2		Relements		8	16	16	
c	Relements		8	2	1		Relements *Relement*		10	16	17	
c	Relements		8	1	1		Relement		10	18	18	

⇒*refered−T* State: 11 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relement		9	2	2				10	0	11	6

⇒*refered−rule* State: 12 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relement		9	1	2				10	0	12	6

⇒*eosubrule* State: 13 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relement		9	3	2				10	0	13	6

⇒*calledthreadeosubrule* State: 14 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relement		9	4	2				10	0	14	6

⇒*nullcallthreadeosubrule* State: 15 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relement		9	5	2				10	0	15	6

⇒*Relements* State: 16 state type: *s/r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Rsubrule		6	1	3				8	0	16	5
c	Relement		9	2	1		refered-T		16	11	11	
c	Relement		9	1	1		refered-rule		16	12	12	
c	Relement		9	3	1		eosubrule		16	13	13	
c	Relement		9	4	1		called thread eosubrule		16	14	14	
c	Relement		9	5	1		null call thread eosubrule		16	15	15	
t	Relements		8	2	2		Relement		10	17	17	

⇒*Relement* State: 17 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relements		8	2	3				10	0	17	6

⇒*Relement* State: 18 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA
t	Relements		8	1	2				10	0	18	6

⇒*Rsubrule* State: 19 state type: *r*

←	rule	→	R#	sr#	Po	←	subrule element	→	Brn	Gto	Red	LA

t Rsubrules	5	1	2			6	0	19	5

$\Rightarrow^{Rrule}$

State: 20 state type: ^{r}

← rule →	R#	sr#	Po	← subrule element →	Brn	Gto	Red	LA
t Rrules	2	1	2		1	0	20	3

23. Index.

enumerate_grammar Grammar

Date: January 2, 2015 at 15:35

File: enumerate_grammar.lex

Ns: NS_enumerate_grammar

Version: 1.0 Debug: false

Grammar Comments: Type: Monolithic

Dump aid: Enumerate grammar's components