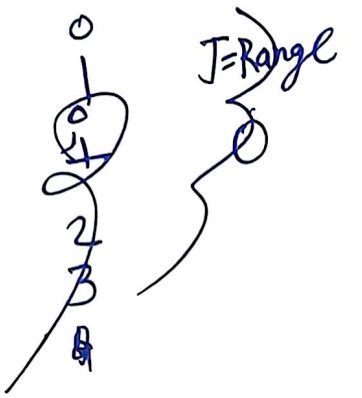
Q1 Dry Run for n=4



i	J	Star	Total Star
0	0	*	1
1	0-1	**	3
2	0-2	***	6
3	0-3	****	10

Time complexity $O(n^2)$

Space complexity : $O(1)$

Q2 n=8

i	J	output line	Total
1	0-7	8 line	8
2	0-7	8 line	16
4	0-7	8 line	24
8	0-7	8 line	32

Time complexity : $O(n \log n)$

Space compexity : $O(1)$

Q3 n = 20

call	n	output
recHalf(20)	20	20
recHalf(10)	10	10
recHalf(5)	5	5
recHalf(2)	2	2
recHalf(1)	1	1
recHalf(0)	0	–

Next call
recHalf(10)
recHalf(5)
recHalf(2)
recHalf(1)
recHalf(0)
return

Value : 20, 10, 5, 2, 1

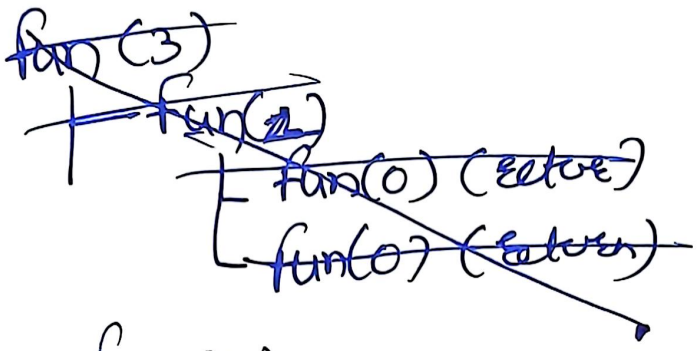
Recursion calls : 5

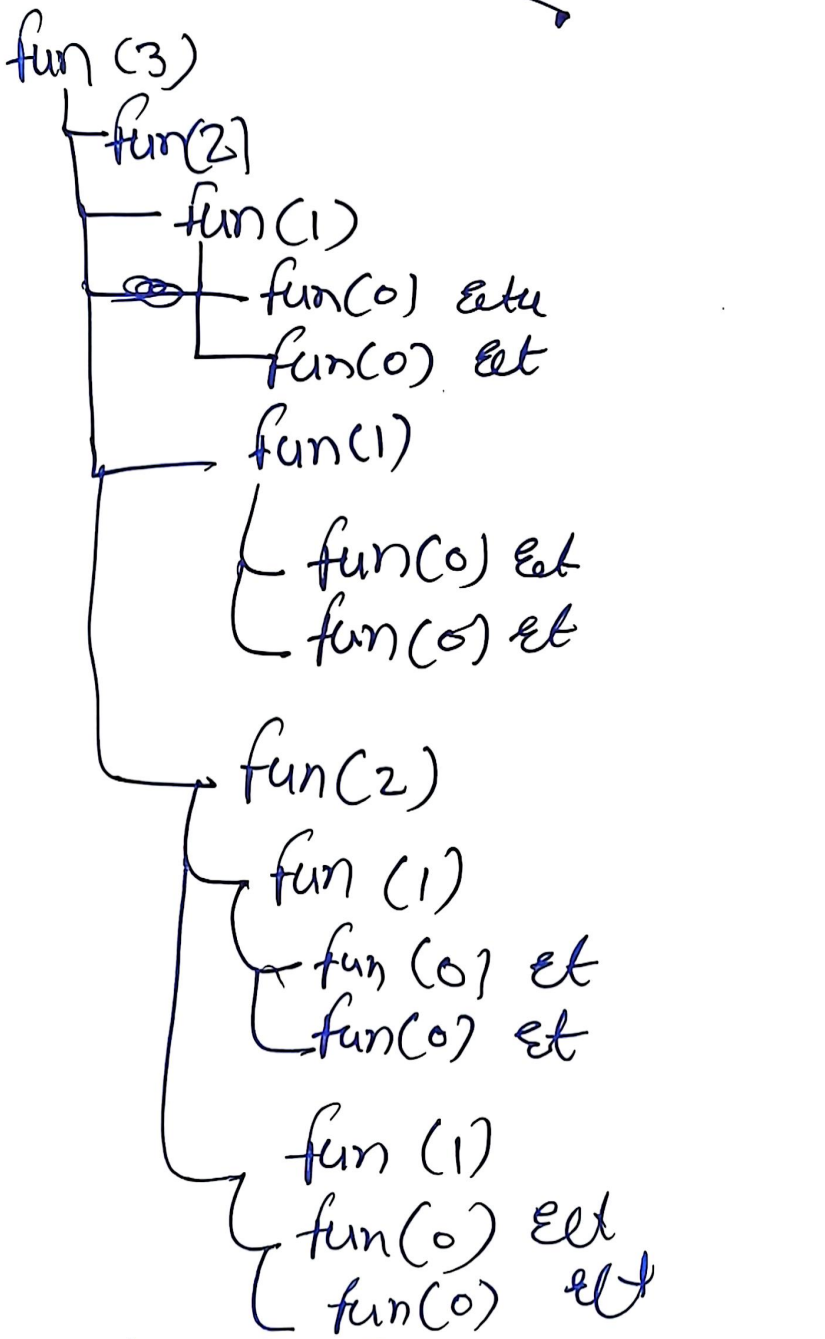
Time : $\log_2 n + 1$

Space : $O(\log n)$

Q4

n=3





Total call: 15

Time : $O(2^n)$

Space: $O(n)$

Q5 n=5

loop i: 0, 1, 2

j : 0, 1, 2 for each i

k = 0, 1, 2, for each j

iteration = 3x3x3 = 27

Time $O(n^3)$

space : $O(1)$