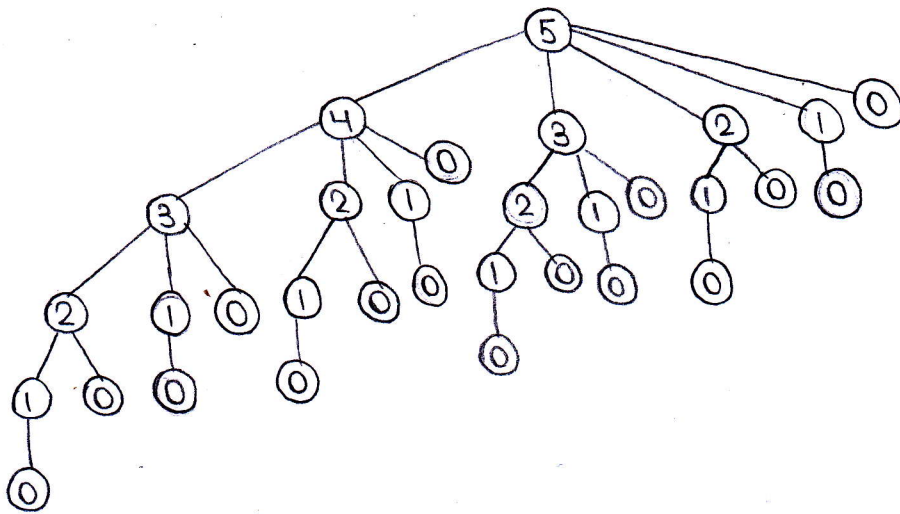


# Rod Cutting

a) Recursion tree for a rod of length 5



b) Counter example for the "greedy" strategy

Density =  $P_i / i$   $1 \leq i \leq n$   
of rod of length  $i$

For a rod of length 4

length	1	2	3	4
price	1	20	33	36
density	1	10	11	9

A rod of length 3 is first cut for

a price of 33, which has the maximum density.

We are now left with a rod of length 1 with

price of 1 but the total price of the rod is 34.

Therefore, the optimal solution is to cut the

rod into two pieces of length 2, which will yield 40 dollars.