

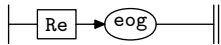
1. Kristensen and Madsen Grammar.

Bent Bruun Kristensen and Ole Lehrmann Madsen
 Correspondence ACM Sigplan Notices, 19(8), August 1984.
 Test out LALR(1) resolution.

2. Fsm Ckm_1 class.

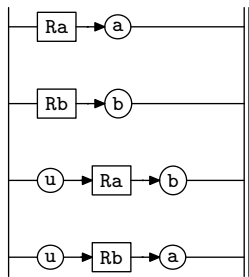
3. *Rs* rule.

Rs



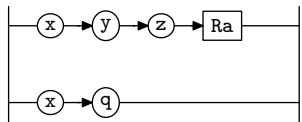
4. *Re* rule.

Re



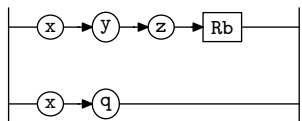
5. *Ra* rule.

Ra



6. *Rb* rule.

Rb



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

```
/*
  File: km_1.fsc
  Date and Time: Fri Jan  2 09:49:26 2015
*/
transitive      n
grammar-name    "km_1"
name-space      "NS_km_1"
thread-name     "Ckm_1"
monolithic      y
file-name       "km_1.fsc"
no-of-T         569
list-of-native-first-set-terminals 2
  raw_u
  raw_x
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
"Test out LALR(1) resolution."
```

8. Lr1 State Network.

| | | | | | | | | | |
|--------------------|------|---------------|----|-----|----|--------------------------|----------------------------|---------------|----------------|
| \Rightarrow | | | | | | State: 1 state type: s | | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| c | Re | | 2 | 4 | 1 | u | | | 1 2 6 |
| c | Re | | 2 | 3 | 1 | u | | | 1 2 4 |
| c | Rb | | 4 | 1 | 1 | x | | | 1 7 12 |
| c | Rb | | 4 | 2 | 1 | x | | | 1 7 8 |
| c | Ra | | 3 | 1 | 1 | x | | | 1 7 11 |
| c | Ra | | 3 | 2 | 1 | x | | | 1 7 8 |
| c | Rs | | 1 | 1 | 1 | Re <u>eog</u> | | | 1 13 14 |
| c | Re | | 2 | 1 | 1 | Ra <u>a</u> | | | 1 15 16 |
| c | Re | | 2 | 2 | 1 | Rb <u>b</u> | | | 1 17 18 |
| \Rightarrow^u | | | | | | | State: 2 state type: s | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| c | Rb | | 4 | 1 | 1 | x | | | 2 19 24 |
| c | Rb | | 4 | 2 | 1 | x | | | 2 19 20 |
| c | Ra | | 3 | 1 | 1 | x | | | 2 19 23 |
| c | Ra | | 3 | 2 | 1 | x | | | 2 19 20 |
| t | Re | | 2 | 3 | 2 | Ra <u>b</u> | | | 1 3 4 |
| t | Re | | 2 | 4 | 2 | Rb <u>a</u> | | | 1 5 6 |
| \Rightarrow^{Ra} | | | | | | | State: 3 state type: s | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Re | | 2 | 3 | 3 | b | | | 1 4 4 |
| \Rightarrow^b | | | | | | | State: 4 state type: r | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Re | | 2 | 3 | 4 | | | | 1 0 4 1 |
| \Rightarrow^{Rb} | | | | | | | State: 5 state type: s | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Re | | 2 | 4 | 3 | a | | | 1 6 6 |
| \Rightarrow^a | | | | | | | State: 6 state type: r | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Re | | 2 | 4 | 4 | | | | 1 0 6 1 |
| \Rightarrow^x | | | | | | | State: 7 state type: s | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Rb | | 4 | 2 | 2 | q | | | 1 8 8 |
| t | Ra | | 3 | 2 | 2 | q | | | 1 8 8 |
| t | Rb | | 4 | 1 | 2 | y | | | 1 9 12 |
| t | Ra | | 3 | 1 | 2 | y | | | 1 9 11 |
| \Rightarrow^q | | | | | | | State: 8 state type: r^2 | | |
| \leftarrow | rule | \rightarrow | R# | sr# | Po | \leftarrow | subrule element | \rightarrow | Brn Gto Red LA |
| t | Rb | | 4 | 2 | 3 | | | | 1 0 8 2 |
| t | Ra | | 3 | 2 | 3 | | | | 1 0 8 3 |
| \Rightarrow^y | | | | | | | State: 9 state type: s | | |

| | | | | | | | | | | | | |
|------------------|------|---|----|-----|----|-----|---|---|-----|-----|-----|----|
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 1 | 3 | z | | | 1 | 10 | 12 | |
| t | Ra | | 3 | 1 | 3 | z | | | 1 | 10 | 11 | |
| ⇒ ^z | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 10 state type: ^s subrule element | → | Brn | Gto | Red | LA |
| c | Rb | | 4 | 1 | 1 | x | | | 10 | 7 | 12 | |
| c | Rb | | 4 | 2 | 1 | x | | | 10 | 7 | 8 | |
| c | Ra | | 3 | 1 | 1 | x | | | 10 | 7 | 11 | |
| c | Ra | | 3 | 2 | 1 | x | | | 10 | 7 | 8 | |
| t | Ra | | 3 | 1 | 4 | Ra | | | 1 | 11 | 11 | |
| t | Rb | | 4 | 1 | 4 | Rb | | | 1 | 12 | 12 | |
| ⇒ ^{Ra} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 11 state type: ^r subrule element | → | Brn | Gto | Red | LA |
| t | Ra | | 3 | 1 | 5 | | | | 1 | 0 | 11 | 3 |
| ⇒ ^{Rb} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 12 state type: ^r subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 1 | 5 | | | | 1 | 0 | 12 | 2 |
| ⇒ ^{Re} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 13 state type: ^s subrule element | → | Brn | Gto | Red | LA |
| t | Rs | | 1 | 1 | 2 | eog | | | 1 | 14 | 14 | |
| ⇒ ^{eog} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 14 state type: ^r subrule element | → | Brn | Gto | Red | LA |
| t | Rs | | 1 | 1 | 3 | | | | 1 | 0 | 14 | 4 |
| ⇒ ^{Ra} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 15 state type: ^s subrule element | → | Brn | Gto | Red | LA |
| t | Re | | 2 | 1 | 2 | a | | | 1 | 16 | 16 | |
| ⇒ ^a | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 16 state type: ^r subrule element | → | Brn | Gto | Red | LA |
| t | Re | | 2 | 1 | 3 | | | | 1 | 0 | 16 | 1 |
| ⇒ ^{Rb} | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 17 state type: ^s subrule element | → | Brn | Gto | Red | LA |
| t | Re | | 2 | 2 | 2 | b | | | 1 | 18 | 18 | |
| ⇒ ^b | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 18 state type: ^r subrule element | → | Brn | Gto | Red | LA |
| t | Re | | 2 | 2 | 3 | | | | 1 | 0 | 18 | 1 |
| ⇒ ^x | | | | | | | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | State: 19 state type: ^s subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 2 | 2 | q | | | 2 | 20 | 20 | |
| t | Ra | | 3 | 2 | 2 | q | | | 2 | 20 | 20 | |
| t | Rb | | 4 | 1 | 2 | y | | | 2 | 21 | 24 | |
| t | Ra | | 3 | 1 | 2 | y | | | 2 | 21 | 23 | |

| | | | | | | | | | | | | |
|--------------------|------|---|----|-----|----|-----------------------------|-----------------|---|-----|-----|-----|----|
| \Rightarrow^q | | | | | | State: 20 state type: r^2 | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 2 | 3 | | | | 2 | 0 | 20 | 3 |
| t | Ra | | 3 | 2 | 3 | | | | 2 | 0 | 20 | 2 |
| \Rightarrow^y | | | | | | State: 21 state type: s | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 1 | 3 | z | | | 2 | 22 | 24 | |
| t | Ra | | 3 | 1 | 3 | z | | | 2 | 22 | 23 | |
| \Rightarrow^z | | | | | | State: 22 state type: s | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| c | Rb | | 4 | 1 | 1 | x | | | 22 | 19 | 24 | |
| c | Rb | | 4 | 2 | 1 | x | | | 22 | 19 | 20 | |
| c | Ra | | 3 | 1 | 1 | x | | | 22 | 19 | 23 | |
| c | Ra | | 3 | 2 | 1 | x | | | 22 | 19 | 20 | |
| t | Ra | | 3 | 1 | 4 | Ra | | | 2 | 23 | 23 | |
| t | Rb | | 4 | 1 | 4 | Rb | | | 2 | 24 | 24 | |
| \Rightarrow^{Ra} | | | | | | State: 23 state type: r | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| t | Ra | | 3 | 1 | 5 | | | | 2 | 0 | 23 | 2 |
| \Rightarrow^{Rb} | | | | | | State: 24 state type: r | | | | | | |
| ← | rule | → | R# | sr# | Po | ← | subrule element | → | Brn | Gto | Red | LA |
| t | Rb | | 4 | 1 | 5 | | | | 2 | 0 | 24 | 3 |

9. Index.

eog: 3.

Ra: 4, 5.

Ra: 5.

Rb: 4, 6.

Rb: 6.

Re: 3.

Re: 4.

Rs: 3.

km_1 Grammar

Date: January 2, 2015 at 11:27

File: km_1.lex

Ns: NS_km_1

Version: 1.0

Debug: false

Grammar Comments:

Type: Monolithic

Test out LALR(1) resolution.

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| Fsm Ckm_1 class | 2 | 1 |
| <i>Rs</i> rule | 3 | 1 |
| <i>Re</i> rule | 4 | 1 |
| <i>Ra</i> rule | 5 | 1 |
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