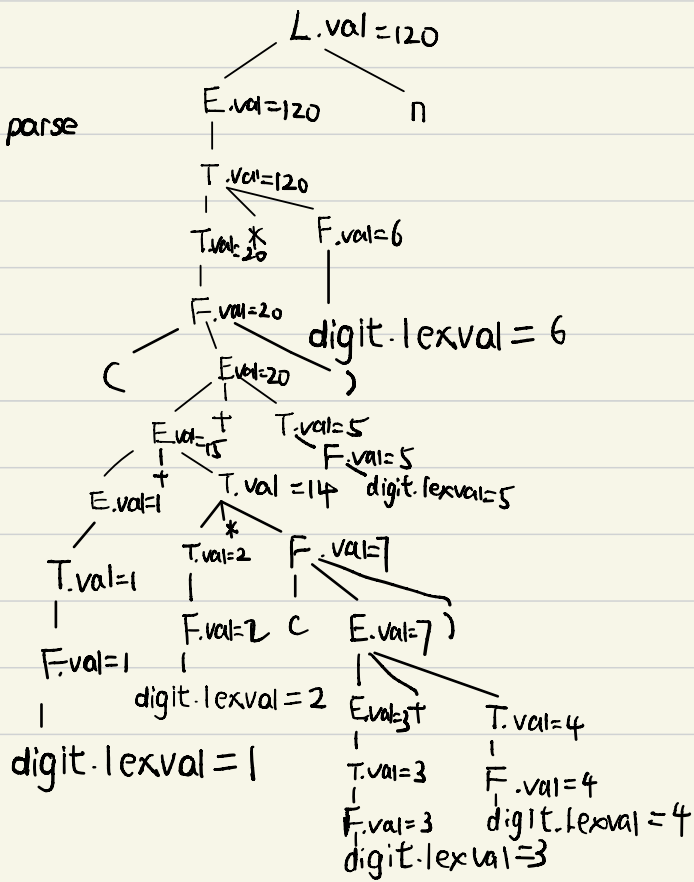


SID: 12012919 Name: 廖铭骞

## Exercise 1

The annotated parse  
tree is :



## Exercise 2

---

① 1 3 5 2 4 6 7 8 9

⑩ 2 1 3 4 5 6 7 8 9

② 2 4 1 3 5 6 7 8 9

⑪ 2 1 4 3 5 6 7 8 9

③ 1 2 4 3 5 6 7 8 9

⑧ 1 2 3 5 4 6 7 8 9

④ 1 3 2 4 5 6 7 8 9

⑨ 1 2 3 4 5 6 7 8 9

⑤ 2 1 3 5 4 6 7 8 9

⑫ 1 3 2 5 4 6 7 8 9

## Exercise 3

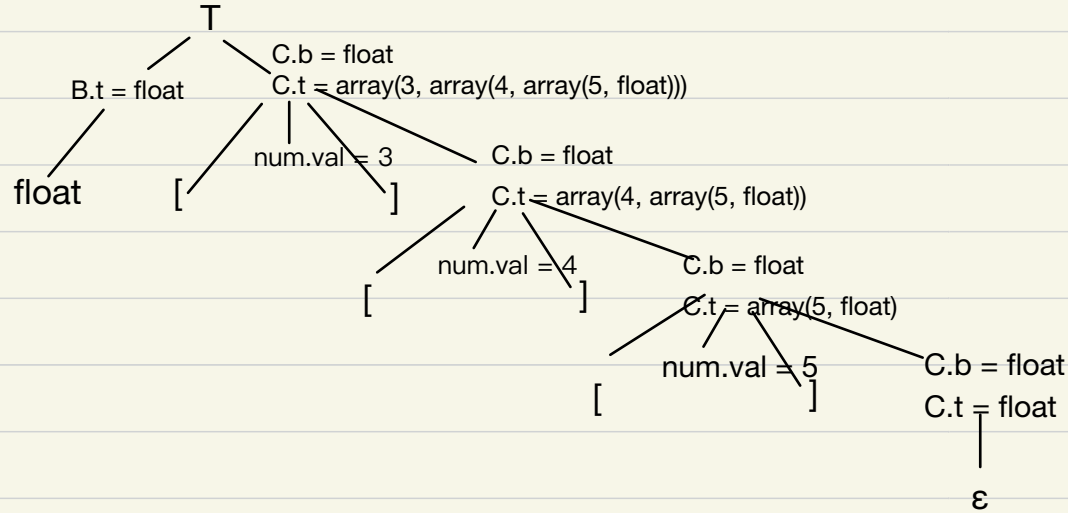
---

· It is not a S-attributed SDD, because there are inherited attributes in the SDD.

· It is a L-attributed SDD, because the attributes in the SDD are either synthesized or inherited, and the inherited attributes of each nodes depend on the inherited attributed of its parent node or depend on the attribute of its left cousin.

---

## Annotation Parse Tree:



## Exercise 4

1.

Production	Rule
1) $E \rightarrow E1 + T$	$E.val = E1.val + T.val$
2) $E \rightarrow T$	$E.val = T.val$
3) $T \rightarrow D1 \cdot D2$	$T.val = D1.val + D2.val * 0.1$
4) $T \rightarrow D$	$T.val = D.val$
5) $D \rightarrow \text{digit}$	$D.val = \text{digit.lexval}$

2. Yes, it is possible.