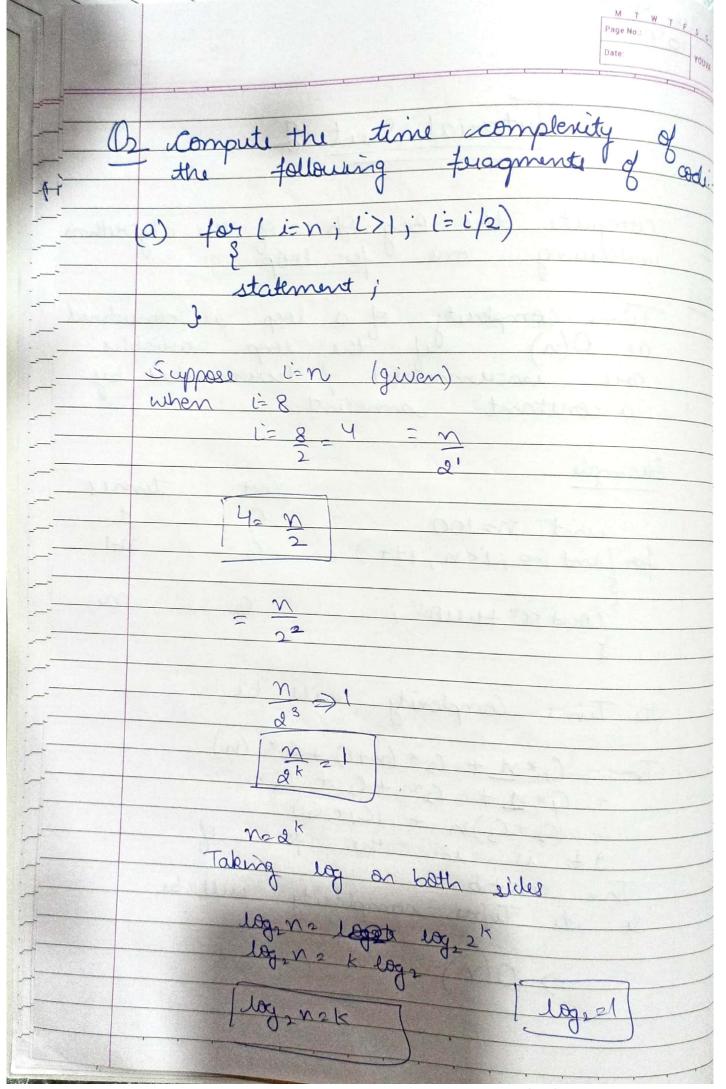
21049	M T W T F 5 8 Page No. Date: YOUVA
Compute the Big Oh of involving one for loop. Time complexity of a loop as O(n) by the loop	the algorithm
a constant amount. Example Gest unt N=100 for fint i=0; i< n; i++) Cout <<" +uu0"; 3	times
Its Time Complexity will be Th = C1*1 + C2* (n+1) + G* (n = C4*1 + C2* (n+1) + G* (n = C2+C3)n + C1+C3 It is in the form Th = an + b So its Time complexity wi => O(n)	8
	Tutorial Sheet -9 Compute the Big Oh of involving one for loop. Time complexity of a loop as O(n) of the loop our incremented / decrea a constant camount. Example Cost int N=100 G for first iso; i< n; i++) G Cout <<"+ulu"; G Th= C,* M + C,* (n+1) + G,* (n = G,* M + G,n + C, + C,n = (C,+G)n + (C,+G) It is in the form Th= an+b So its Time complexity will be



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	30 its time complexity is	O (log in	
(b)	for (i=n; i71; i=i*2)		
	statement,		
	3	Integral	
	When iz1 = 2	. 6	
	1=1*2=2 =21		
	i=2*2=4 =22		
	i= 4x2=8 = 23		
	which implies		
	\geqslant $2^k = N$	-1924	
	Taking logs on both sides		
	log 2 k = log n		
	Kug22 = log2n		
	klog22=log2h		
	[log,2=1]		
	> K= log, n		
	pros site time com	plenity	is
	O (log2n)		
		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	· · · · · ·