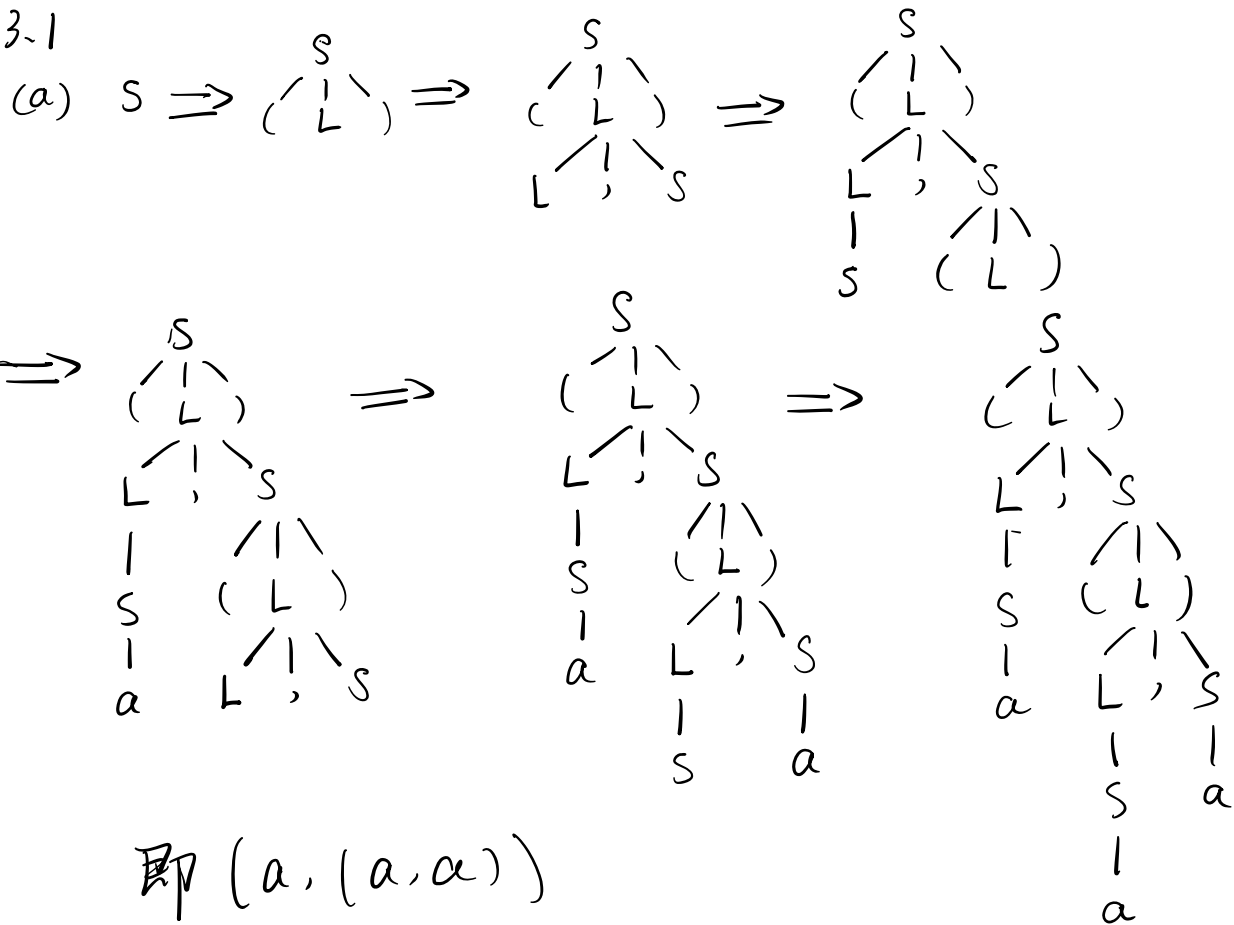


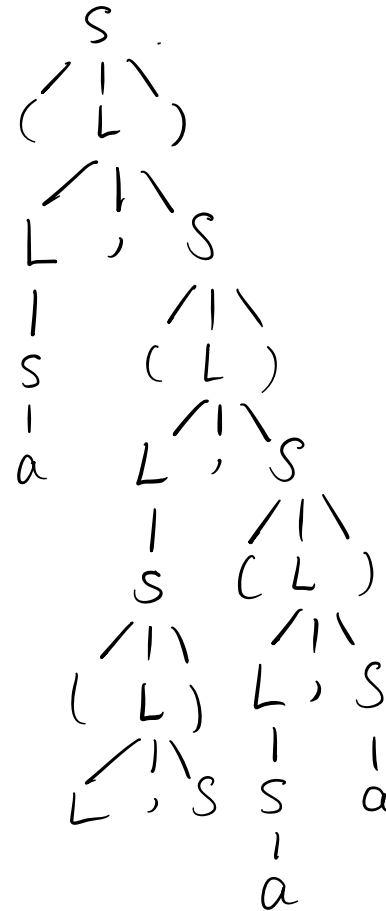
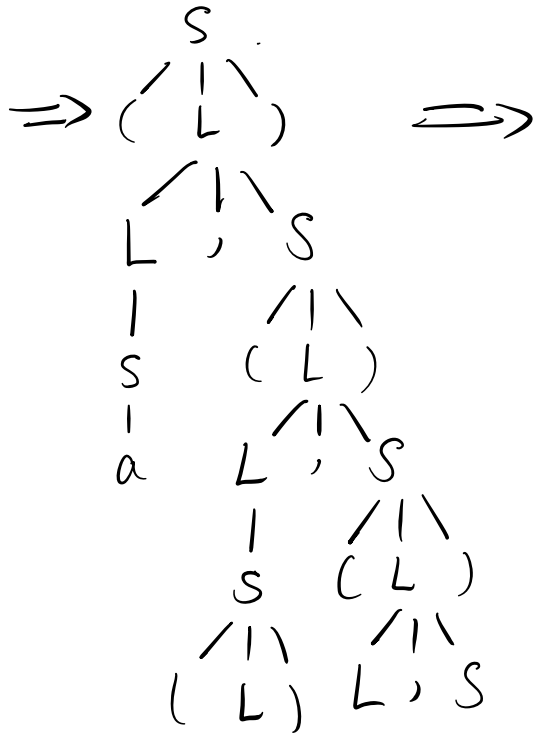
# 编译 HW2

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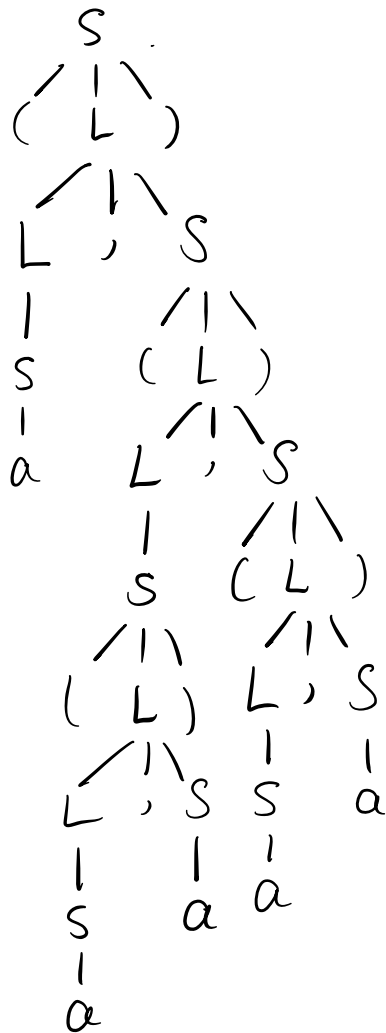
3-1



$$S \Rightarrow \begin{array}{c} S \\ / \quad | \quad \backslash \\ ( \quad L \quad ) \end{array} \Rightarrow \begin{array}{c} S \\ / \quad | \quad \backslash \\ ( \quad L \quad ) \\ / \quad | \quad \backslash \\ L \quad , \quad S \end{array} \Rightarrow \begin{array}{c} S \\ / \quad | \quad \backslash \\ ( \quad L \quad ) \\ / \quad | \quad \backslash \\ L \quad , \quad S \\ | \quad \quad / \quad | \quad \backslash \\ S \quad ( \quad L \quad ) \\ | \\ a \end{array} \Rightarrow$$



$\Rightarrow$



Ex

$(a, ((a, a), (a, a)))$

$$(C) \quad 1^{\circ} \quad S \Rightarrow (L) \Rightarrow (L, S) \Rightarrow (L, (L))$$

$$\Rightarrow (L, (L, S)) \Rightarrow (L, (L, a)) \Rightarrow (L, (S, a))$$

$$\Rightarrow (L, (a, a)) \Rightarrow (S, (a, a)) \Rightarrow (a, (a, a))$$

$$2^{\circ} \quad S \Rightarrow (L) \Rightarrow (L, S) \Rightarrow (L, (L)) \Rightarrow (L, (L, S))$$

$$\Rightarrow (L, (L, (L))) \Rightarrow (L, (L, (L, S)))$$

$$\Rightarrow (L, (L, (L, a))) \Rightarrow (L, (L, (S, a)))$$

$$\Rightarrow (L, (L, (a, a))) \Rightarrow (L, (S, (a, a)))$$

$$\Rightarrow (L, ((L), (a, a))) \Rightarrow (L, ((L, S), (a, a)))$$

$$\Rightarrow (L, ((L, a), (a, a))) \Rightarrow (L, ((S, a), (a, a)))$$

$$\Rightarrow (L, ((a, a), (a, a))) \Rightarrow (S, ((a, a), (a, a)))$$

$$\Rightarrow (a, ((a, a), (a, a)))$$

3.2.

$$(a) S \Rightarrow aSbS \Rightarrow a b S a S b S$$

$$\Rightarrow a b a S b S \Rightarrow a b a b S \Rightarrow a b a b$$

或  $S \Rightarrow aSbS \Rightarrow abS \Rightarrow ab a S b S$

$$\Rightarrow a b a b S \Rightarrow a b a b$$

即具有二义性.

3.3. 由于 and, or, not 的优先次序及结合规则未指明, 故产生二义性.

不妨假定  $or > and > not$  (优先级).

则先有  $E \rightarrow E or T \mid T$ . (采用左结合).

然后有  $T \rightarrow T and F \mid F$ . (同上).

最终有  $F \rightarrow \text{not } F \mid (E) \mid t \mid f$ . (注意  $(E)$  应奇不由  $E$  推导出).

即最终有

$$E \rightarrow E \text{ or } T \mid T$$
$$T \rightarrow T \text{ and } F \mid F$$
$$F \rightarrow \text{not } F \mid \text{true} \mid \text{false} \mid (E).$$