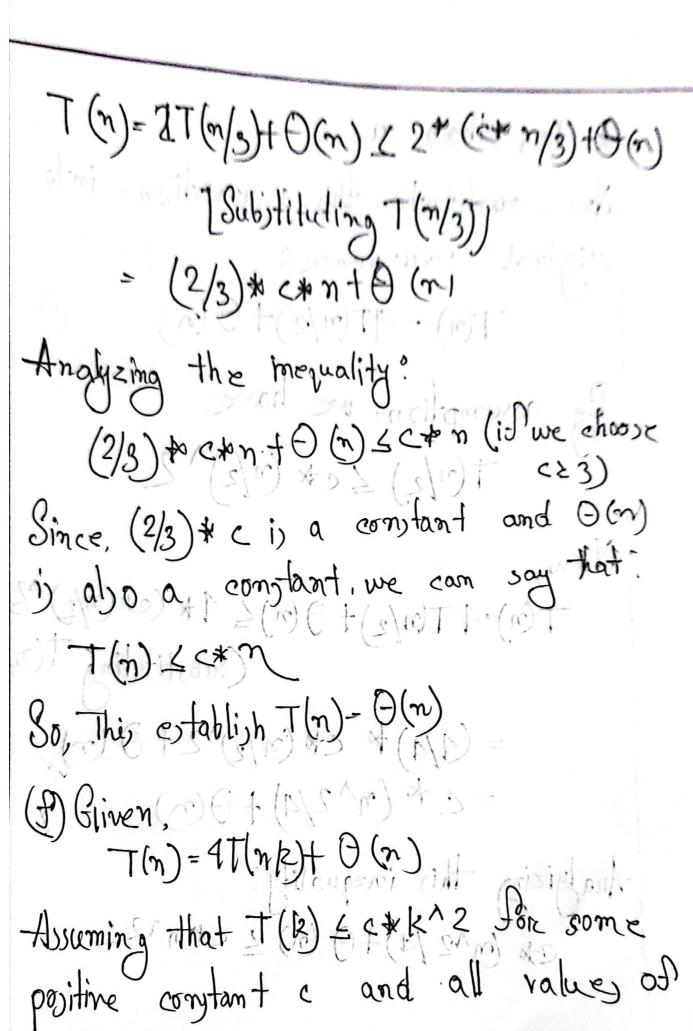
(C) T(m)=27(m/2)-1n -T(n/2)-27(n/4)+n+on·21(n/4)+&n-@ 7(7/4)= 2+(7/8)+Bm-(3) Putting value of @ in 1) T(m)= 2+(m/4)+2m Pulling value of 3 in here T(m)= 27 (m/201/8) + 27 (m/8) + 3m T(nxk) 2T(n/2N/2) +km [is k=3] assuming 2. 21k- n12 Klog2k=nlog/201 (E/m)TS (m)T So, Replacing k within, o o o o (mlogn)

T(n) = 2T(n/2+17)+n 175 = (10) some thod of (81m)+9=(p1m) we get 2.71/2= n n/2 ~ [17:50 constant] kloge = nlogk Replacing 1: kr with on we get (1) 0(n/0gm) (e) Ginen. T(m) 2T(n/3) +0 assumption, we $T(n/3) \leq c + (n/3)$ into the Now, substitute this recurrences



(ki less thans no colde posts (m) I Now, sustitute this assumption into oniginal recurrences T(m) = 4T(m/2)+0(m) By assumption, we have, 6 1 = 7 (m/2) \(\frac{1}{2}\)\(\frac{1 Since. (2/3) * (1) Now, T(n)-4 T(n/2)+0(n) < 4 * (c* (n/2)^2)+0 (Substituting T(n/2) = (4/4) # EN (n/2) 12 7 Dilyo = c + (m/2/4) + 0 (m) MSVII) (9) Analyizing this inequality. 2000 (m/2/2)+0 (m) 12 cm/m^2 morriedt o tractures eviling

Since e/4 is a constant and $\Theta(n)$ is also a constant, we can say that, $T(m) \leq C^* n n 2$ So, T(m) = O(m n 2)