Date: Sun Mon Tue Wed Thu Fri Sat

Lombare 19 14, 13, 10

Lombare 19, 59, 23

Lombare 19, 59, 23

combare (9) 37

Away divide into 4 pouls logyn levels

Moraging Array required O(n) time Lombing both bilded takes: 15 yen level's and each Thefore availabling compliately becomes O(n) x O(logyn) = O(nxlogyn

Date:	 	

3h3+5n2+250 = 1 (n2) -12 (g(n) =1 ower bound possive constant 2 and no guch that

For all n 3 no f(n) > (x gin) We have to guess, a g(n) and no 13 grows Faster then n2 and no as n becomes large. 3 n3 + Sn2 + 25 n >, 3 m3 Here (=3 / no=) As n increases 3n3 + Sn2+25m The fore 3 n3 1sthe term that defines growthy

Note of 1 state term that defines growthy

510g2 (10g2n) + 410g2n = 0(3)
Lompene both terms
logilloging much stower then login, login
logs (logs of much shower than login,
Jarling than just 105 m and mason
Faster then 12/2 (1850).
login = (login)2 gruns fureir ton
10g2n = (10g2n)2 gruns fureis Han
1 1 1 2 in David's lem much & les
55, 4 154 h
then Slugglossen) Fre lange reducing in 50 bigon fini & exgini & n 7, no, and en protect 5 logs logen + 4 logen. & c x g(n)
50 61504 J(N) C CXGINI VII JO JOHN OF THE
5 log2 log2n + 4 log2n = 07 7 cm)
5 log logan + 4 logan / 5 * (logan)
Big on is dominal term
S S ON C CHILD
2 to 1024
C: 6 100: 1 = 1011
ny wy.
July to the second of the seco

Jatel......

Sun Mon Tue Wed Thu Fri Set

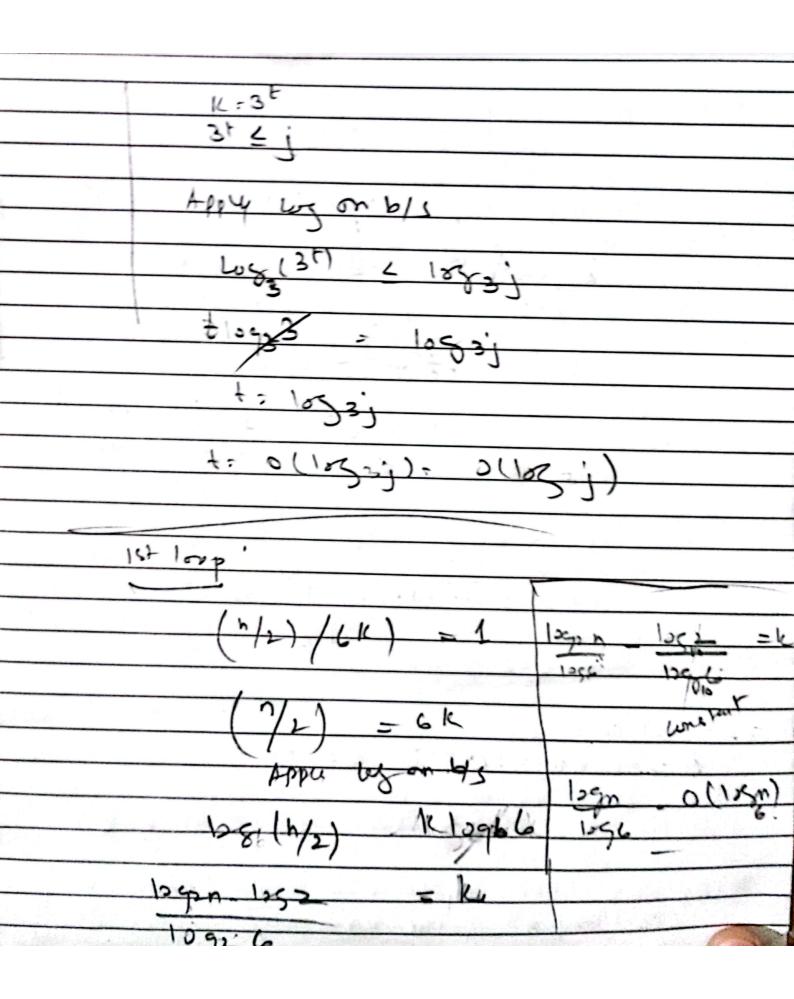
Fret loop 7011=n/2 (>1 ; 1/-6) i - 11/2 and this divided by 6 10-17 Solve this $((n/2)/6) \approx 1$ (no of itr in which (n/2)/6)

No of in. in is 0 (logen) become 1. 2 - Inner 10010 70x (j=2; j (=2, j x=4) (m/s) in each tretion.

No. I i'm, Hims. 244 4 -> Solve this und

Ly So times: O (logyn) - o (n150) yet Last losp 7 (k=0; k == , k= *3) K = D cho muliplud by 3 in each

1 cl 1c=1 the no of it = homing than 1 x



Sun Mon			Tue					Wed						Thu					Fri			Sat				
Dat	e:	×	9	*	×	4	×	×	*	*	*	*	*	ĸ	*	*	9	*		×	×	*	*	*	×	

Ind lug)

2x4x >n

1267×1284× > 1280

105) + Kly14 > 1252n

Klog4 > 1082n-1092

K > 10525 - 1052

1284

1284 - 1286 1284 - 1884

1052n 0 (10gn)

0 (10gn) x 0 (10gn) x 0 (10gn)

T.c.> 0 (10gn)3

n= ZK 1280 - K. i stails with a and incream 1+2) ×n times In le nx logn= 0(n 10 gm)

NO

1. log. logn2 = log(2.logn) = log+2, loglos(n)

log (log(n2): log (log n)

logan logn = (logn)

Faster than 10g (10gm) slower than

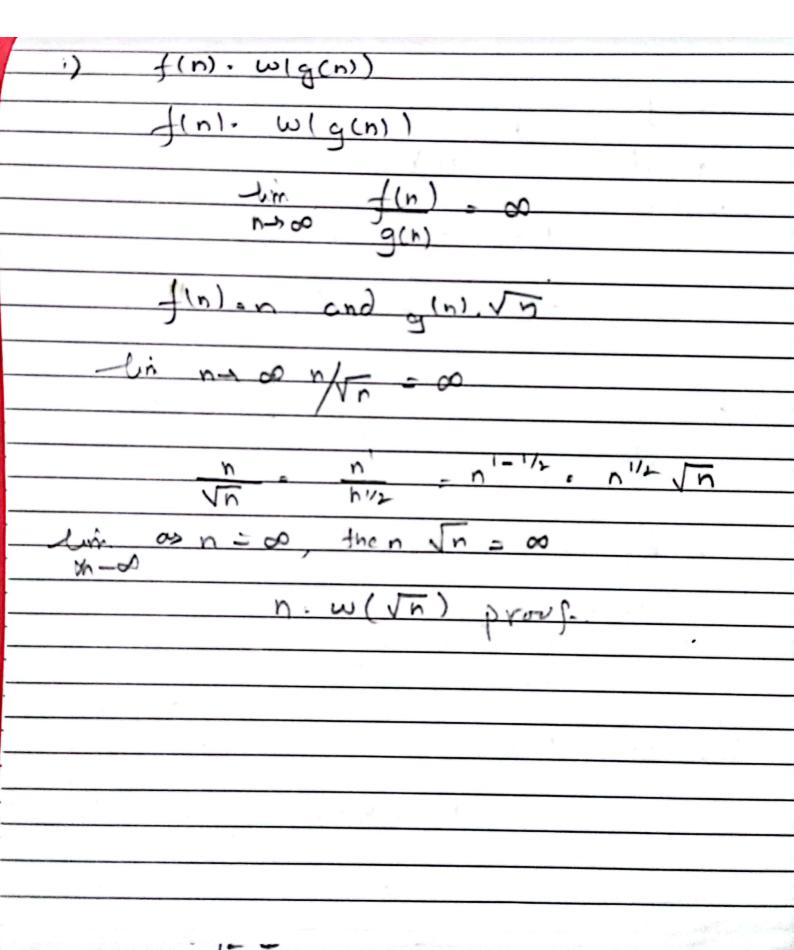
n-2 small compare to polyment of and life
log (12 logs (n2))

Apply 1090 109, (n2) = 2 109n

n'12. Fark then Log but sparen than

quadratic ne is faster than all

n-2, log. logn2, 2 logn, log2n, n1/2



Date: Sun Mon Tue Wed Thu Fri Sat f(n) = 0g(n)), then g(n) = 1 f(n)) Let (n): 3n Check if find- olgin) fin) < cx gin) 3n < C*(6n) 3n L. 2x Ln 3n L 12n Prost 3n is @ (g(n) qu)= 1 9(n) > cx f(n) 6n > C x 3n -A-A-COI

3n C=2.

Gn > 3n

f(n) - 2" f(n)- of(n)2 f(n)=2h so f((n)) = (2h)= 22n f(n) < cx f(n) = RHS connutbe

2n < c. 2n RHS connutbe $\frac{2^{n}}{5^{2n}} = \frac{2^{n} \cdot 2^{2n}}{2^{n}} = \frac{2^{-n}}{2^{n}} \leq c$ 2-h c a is alway less than c So this dissappines f(n1= \$\phi f(n12)

Tini. Ofini, then Tini. ofini and

(Let TCn) Worstcan of the Algo is

Worst T(n) = Sn2+4n+2 Boston T(n): 212+3

let chede . Ten: Of(n)

Q(n2)

Tin + O(n2)

T(n) - Sn' -4n+2 Z Cx anz Here c.9. Proje

Now Ton) = 1 (n2)

Best care

2n2+3 > C* (n2)

22-137, 1.72

host T(n)- - ~ (n2).
hy this Ayanthan is noted