

Q.1

1) for i=0 to j=0	Star	1
2) for i=1 to j=0+1	***	1+2
3) for i=2 to j=0+2	*****	1+2+3
3) for i=3 to j=0+3	*****	1+2+3+4

output → ~~\*\*\*\*\*~~

Time Complexity :  $O(n^2)$   
space →  $O(1)$

Q.2       $n=8$

i	J	total	Total
1	0-7	8	8
2	0-7	8	16
4	0-7	8	24
5	0-7	8	<u>32</u>

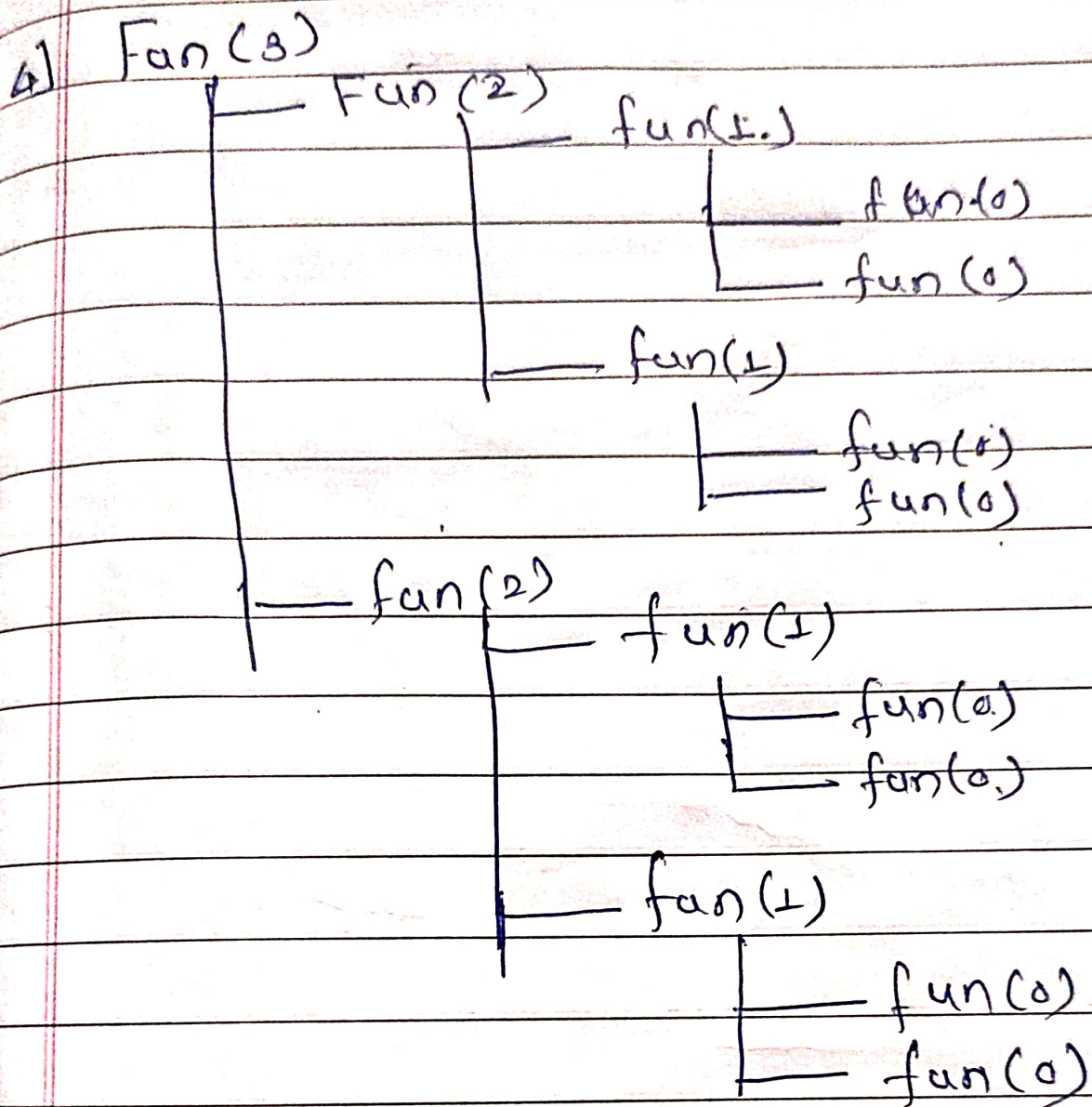
Time Complexity  $O(n \log n)$   
space com →  $O(1)$

3) ~~if~~ ~~return~~

3]

call	n	output
recHolf(20)	20	20
recL(10)	10	20 10
recL(5)	5	20 10 5
rec(2)	2	20 10 5 2
rec(1)	1	20 10 5 2 1
rec(0)	0	<del>20 10 5 2 1</del> return

Output → 20 10 5 2 1



∴ Total call

$\text{fun}(3)$	—	1
$\text{fun}(2)$	—	2
$\text{fun}(1)$	—	4
$\text{fun}(0)$	—	8

$$= \boxed{15}$$



5)  $i = 0, 1, 2$   
 $j = 0, 1, 2$   
 $k = 0, 1, 2$

for each  $i$

for each  ~~$i$~~   $j$

iteration =  $3 \times 3 \times 3 = 27$

Time Complexity :  $O(n^3)$

Space  $\sim O(1)$