

# (Simple LR) SLR Parser

## Augmented Grammar

$E \rightarrow E + T$

$E \rightarrow T$

$T \rightarrow T * F$

$T \rightarrow F$

$F \rightarrow (E)$

$F \rightarrow id$

$E' \rightarrow E$

$E \rightarrow E + T$

$E \rightarrow T$

$T \rightarrow T * F$

$T \rightarrow F$

$F \rightarrow (E)$

$F \rightarrow id$

## Canonical LR(0) Collection

$I_0: E' \rightarrow \cdot E$

$E \rightarrow \cdot E + T$

$E \rightarrow \cdot T$

$T \rightarrow \cdot T * F$

$T \rightarrow \cdot F$

$F \rightarrow \cdot (E)$

$F \rightarrow \cdot id$

$\text{goto}(I_0, E)$

$I_1: E \rightarrow E \cdot$

$E \rightarrow E \cdot + T$

$\text{goto}(I_0, T)$

~~$I_2: T \rightarrow T \cdot * F$~~

~~$T \rightarrow T \cdot F$~~

$E \rightarrow T \cdot$

$T \rightarrow T \cdot * F$

$\text{goto}(I_0, F)$

$I_3: T \rightarrow F \cdot$

$\text{goto}(I_0, ($

$I_4: F \rightarrow (\cdot E)$

$E \rightarrow \cdot E + T$

$E \rightarrow \cdot T$

$T \rightarrow \cdot T * F$

$T \rightarrow \cdot F$

$F \rightarrow \cdot (E)$

$F \rightarrow \cdot id$

$\text{goto}(I_0, id)$

$I_5: F \rightarrow id \cdot$

$\text{goto}(I_2, +)$

$I_6: E \rightarrow E + \cdot T$

$T \rightarrow \cdot T * F$

$T \rightarrow \cdot F$

$F \rightarrow \cdot (E)$

$F \rightarrow \cdot id$

$\text{goto}(I_2, *)$

$I_7: T \rightarrow T * \cdot F$

$F \rightarrow \cdot (E)$

$F \rightarrow \cdot id$

$\text{goto}(I_4, E)$

~~$I_8: E \rightarrow E F \rightarrow (E)(E)$~~

~~$E \rightarrow E * E + T$~~

~~$\text{goto}(I_4, T)$~~

~~$I_9: E \rightarrow T \cdot$~~

~~$T \rightarrow T \cdot * F$~~

~~$\text{goto}(I_4, F)$~~

~~$I_{10}: T \rightarrow F \cdot$~~

~~$\text{goto}(I_7, F)$~~

~~$I_{11}: T \rightarrow T * F \cdot$~~



Goto(I<sub>6</sub>, T)

Goto(I<sub>8</sub>, F)

I<sub>9</sub>: E → E + T

T → T \* F

Goto(I<sub>7</sub>, F)

I<sub>10</sub>: T → T \* F

I<sub>11</sub>: F → (E)

In Cat-2 question

11. Three address code, types and its implementation
12. Boolean expression
13. Optimization of basic blocks
14. Simple code generation & DAG reconstruction
15. Issue in design of code generation
16. SLR parser

In goto  
See the  
Production  
(rightside)

2m

1. Compare three kinds of LR Parser
2. What is Handle pruning?
3. Application of DAG

4. Various representation of Intermediate Code.

5. Define closure & goto operation

6. Statement, convert it into 3-address code

7. Construct Syntax tree for the

8. Code motion & Dead code elimination

9. Describe registers & Address descriptor

10. Define basic blocks & flowgraphs.

& Instruction cost

code.