Class 28

Wednesday, January 5, 2022 9:24 PM

$6 \rightarrow \{1,2,3,4,5,6\}$

1 4 3 2 5 6

6!

$1 \le n \le 16$

~~1~~ 2 3 4 ~~5~~ 6

1 4 - - - - - -

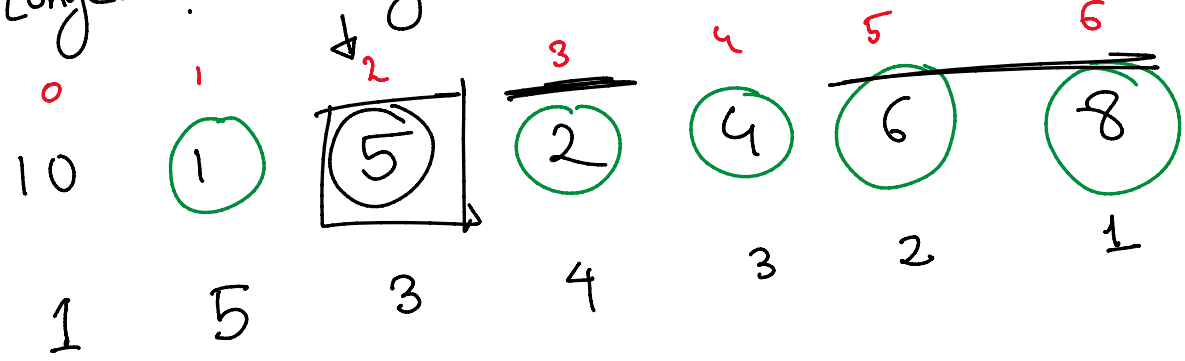
5 4 3 2 1 0

0 0 1 0 0 0

$f(pos)$

LIS → Longest Increasing Subsequence

$[6, 10^4]$



1 5 3 4

```
for(i=N-1; i>=0; i--)
    for(j=i+1; j<=n; j++)
```

$O(N^2)$ logN

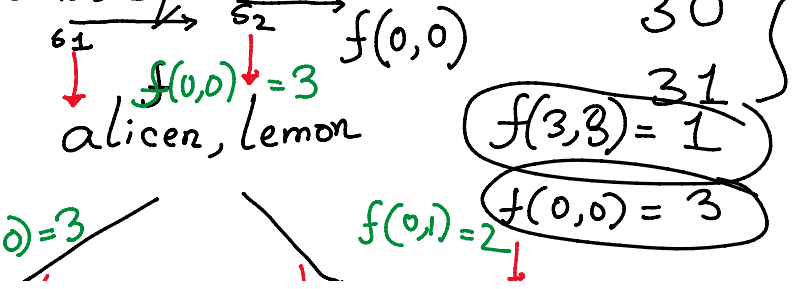
30 top 15 1hr

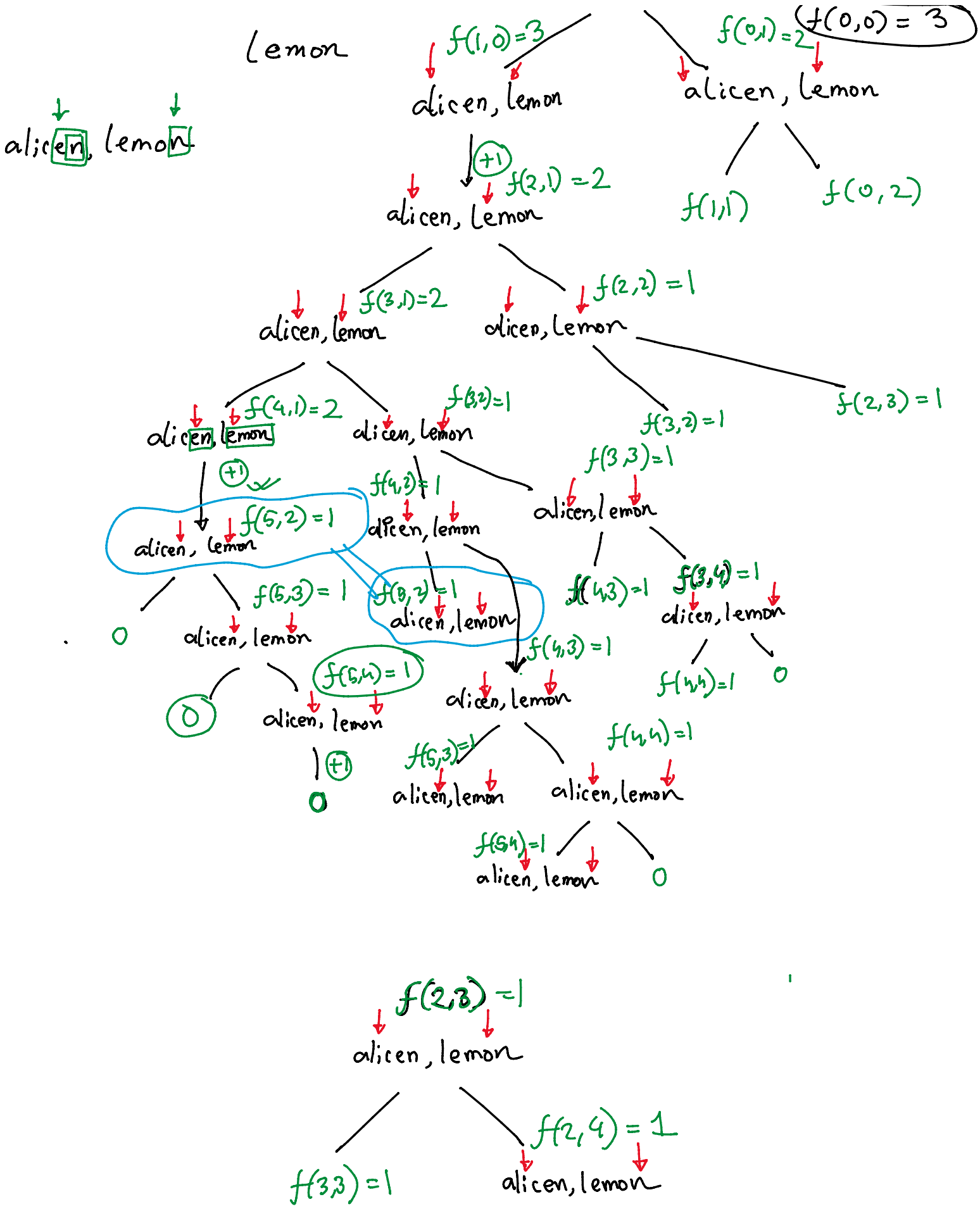
$f(sidx_1, sidx_2)$ 28 29 30 31

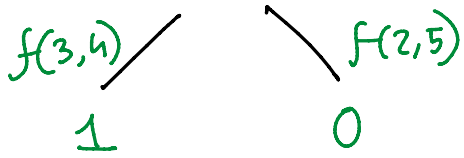
LCS → Longest Common Subsequence

alicen

lemon




lemon
alicen, lemon
f(1,0)=3
f(0,1)=2
f(0,0) = 3
alicen, lemon
alicen, lemon
f(1,1)
f(0,2)
+1
f(2,1) =2
alicen, lemon
f(3,1)=2
alicen, lemon
f(2,2) =1
alicen, lemon
f(4,1)=2
alicen, lemon
f(3,2)=1
alicen, lemon
f(3,2)=1
f(2,3) = 1
f(3,3)=1
+1
f(5,2) =1
alicen, lemon
f(4,2)=1
alicen, lemon
alicen, lemon
f(5,3) = 1
0
alicen, lemon
f(3,2)=1
alicen, lemon
f(4,3)=1
f(3,4)=1
alicen, lemon
f(5,4) = 1
0
alicen, lemon
f(4,3)=1
alicen, lemon
f(4,4)=1
0
+1
0
f(5,3)=1
alicen, lemon
f(4,4)=1
alicen, lemon
f(5,4)=1
alicen, lemon
0
f(2,3) =1
alicen, lemon
f(3,3) =1
f(2,4) = 1
alicen, lemon


f(3,4)
f(2,5)
1
0