$E \to T + E \mid T$

$T \to F * T \mid F$

$F \to a \mid (E)$

$S \to E$

$a + (a + a * a)$

$a + a * a$

$S \to E$

$E \to E+E \mid E*E \mid a$

2009.3.24

(13|2)

Earley states

1) Scan
2) complete
3) predict

1) $A \to \alpha \overset{j}{\cdot} a \beta, i$

$\downarrow$ scan

$j+1$

$A \to \alpha a \cdot \beta, i$

2) $A \to \alpha \overset{j}{\cdot}, i$

$\wedge$

$B \to \beta \overset{i}{\cdot} A \gamma, k$

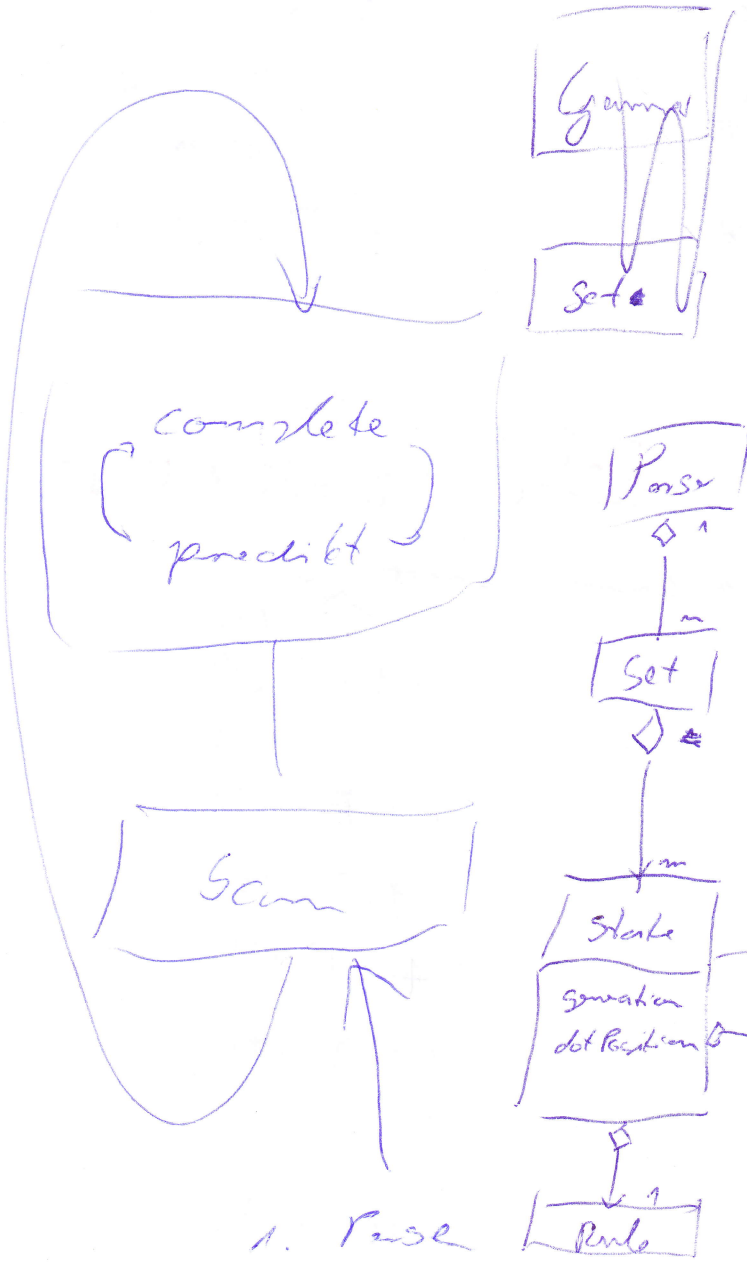
$\Rightarrow$

$B \to \beta A \overset{j}{\cdot} \gamma, k$

3) $A \to \alpha \overset{j}{\cdot} B \beta, i$

$\Rightarrow$

$B \to \cdot \gamma_1 \mid \gamma_2 \mid \ldots, j$



2. Complete Derivation Tree

Grammar

S - 7

Rule

Set

F → (E) . , 2

T → F . * T , 2

(4) T → F . , 2

E → T . + E , 2

(2) E → T . , 2

(1) E → T + E . , 0

(0) S → E . , 0

~~I → F . , 0~~

~~T → F . , 3~~

~~E → T . , 3~~

~~F → (E .) , 2~~ ~~F → (E .) , 2~~

~~T → T . , 2~~

~~E → T . , 2~~

~~E → . T + E , 0~~

~~S → E . , 0~~

a + (a)

S

↓

E

RMD 0 1 2 4 6 2 4 5 5

S

E (0)

T + E (1)

T + T . (2)

T + F (4)

T + (E) (6)

T + (T) (2)

T + (F) (4)

T + (a) (5)

a + (a) (5) ✓

S → E (0)

E → F + E (1)

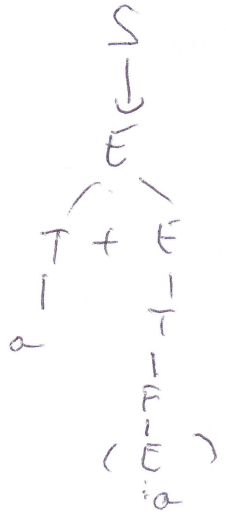
E → T (2)

T → F * T (3)

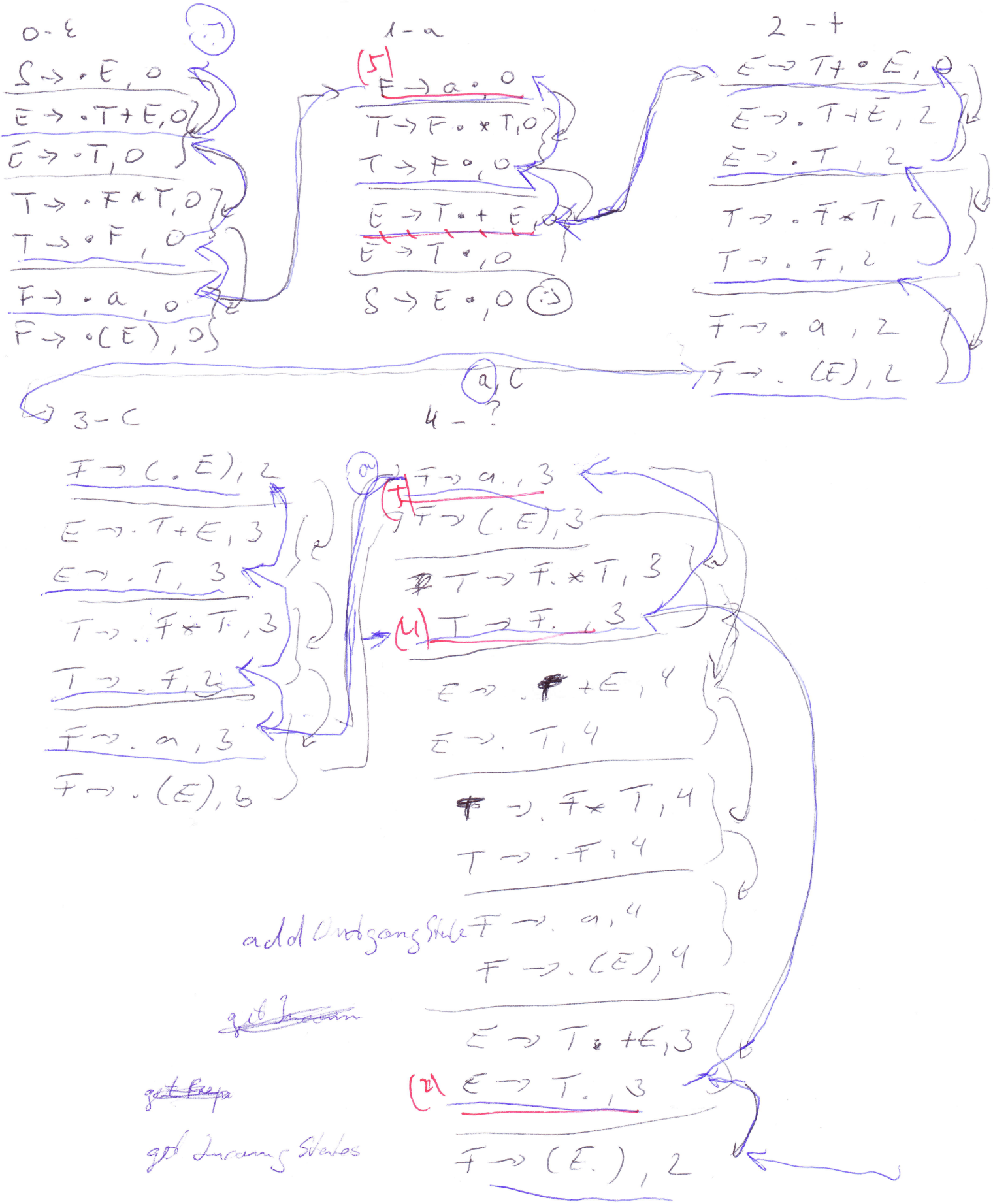
T → F (4)

F → a (5)

F → (E) (6)



Variant


0 - ε
S → · E , 0
E → · T + E , 0
E → · T , 0
T → · F * T , 0
T → · F , 0
F → · a , 0
F → · (E) , 0
1 - a
E → a · , 0
T → F · * T , 0
T → F · , 0
E → T · + E , 0
E → T · , 0
S → E · , 0
2 - +
E → T + · E , 0
E → · T + E , 2
E → · T , 2
T → · F * T , 2
T → · F , 2
F → · a , 2
F → · (E) , 2
a, (
3 - (
4 - ?
F → (· E) , 2
E → · T + E , 3
E → · T , 3
T → · F * T , 3
T → · F , 3
F → · a , 3
F → · (E) , 3
F → a · , 3
F → (· E) , 3
T → F · * T , 3
T → F · , 3
E → · F + E , 4
E → · T , 4
F → · F * T , 4
T → · F , 4
add Ausgangszustände
F → · a , 4
F → · (E) , 4
E → T · + E , 3
E → T · , 3
F → (E ·) , 2