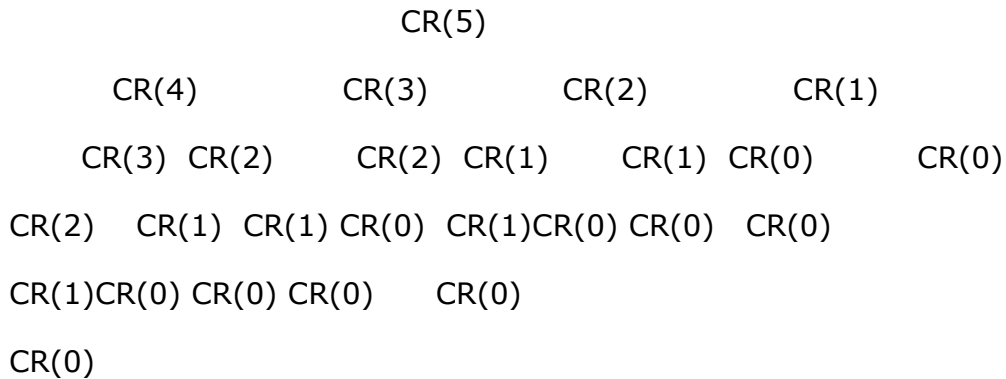


## Cutting a rod

(a)

Draw the recursion tree for a rod of length 5



(b)

length | 1 2 3 4 5 6 7 8

price | 1 5 8 9 10 17 17 20

assume length  $n = 4$

$P_1=1$   $P_2=5$   $P_3=8$   $P_4=9$  by greedy  $8/3 = 2.667$  has max density

so we cut of the piece of length 3 the remaining will be length 1 with price 1  
total price will be  $8+1=9$

but optimal solution will be when we cut off length 2 . and will give us  
 $5+5=10$  which is better than 9.