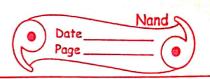


Z TTMA - SERVE
$g(n) = n2^n$ $g(n) = 4^n$
Applying unto rule,
The state of the s
ly long - lu nen sur ner
le $f(n) \rightarrow lu$ $\frac{n2^n}{4^n} \rightarrow lu$ $\frac{n2^n}{2^n}$ $\frac{n}{2^n}$
Applying L'Hospital 2) lieu 1 n-20 20 loga
n-20 2nlogs
Hence, jons ès Ocgos
O4) let polyno. In Pen aug Cog Cn) In.
using Wuit rule, lew logns For7
using Wuit rule, lu logns [2]
· LORDA - LORD
Applying C'+108po Ruly
2) lu 1 - 1 - 4 a showed
n-100 n(Pn)
thus logn greows slower than all juin
let 2 leg jour Legan and.
(artin +1)



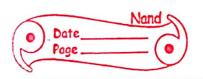
	$= (A \in \mathcal{A} \cup \mathcal{A}) = (A \in \mathcal{A}) = (A \in \mathcal{A} \cup \mathcal{A}) = (A \in A$
Applyfug lint rule	a constant
hu logn n→0 log(nH)	The logn of the
n-30 leg(nH)	h-300 log b-log(1+1)
	OF OC N
2	We logan
	101 logan 10-20 logan
· · · · · · · · · · · · · · · · · · ·	
+ x . (1.2	12 1- (11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
flance all log fur	n grow rate ,
Oe, constan	o of e
E Chi	
Oc.)a.) Anvage case (O)	world case (0)
	ENE CONTRACTOR OF THE PROPERTY
* Penforeus auveage no.	* Presporus maxeum no.
Of steps Den Euput	of steps on lugat
acta of a elements.	dater, of n elements
* Anorgand	* Input is arbeforey liver
* Awaged own all poss-	A output is apper bound
-Eble cuputs.	eg = O(n2) > Quek short
lege O(nleg(n)) - Quikshord	-
	<u> </u>



	A STATE OF THE PROPERTY OF THE
(Os)b.)	
World Case (0) E	symptotically Bourded (2)
	Jan Boundary (25)
LOIP & subscituy spar * Gp	eoute of a lumbing time
LOPES apper bound. to	cuitures coust- jactores
belo	cuitures court- jactores
191 1000 101	<u> </u>
06.)	
(1) /cm - 1-4 +10000 114	. 11
Qu) Jan 2n4 + leegn +17	gwi, h7
Che fin = law nz	+ 409-117 Mg 12 10 10 12
	n4 0 0
z) lieu -L	tn3+4
	403
2) Will 4713 n+00 413	4/19
I const.	- FALL BONNE BURNING TO
fluile Jun es &	Palmo D
	Carried States States
Lamber C. E. S. Same	sa no no la Blance de
Said to the first of the control of	daile Course
	Land the contract of the
	V
	N .
3	



Qt.)
a.) K21
K22
K23. To it is it tout a stand
0(n+)
) EO(n)
1111 14.33
Kizny Going and orien
b.) Por l'=1- /2 2,31-n (n1)
e^{2} f^{2} f^{3} , f^{3} f^{4} f^{2} f^{3}
$\frac{(2n+0)}{(2n+0)}$
$\frac{n - 1) + (n - 2) + (n - 3) + (n - 4) - 3 + 2 + 1}{(n + 1) + (n - 2) + (n - 3) + (n - 4) - 3 + 2 + 1}$
$\frac{n(nq)}{n(nq)}$
(0,1-0, 22,51),0)=
O(n)
$\left(z_{i}, \overline{z_{i}}, \overline{z_{i}}, \overline{z_{i}} \right) = \overline{z_{i}}$
OB.) Quadratic Function 3 for 2 m2
$n*n = n^2$
1+2+3 (n+)+nzn*(n+1)/2
- Quadratic sigo. are poarticle for sulatively
- small problems, whenever to cloubs, the
Puadratic selgo are practicely for evelatively small problems, wherever in cloubts, the learning time Encreass josefold. 1, 4, 16, 64, 256, 1024, 40636.
- 1, 4, 16, 64, 250, 1024, 40 636.



= Qq) TAZ (00h
T _B z nu
leeling limit seule, les 14 7007
(1-10) 100h
- CMM2 C
lin 4n3
n-300 100 log100
1 1 24 2 0 00 n → 00 100 100 100 100 100 100 100 100 10
n->00 (log (loo))
2 (1. M)
thuel, To grows faster when n - 100
e (2-11) (2 tare)
* The office of
Olo jen zneegn gbiz log(n)
= Log (1.2.3.4
$z \log(n^{n/2})$
The transfer hay the a land of the
-2 n log n
2 12-0411
20 26gn-h. Wg2
\mathcal{A} \mathcal{A} \mathcal{A}
Engraphic atus, par markes use configure
2) n logn-log2) 20 (nlogn)
a fill and broken the soul of the second
Mena, pm & Dgm



O(1) $O(1)$ $O(1)$ $O(1)$ $O(1)$
Joe 0 e, g(n) < (2, g(n)
$2^{n+1} + 2^{2n+2}$
=> 2n + 4.022n
Q N 1
$\frac{2^{2n}(4+1)}{2^{n+1}}$ Highest order from $3^n \to 0(4^n)$
$\frac{11601}{11601}$
toges seem 2 70(4")
$(n^2+6)^{\frac{8}{8}}$
(1, (2)
higest oreder lum z (n2) &
2 n ¹⁶
$\geq O(n^{16})$
12) TA 2 n2
TB = n+1
Breaking Pto
$n^2 = n + 2$ $n^2 - n - 2 \ge 0$
$\frac{h^2 - 2n + n^{-2} + 20}{n(n-2) + 1(n-2) + 20}$
n(n-2)