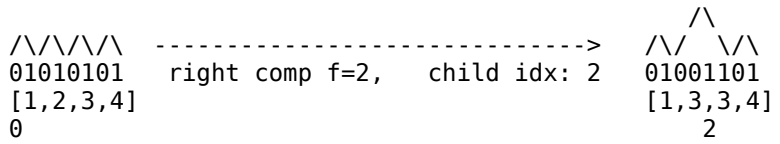
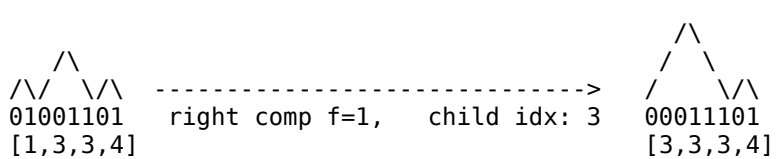
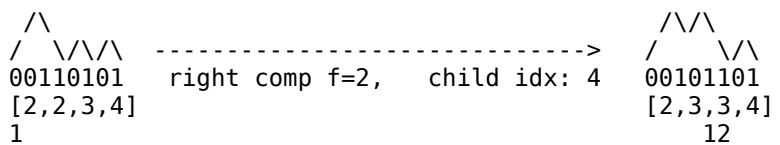
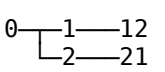
```
0

DONE generate tree T0, current index=0
Node list---------------------------------------------

C(n)=C(1)=1
Idempotent count: 1
-----------------------------------------------------
Index   id      Dyck word       func            idempotent?
-----------------------------------------------------
0       0          01010101     [1,2,3,4]           yes
-----------------------------------------------------
INIT generate tree T3, current index=0
INIT generate tree T2, current index=0
INIT generate tree T1, current index=0
INIT generate tree T0, current index=0


0

DONE generate tree T0, current index=0
Node list---------------------------------------------

C(n)=C(1)=1
Idempotent count: 1
-----------------------------------------------------
Index   id      Dyck word       func            idempotent?
-----------------------------------------------------
0       0          01010101     [1,2,3,4]           yes
-----------------------------------------------------



                                                          /\
                      /\/\/\/\  ------------------------------>   /  \/\/\
 0,     parent idx: 0   01010101   right comp f=1,   child idx: 1   00110101
                        [1,2,3,4]                                  [2,2,3,4]
                        0                                              1


0———1

DONE generate tree T1, current index=1
Node list---------------------------------------------

C(n)=C(2)=2
Idempotent count: 2
-----------------------------------------------------
```

```
Index   id      Dyck word       func            idempotent?
-----------------------------------------------------
0       0          01010101     [1,2,3,4]           yes
1       1          00110101     [2,2,3,4]           yes
-----------------------------------------------------
```

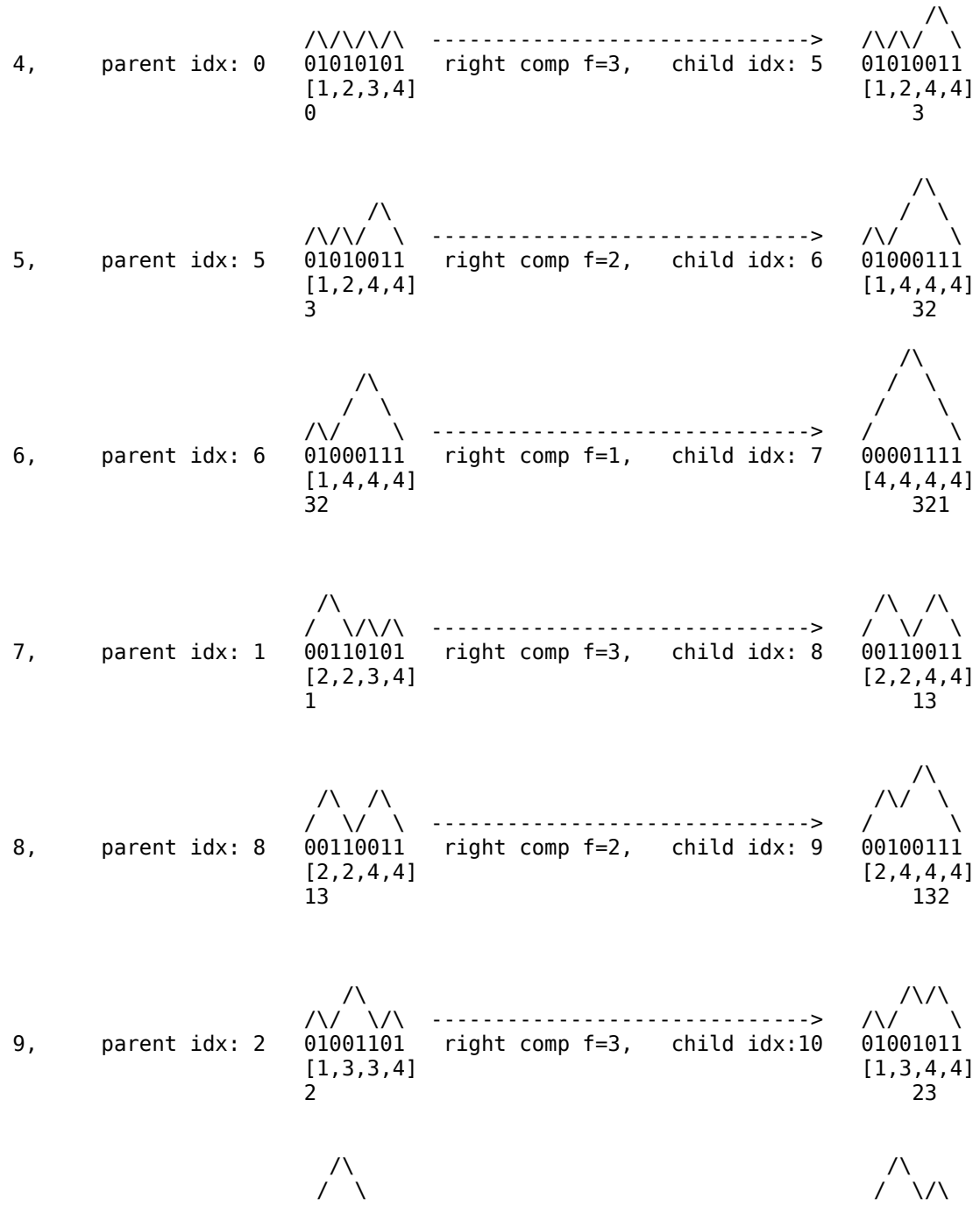









```
DONE generate tree T2, current index=4
Node list-----------------------------------------

C(n)=C(3)=5
Idempotent count: 4
-----------------------------------------------------
Index   id      Dyck word       func            idempotent?
-----------------------------------------------------
0       0          01010101     [1,2,3,4]           yes
1       1          00110101     [2,2,3,4]           yes
2       2          01001101     [1,3,3,4]           yes
3       21         00011101     [3,3,3,4]           yes
4       12         00101101     [2,3,3,4]
-----------------------------------------------------
```


4, parent idx: 0 01010101 [1,2,3,4] 0
right comp f=3, child idx: 5
01010011 [1,2,4,4] 3
5, parent idx: 5 01010011 [1,2,4,4] 3
right comp f=2, child idx: 6
01000111 [1,4,4,4] 32
6, parent idx: 6 01000111 [1,4,4,4] 32
right comp f=1, child idx: 7
00001111 [4,4,4,4] 321
7, parent idx: 1 00110101 [2,2,3,4] 1
right comp f=3, child idx: 8
00110011 [2,2,4,4] 13
8, parent idx: 8 00110011 [2,2,4,4] 13
right comp f=2, child idx: 9
00100111 [2,4,4,4] 132
9, parent idx: 2 01001101 [1,3,3,4] 2
right comp f=3, child idx:10
01001011 [1,3,4,4] 23

```
                        /    \/\  ------------------------------>   /      \
10,     parent idx: 3   00011101   right comp f=3,   child idx:11   00011011
                        [3,3,3,4]                                   [3,3,4,4]
                        21                                              213


                          /\                                          /\/\
                         /  \/\                                      /    \
                        /      \  ------------------------------>   /      \
11,     parent idx:11   00011011   right comp f=2,   child idx:12   00010111
                        [3,3,4,4]                                   [3,4,4,4]
                        213                                             2132



                         /\/\                                        /\/\/\
                        /    \/\  ------------------------------>   /      \
12,     parent idx: 4   00101101   right comp f=3,   child idx:13   00101011
                        [2,3,3,4]                                   [2,3,4,4]
                        12                                              123


0──┬─1──┬─12──123
  │    └─13──132
  ├─2──┬─21──213──2132
  │    └─23
  └─3──32──321

DONE generate tree T3, current index=13
Node list---------------------------------------------

C(n)=C(4)=14
Idempotent count: 8
-------------------------------------------------------
Index   id      Dyck word       func            idempotent?
-------------------------------------------------------
0       0          01010101     [1,2,3,4]           yes
1       1          00110101     [2,2,3,4]           yes
2       2          01001101     [1,3,3,4]           yes
3       21         00011101     [3,3,3,4]           yes
4       12         00101101     [2,3,3,4]
5       3          01010011     [1,2,4,4]           yes
6       32         01000111     [1,4,4,4]           yes
7       321        00001111     [4,4,4,4]           yes
8       13         00110011     [2,2,4,4]           yes
9       132        00100111     [2,4,4,4]
10      23         01001011     [1,3,4,4]
11      213        00011011     [3,3,4,4]
12      2132       00010111     [3,4,4,4]
13      123        00101011     [2,3,4,4]
```

```
------------------------------------------------------

Press enter to finish...
```