

第四次作业

1. 继承属性: $D_1.f := 1$, $D_2.f := 2^{-D_2.I}$, $D_1.f := 2D.f$, $B.f := D.f$,
 $B.f := D.f$

综合属性: $S.V := D_1.V + D_2.V$, $D.V := D_1.V + B.V$, $D.I := D_1.I + 1$,
 $D.I := 1$, $D.V := B.V$, $B.V := B.f$, $B.V = 0$

2. 解: $E \rightarrow (L) \quad \{E.num := L.num + 1\}$

$E \rightarrow a \quad \{E.num := 0\}$

$L \rightarrow L_1 E \quad \{L.num := L_1.num + E.num\}$

$L \rightarrow E \quad \{L.num := E.num\}$

注: L_1 为 L 的不同出现

3. 解: $E \rightarrow L.R \quad \{E.val := L.val + \frac{1}{2} \cdot R.val\}$

$E \rightarrow L \quad \{E.val := L.val\}$

$L \rightarrow L_1 B \quad \{L.val := 2 \cdot L_1.val + B.val\}$

$L \rightarrow B \quad \{L.val := B.val\}$

$R \rightarrow BR_1 \quad \{R.val := B.val + \frac{1}{2} \cdot R_1.val\}$

$R \rightarrow B \quad \{R.val := B.val\}$

$B \rightarrow 0 \quad \{B.val := 0\}$

$B \rightarrow 1 \quad \{B.val := 1\}$

注: R_1 为 R 的不同出现

4. void parse^E(~~Pf~~) {
 MatchToken('.');
 Pf = 1;
 PV = Parse(Pf);
 print(PV);
}

int^{int} ~~void~~ ParseP(Pf)?

~~tf = Pf;~~

if (lookahead == '1' or lookahead == '0')

{ tf = Pf;

Tv = ParseT(tf);

Pf1 = 2Pf;

PV1 = ParseP(Pf1);

PV = PV1 + TV;

return PV;

}

else if (lookahead == '#')

{ return 0; }

else {

~~return~~

print("error");

~~exit~~ exit(0);

}

}

}



```

int parseT(tf) {
    if (lookahead == '0') {
        MatchToken(0);
        return 0;
    }
    else if (lookahead == '1') {
        MatchToken('1');
        return 1;
    }
    else {
        print("error");
        exit(0);
    }
}

```

5. 解: $E \rightarrow TR$ $\{E.str := T.str + R.str\}$
 $R \rightarrow +TR_1$ $\{R.str := T.str + '+' + R_1.str\}$
 $R \rightarrow -TR_2$ $\{R.str := T.str + '-' + R_2.str\}$
 $R \rightarrow \varepsilon$ $\{R.str := ""\}$
 $T \rightarrow num$ $\{T.str = num\}$ 注 R_1, R_2 为 R 的不同出现

b. Loop: if $a > b$ goto next
 if $c < d$ goto bigger

$x := y + z$

EndLoop: goto Loop

bigger: $t := z * w$

$x := y + t$

$z := z + x$

 goto EndLoop

next:

