	1
Time Complexity	
Time Company	
D Frequency Count Method >	//
Frequency Count Method >	/
) Sum (A, n)	/
$ \frac{d}{ds} = 0; \qquad bother $ $ \frac{ds}{ds} = 0; \qquad (n+1) = n+1 $	1
for (1=0; 1xn, 1++) - n+1	5/15
n times ; — n	
suturns;	
1	
Total time & 1+ n+1+n+1	
T = O(n)	
7 = O(n)	
27 10.0	
Jor (1=0, i <n, -="" i++)="" n+1<="" th=""><th></th></n,>	
ntime midd (J=0. J <n, j++)="" m="" n+1<="" th="" x=""><th></th></n,>	
incide loop for $(J=0, i < n, i+t)$ — $(J=0, i < n, j+t)$ $(J=0, j < n, j+t)$ $(J=0, $	127
$= \mathbb{Q}(U_{S})$ $= \mathbb{Q}(U_{S})$	
$= \mathbb{Q}(n^2)$	
37 for (i=0; i <n; (j="0;" ++)="" 3="" 3<="" <i,="" for="" j="" t++)="" th=""><th></th></n;>	
(n) (-	
2 (j=0; j <i, j++)<="" th=""><th></th></i,>	
7 7	
Analyseng i t	
Tinia	
0 X	
2 0 2	
3 0 × 3 × 3	
2 × 3 ×	esti

		total time =) 1+2+3+4+ n
		+otal +1:me =) 1+2+3+4+ = n(n+1) Date: O(n2) /
		$= \underbrace{n(n+1)}_{2}$
	—	(n=1) 1/2/20 0
		p=0
d s		$g = p + i \qquad (n) 0$
		Analyse i $p$ $1  0+1=1$
	(2)	2 1+(2=3) 11/201
		3 1+2+3=96
		K = 1+2+K
		,
	37	Assume $p \neq 0$ $p = R(k+1)$
-		$\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$ $\frac{2}{\xi + \zeta + 1 + 1} = \xi$
		K(K+1) > n :
- 1		K2 7 n
	13	Ky Up - stop after this
<u> </u>		warm dats
-		T = O(5n) (6) for (1=0; i <n; l++)<="" th=""></n;>
	5)	for (1=01; i <n; (5="0," 1="" 1<n;="" j++)<="" l="i*2)" th="" tos=""></n;>
		$\frac{4}{3}$ ; $\frac{1}{10000}$ $\frac{1}{2000}$ $\frac{1}{2000}$ $\frac{1}{2000}$ $\frac{1}{2000}$ $\frac{1}{2000}$
		Analyse. i +
		00 moles 192° 110 man in 111 (10) (111) (111)
		2 K2 22 17) \$0, (1=0, (21); (1))
		2x2x2 2 4 1, for (j=1; j <n, j="j0)&lt;/th"></n,>
		$\sim$
		(npol n) Os (10gn) - Toganthine
		- a K 2 m C (9030
		O(logen)
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I	Analysis of H. & while botol  (1+11)11 = Date: /	
	$\frac{1}{1000} = \frac{1}{200} = \frac{1}{200}$	
	i=o D+1 while (i <n)< th=""><th></th></n)<>	
	J1++; /(-+) (usd 11-1) est	The state of the s
	O(n)	
<u></u>	i=1 k=1+0 1	
	while (KKn)	
~	Y K2 RF1 8 C+43+1 8	
~	Analysing still a mussh	
	2 111+2	
	3 1+1+2+3	
Ha this	10 11 + 2+2+4+M	
	Stop when	
(4+7!V	m(m+1) < n $(7.) = 7$	
(++	m <sup>2</sup> cn	
JUN) = 217	m < 5	(3)
	Analuse ; ;	
(ST=1:0>1	by taking og	,
	O(1) -> constant	
	polar (O(logn) -> logarthmic	
	O(n2) -> Quadi	
Million and the second	Scanned with CamSo	canner

	comparison of dassers
14	ogn < 5n < n logn < n 2 < n 3 < 2 /2 3
17)	oping a worst rose a last a
	then $f(n) = O(g(n))$
8	14100
2)	Theta - everage 1
	$\frac{c_1 g(n) \leq f(n)}{c_1 g(n) + c_2 g(n)}$
	$c,g(n) \leq f(n) \leq c,g(n)$ $2f(n) + (o)(f(n)) + (n) + ($
37	by omega -> best
	$c_1g(n) \leq L(n)$
	$c_ig(n) \le f(n)$ then $f(n) = 0 \Omega g(n)$
	<b>V</b>
	Method to compare -
ı)	$n^2$ $n^3$ , $\log_a b$
	take log logat logat logat
	2 logn < 3 logn of logg = logg - logt
(د	$n^2 \log n$ $m(\log n)^{\log n} = \log a^{\circ} = \log a$
	take log then b=logan
	log ne logn logn (logn) loga el = ( loga
	C + C + C + C = C + C + C = C + C + C +
2	logn + loglogn logn + loluglogn
	TO COMP
	loglogn < 10log hogn + this &smalle
6	1-1-1-1-1-1-1-10g n/2-00(10g n) 10 (1) 7
	1 ((-d) - 0
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	Date: 184
>	Recuerce sellath Date: 164
	10 alw Conta
N)	T(n) > 9200 Ton), Tay Tay
50	more Teet 612
. 30	+3-45 (n x0) - apat
	to (i=0; ien; it
	D21M
4	
	$(n) \in (n) \neq (n) $
	T(n) = 75ng1) = +(2nt2
	T(n) = 7(n-1) + 0(n)
	129d - p 53ME Mid 11
	$C_1(\Omega) \leq C_1(\Omega)$
	then (1-7,25) = 602 g(n)
	n-1 $T(n-2)$
	Method to compare
	d pol. Em-2 sm T(n-3 (1
pol	take log.
leg	Time - napple > rpole To)
old	$\frac{1}{2}$
n	= dr(n) = O(n2) apoin agois a (c
: d	taxe log
2)	Byt sust · (npol) (rpol 1 (pol 5 (pol) - T(n)) = T(n-1) + n
	T(n-1)= T(n-1)= T(n-2)+n-1
	T(n-1)= T(n-2)+n-1
21	in+ F(n) = + (18-2) + n-1 + n
	30 0 11 Bol Bol
	T(n) (= par)cm-k) p(m-(k-1)+n-(k-1)
	5 = (h-1)+ N
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