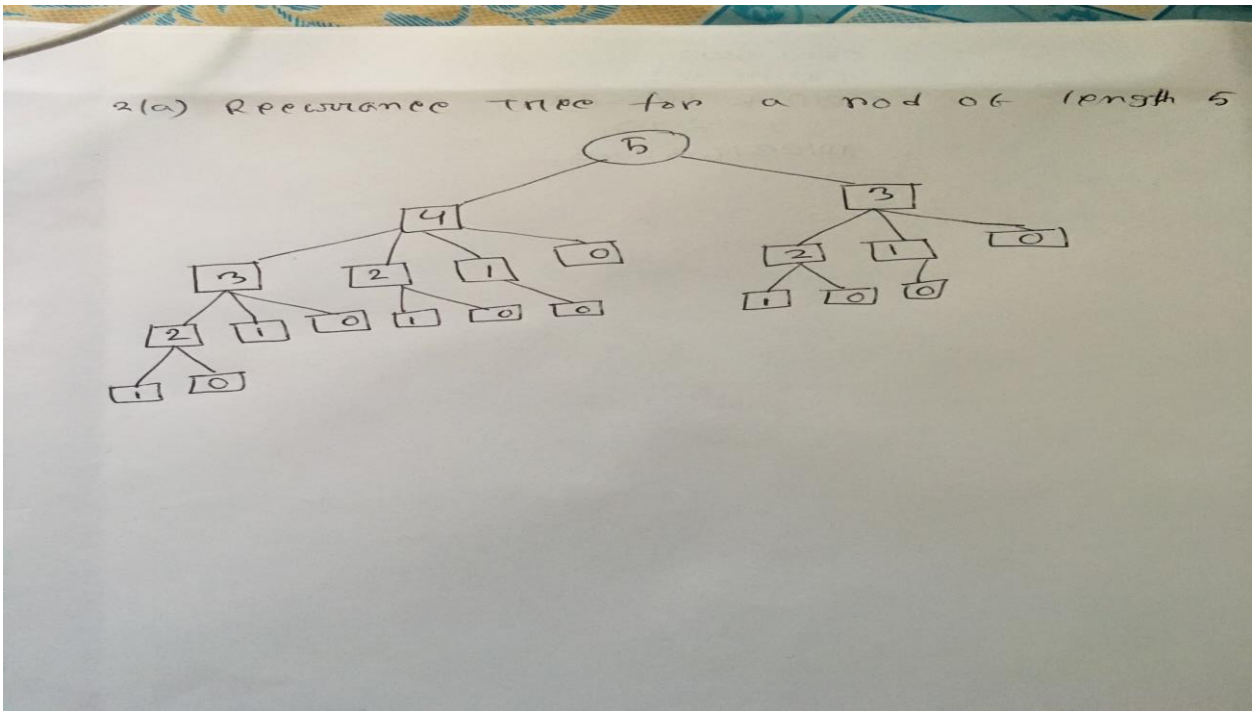
RodCuttingPdf

(a) Draw the recursion tree for a rod of length 5

Answer:



(b) On page 370: answer 15.1-2 by coming up with a counterexample, meaning come up with a situation / some input that shows we can only try all the options via dynamic programming instead of using a greedy choice.

Answer: suppose, there is rod of length n =5. Let the price array be [1,6,8]. If we use the greedy strategy considering the density, then we would cut the rod as 2,2,1(max density = 6/2 =3) which has the value 6+6+1=13. If we use dynamic programming solution, then we cut the rod as 2,3 which has value6+8 =14. Hence, greedy strategy using density does not work here.