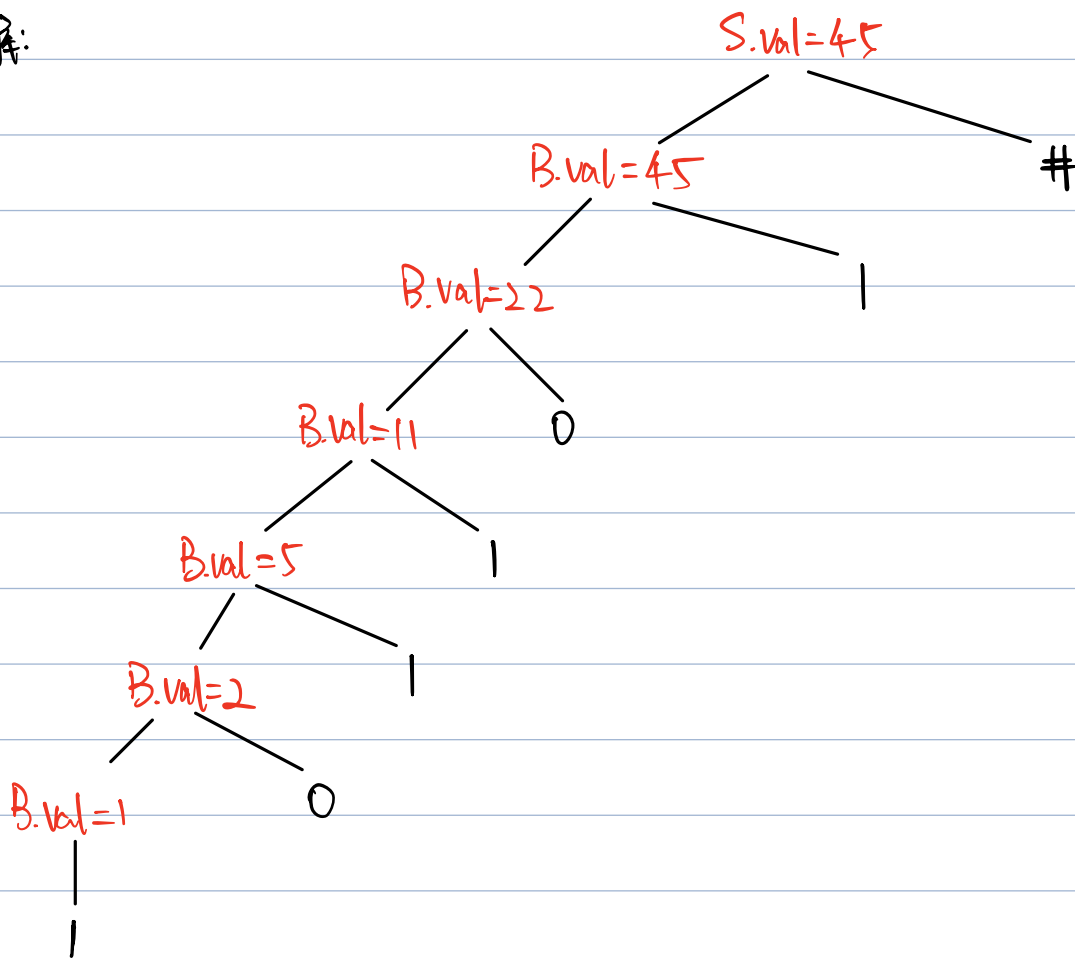


1.

解:



2.

解: 1) 设计继承属性 left 表示是否在数点左边

综合属性 len 表示串长, val 表示值

$S \rightarrow L_1 L_2$ $L_1.left = 1, L_2.left = 0; S.val = L_1.val + L_2.val$

$S \rightarrow L$ $L.left = 1; S.val = L.val$

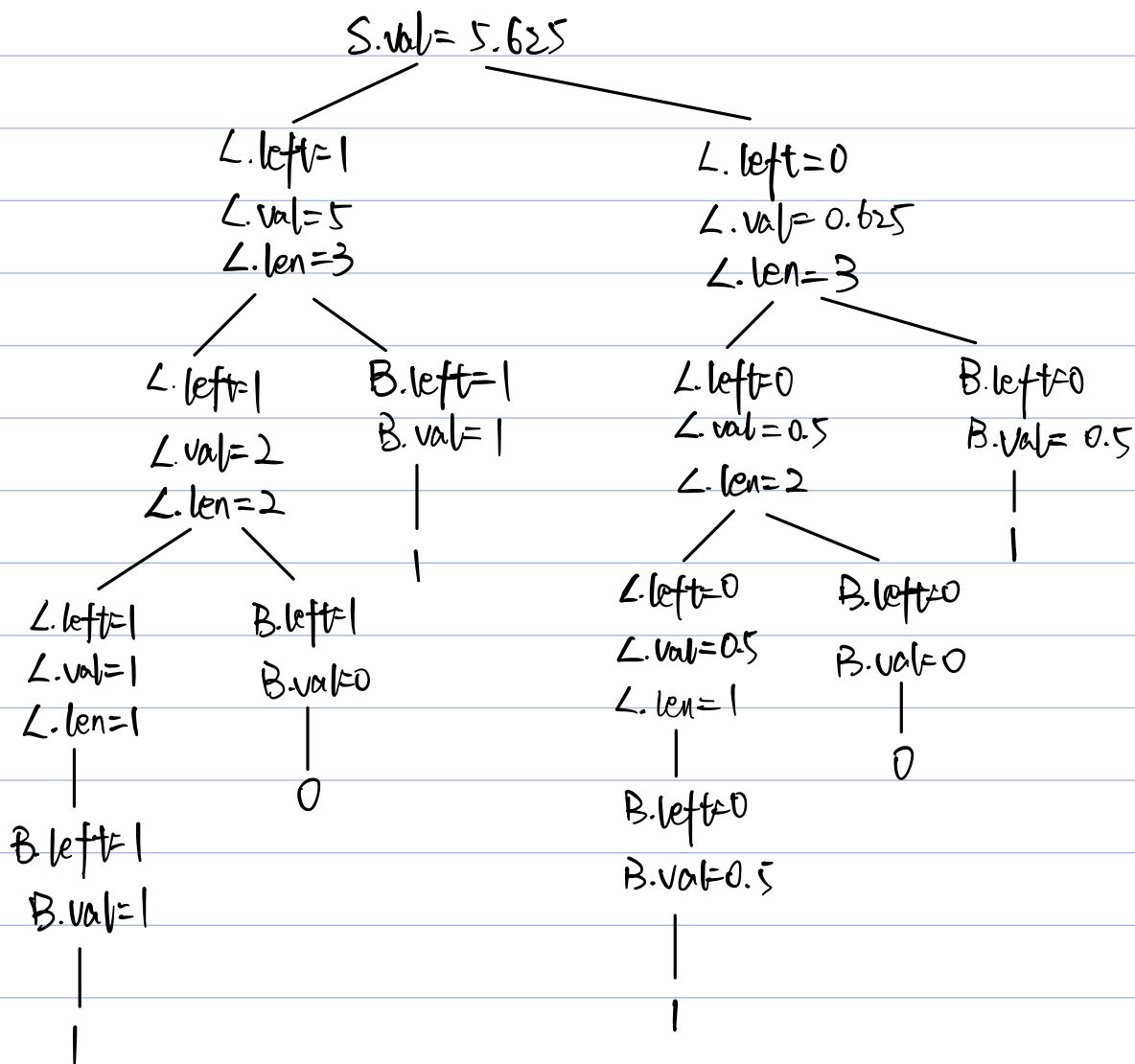
$L \rightarrow L_1 B$ $L_1.left = L.left, B.left = L.left, L.len = L_1.len + 1$
 $L.val = L_1.left ? L_1.val \times 2 + B.val : L_1.val + (\frac{1}{2})^{L_1.len} \times B.val$

$L \rightarrow B$ $B.left = L.left, L.len = 1, L.val = B.val$

$B \rightarrow 0$ $B.val = 0$

$B \rightarrow 1$ $B.val = B.left ? 1 : 0.5$

(2) 注释语法树如下.



3.

解: 消除左递归.

$S \rightarrow B\#$ $S.val = B.val$

$B \rightarrow 1B'$ $B'.inh = 1, B.val = B'.val$

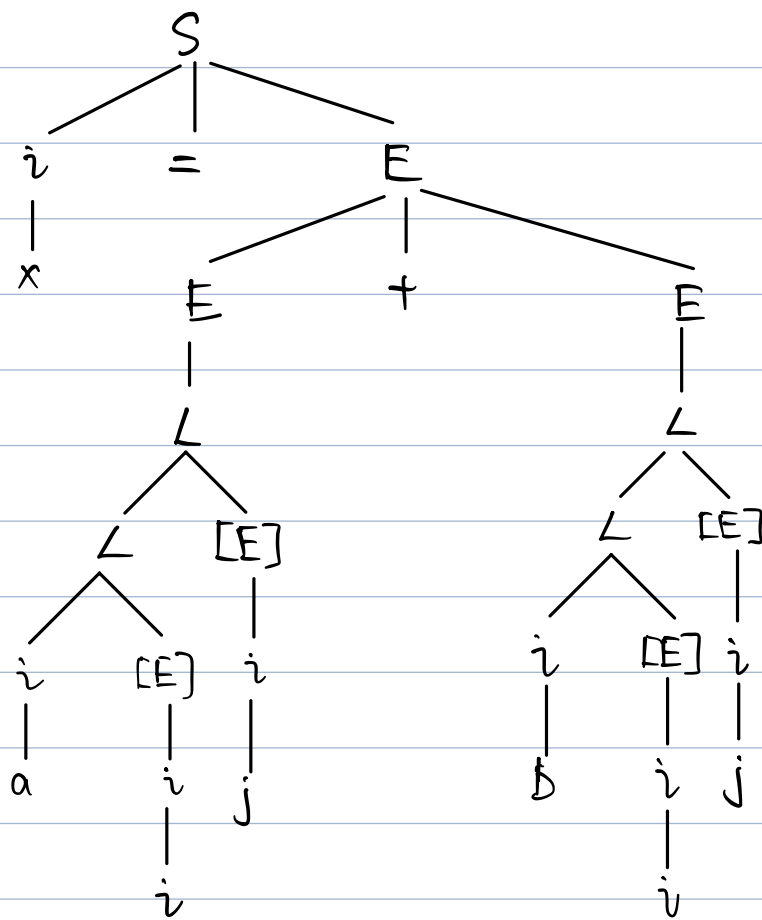
$B' \rightarrow 0B'_1$ $B'_1.inh = B'.inh \times 2, B.val = B'.val$

$11B'_1$ $B'_1.inh = B'.inh \times 2 + 1, B.val = B'_1.val$

1ε $B'.val = B'.inh$

4.

解: 先画出语法分析树, 如下.



可得四元式:

$(*, i, 80, \%1)$

$(*, j, 4, \%2)$

$(+, \%1, \%2, \%3)$

$(=[], a[\%3], -, \%4)$

$(*, i, 80, \%5)$

$(+, j, 4, \%6)$

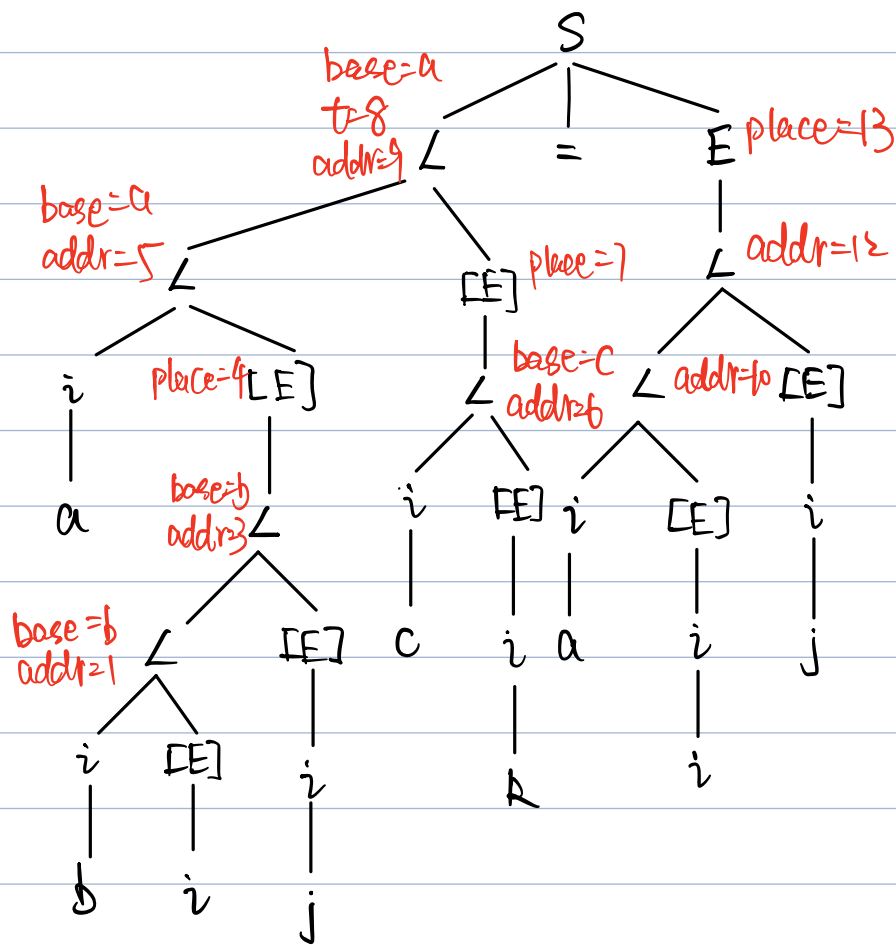
$(+, \%5, \%6, \%7)$

$(=[], b[\%7], -, \%8)$

$(+, \%4, \%8, \%9)$

$(=, \%9, -, x)$

(2) 画出语法分析树, 如下



可得四元式:

$(*, i, 80, 901)$

$$(*, j, 4, 902)$$
 (t, g_0, g_1, g_2, g_3)
$$c = [], b[\%3], -, \%4)$$
 $(x, 90, 80, 95)$ $(1, 2, 4, 9, 6)$
$$(\equiv [], C[\%6], -, \%7)$$
$$(*, \%7, 4, \%8)$$

Ct, 905, 908, 909)

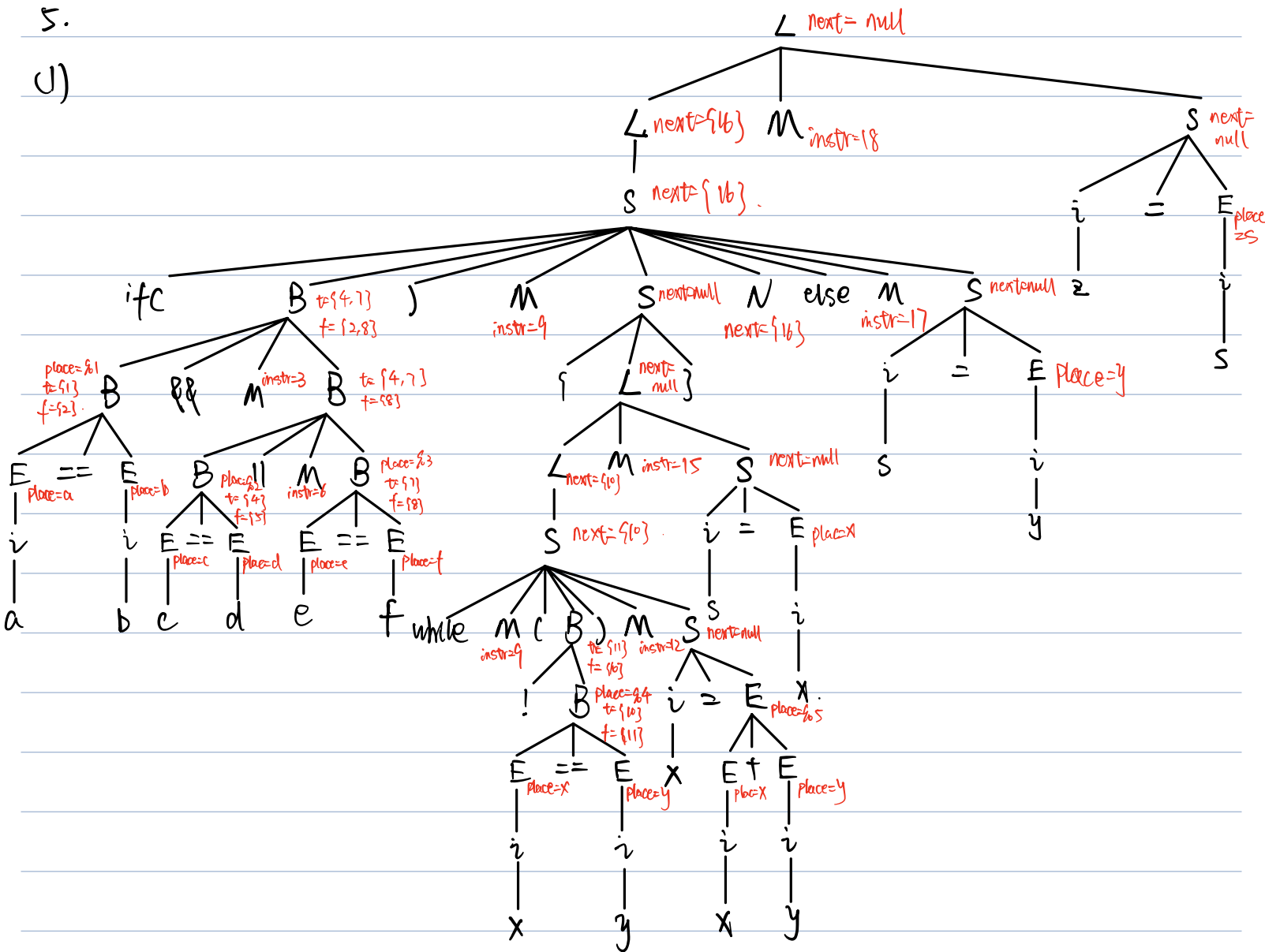
$(*, i, 80, 9/10)$

$(*, j, 4, 9011)$

$$(t, g_{10}, g_{11}, g_{12})$$
$$(=[], a[\%012], -, \%013)$$
$$(\lceil \rceil = , \% 13, -, a[\% 9])$$

5.

1)



2) 设第一条代码从0开始.

- | | |
|-------------------|--------------------|
| 0 (=, a, b, %1) | 10 (Jr, %4, -, 15) |
| 1 (Jr, %1, -, 3) | 11 (Jf, %4, -, 12) |
| 2 (Jf, %1, -, 17) | 12 (+, x, y, %5) |
| 3 (=, c, d, %2) | 13 (=, %5, -, x) |
| 4 (Jr, %2, -, 9) | 14 (J, -, -, 9) |
| 5 (Jf, %2, -, 6) | 15 (=, x, -, s) |
| 6 (=, e, f, %3) | 16 (J, -, -, 18) |
| 7 (Jr, %3, -, 9) | 17 (=, y, -, s) |
| 8 (Jf, %3, -, 17) | 18 (=, s, -, z) |
| 9 (=, x, y, %4) | |

(3) 符号名 定义否 返填顺序.

L₆ 1 5

L₃ 1 1

L₁₂ 1 11

L₁₅ 1 10

L₉ 1 7→4

L₁₇ 1 8→2

L₁₈ 1 16