

Hard problem

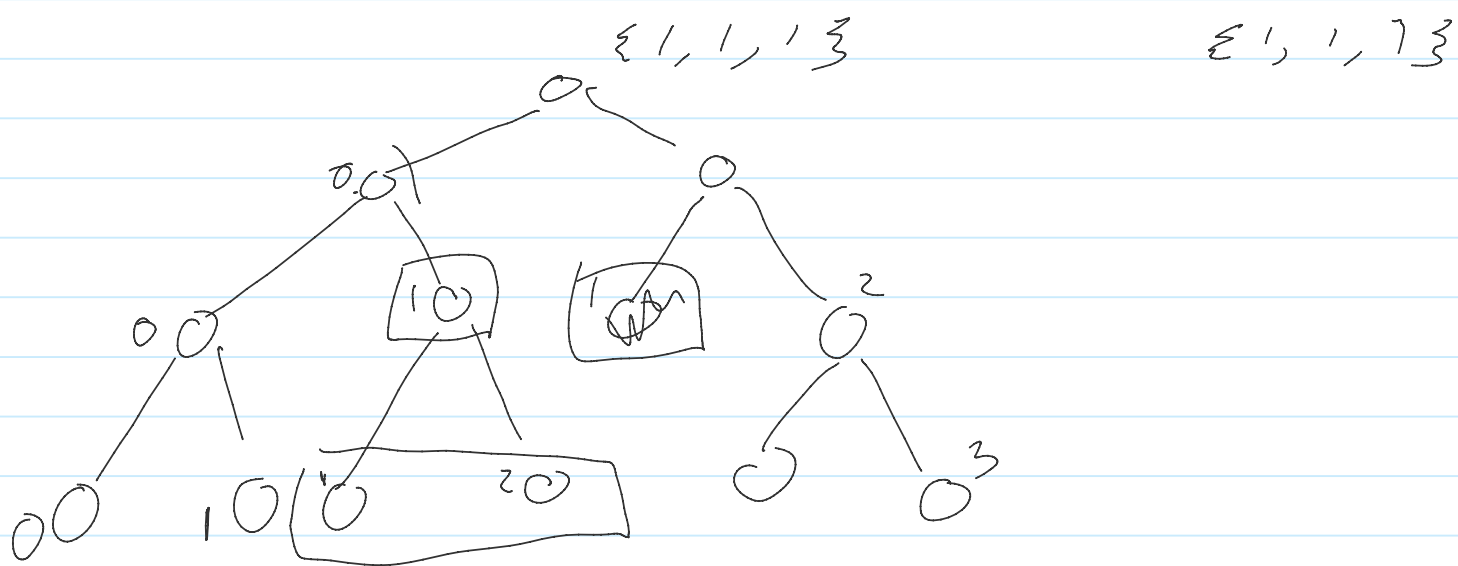
Break into sub problems \leftarrow recursively

Solve each sub problem \leftarrow

merge \leftarrow

Store the answer for the Hard problem

$\{1, 1, 1, 1, 1, 1, 1\}$ ⁷



Have a set of reachable values

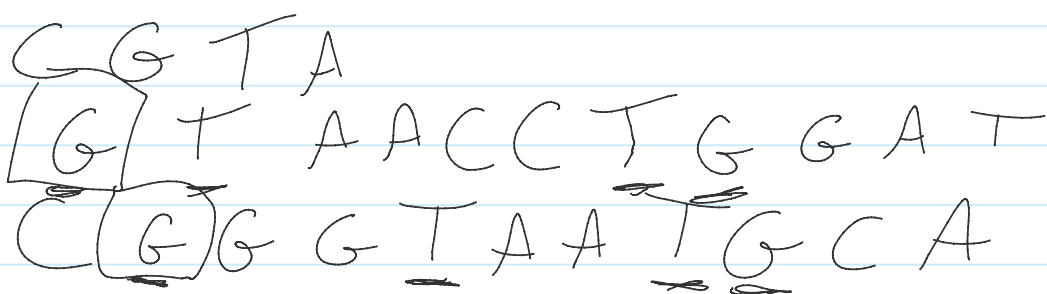
consider each element of our set

either add the value or don't

merge these two sets into a new reachable set

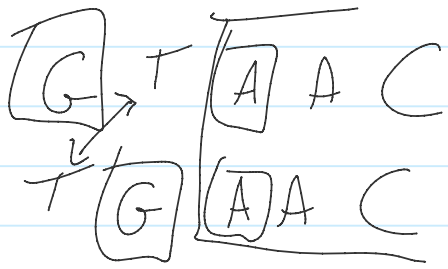
LCS

Longest Common Subsequence

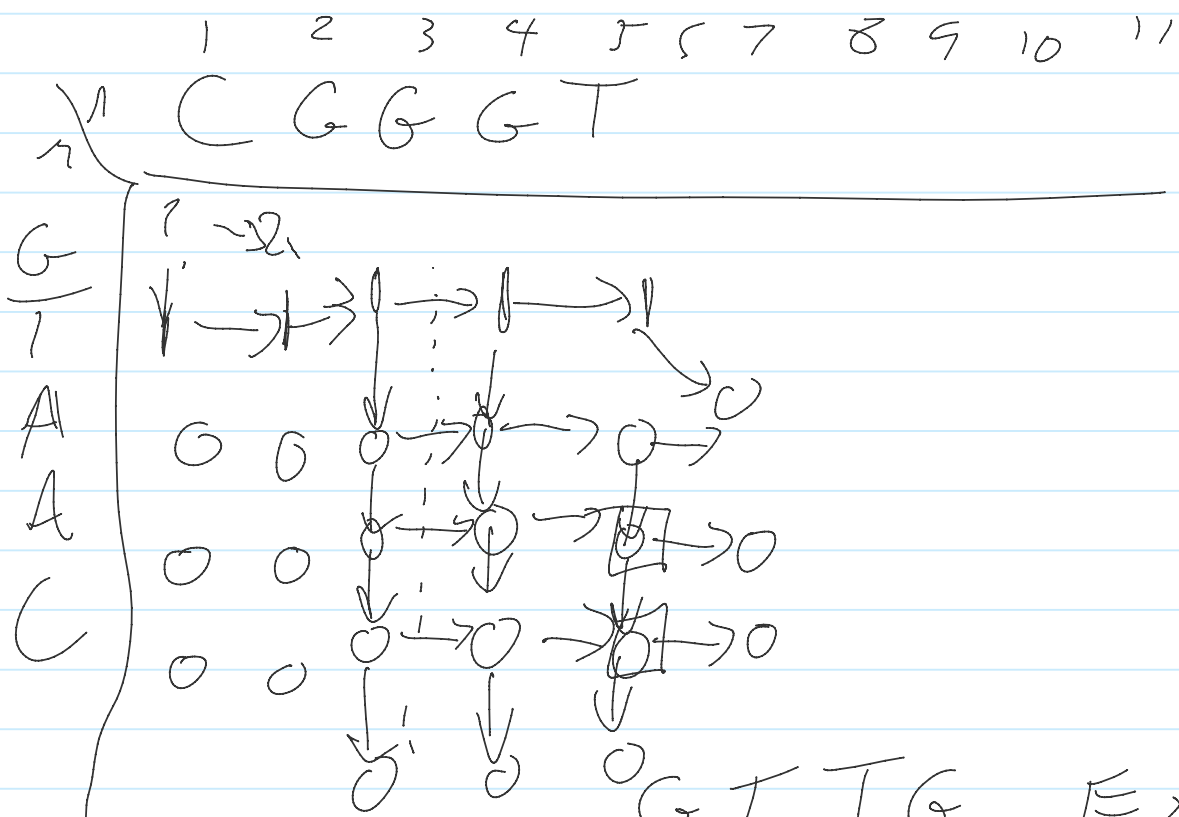


CGG GTA ATG C A

G T T G Example of a subsequence



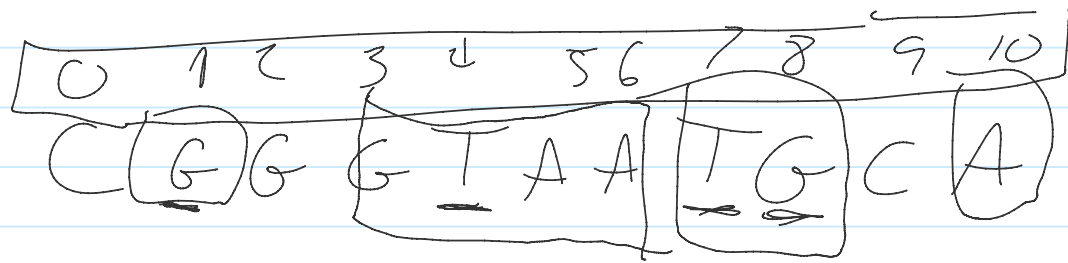
Keep track of location in first and the location in the second string if we computed the answer for the given before, do it recompute it! Instead return the answer found previously



This technique is called

Memorization not

memorization!



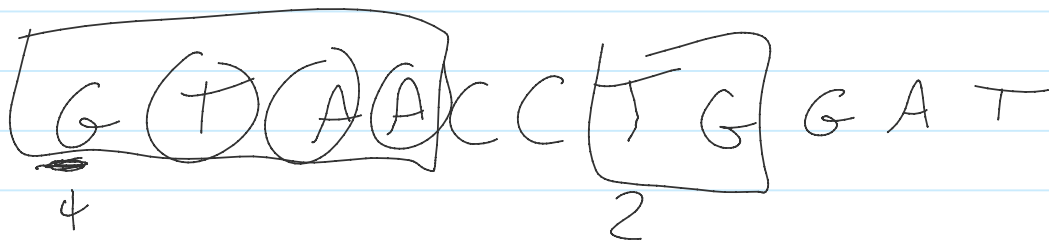
$$\boxed{11} = n$$

Substring

C G G T T A A T G C A

contiguous letter sections

are substrings.



As practice do Largest Common Substring!

Making change

in American

1, 5, 10, 25

Form n-roid with values

1, 6, 7

30 total

7 coin

23 total

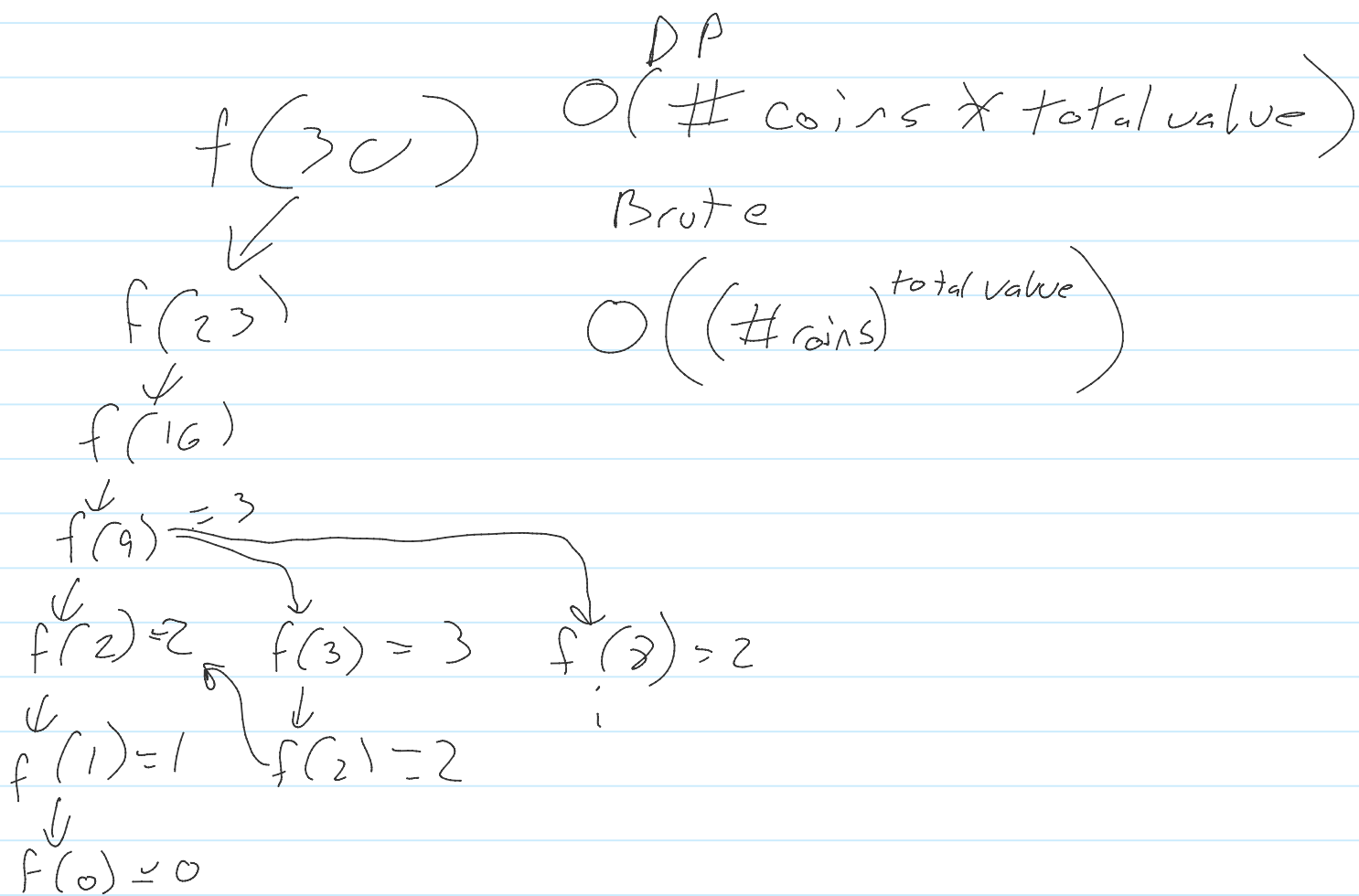
⑦ coin
16 total

⑦ coin
9 total

⑦ coin
2 total

① coin
1 total

① coin
0 total



Count seq uses Dynamic Programming