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10.8	O	7.5	200	A Company

Bitonic Sort:- Vol 100

- Parallel sorting algorithms that performs O(nlogn) companisions.
- elements are compared in a pre-defined sequence:
- The predefined sequence is added bitoric sequence.

In Bitonic requence elements are first arranged inincreasing order and then after particular index its decreasing.

Conversion of Random Sequence into bitonic sequence:

- i.e. \$ 30,70, 40,80,60,20,10,504
- 2. Divide the array into half i.e n/2

(00 00) (00 00) (00 00) (00 00) (00 00) (00 00)

70

40

80 - ()

00

20

10.

50

[Divide into 1/2]

3	Now again divide elements of 1) into two half and again half
	and sort about two elements in assending and below two
	elements into descending.
	30 30 × 30 × 30
	70, 70,) 70 you 40
	40 40 3 80 70
	180, => , 80 4 => 40 => 70 => 80
	60 60 K 20 \ 50 \ 60
	$\frac{20}{50}$, $\frac{20}{50}$, $\frac{50}{50}$
	10 10 50 20 7 20
	50 500 100 100
	Bitonic Sequerce
·	using array example:
	band the of the special server the result was
4	array[7 = 30,70,40,90,60,20,10,50
1-)	To create bitorie sequence first create two subsequences one
-	in ascerding, another in descending or der.
· 2-)	create pair of elements.
-	array []= {(30,70), (40,00), (60,20)}, (10,50)}
	Sort the pairs of 0,1,2,3 index.
	anray[]={(30,70),(80,40),(20,60),(50,10)
3→	Then create pair of these pairs in 4 elements in bitonic sequence
	and compare their elements which are cot airtance 2 i.e. i and i+2
	array [] = {(30,70,80,40), (20,60,50,10)}
	array [] = $\{(30,40,80,70), (50,60,20,10)\}$
43	again pottow step 2
	array [] = { (30,40), (80,70), (50,60), (20,10)}
	array [] = {(30,40),70,20), (60,50), (20,10)} create orting total
, ->	bitonic sequence created.

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	Date:- / / Page:-					
	Bitonic sorting algorithm:					
1-	Creale bitonic sequence from the given random sequence, first					
	half in ascending and record half in descending.					
2-	Compare first step element of first half with the first element of					
	second half,					
	then the second element of second half and soon.					
and and a second	Swap elements if any element in second half is found to be smaller.					
3-	After step-2, all elements in the first half is smaller than all second					
er the	half and so on.					
	Then compare swap results to into the two sequences of n/2 length each					
and the second of the second of	Repeat the process performed in 2 step neversively watil					
A ASSET OF THE OWNER OWN	we get a sorted common length.					
	/30 30 20 10					
more waster the last	(40) (40) 10 20					
	(190) (20 30) 30					
	(80) => 10 => 40 => 40					
and the same of th	60 60 60 50					
	(SO) (SO) SOU 60					
	20/ 708 20) 70					
	10 80 80					
Tomphysia y Sylver - See .						
December 1	Bitonic Time Complexely:					
The second second	O(log²n)					
	V management of the control of the c					
	Space Complexity:					
Server were	$O(n(\alpha g^2 n)$					
· · · · · · · · · · · · · · · · · · ·	Not Stable:					

	Radix Sort:	3 millionaris mil	an realist
		The companion will be seen to the second of	
4	Ginear sorling olgorithm used	By integers	and it was to the
	Digit by digit sortine is perfor	med from the le	ast significant clight
An had	(LSB) to most significent digit	(MSB)	1 774 10
	Algorithm:	max significant	160
not the	is edulation to the commence of	AND IN RUN II HA	reast significant
1000		in America Bai	
		aray	
Ban War)
	II .		
			H FRIEN E
	11		
		2.00	25.
	Working:	104	7-14
	THE RESERVE OF THE RE	1 200	
	Find the largest element (max)	in array: x is	the number of digits
			V
	1 m	(pa x	1
	unsorted-array = [181,289,39	0,121, 145,736,	514, 2127
		20 V	-
	√	100 to 100	
		means we requi	ire three passes to
	1		
	J		
		774.1.8	1 Land 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	a first of		
	Linear sating algorithm used for integers Night by digit sating is performed from the teast significant clight (LSB) to most significant digit (MSB). Algorithm: max Significant tradix Satt (arr) max = largest element in the given array a = no. of digits in the largest element (or, max) Now, create a buckets of size 0-9. for i = 0 tad soft the array elements using counting sort (or any stable sort) according to the eligits at the ith place. Working: Firel the largest element (max) in array: x is to number of digits in max. untasted—array = [181, 283, 380, 121, 145, 736, 514, 212] Targest element = 736 x ord = 3 (no. of eligits) ! means loop will run three times, mans we require three forces to sort the array.		

	Iteration -1				- 140 41	10/			
		a souted on	the bar	is of the	oligit cet 0	's place			
	22 1 12 1	The list is socted on the basis of the digit and 0's place mouns least significent digit.							
	micoins least sig	mercent ough	01 110	4					
		13 1 1	1	7-	10	117			
				62	, ,	1			
		121		E A S					
	390	181	212		514				
		×× 1	XX2	XX3	XXY				
	1 3 1	13		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	12 1	No. 1 American Commence of			
	- N		***						
					and the second	in the state of th			
	145	736		1	289				
	AXS	××6	FxX	xx2	XX9				
	NX S		1			1 ax11			
	7 × 1	, P	A. P. San and S. San a	9	***	7 - 7 - 1			
	The array ele	mente cino -	390.18	1 121,212,	514.145.7	-36,289			
	The white ca	Travery Con	30 171		A TENT	7			
,,		(VIS BOT S)	. 111 . 1 . 1	h					
	Iteration - 2								
	Sout the lis	+ for the n	ext sign	ificant dig	pit at 10	the place			
		23	10	410 50 3	The said	1			
grant.	Tara la	A fost	On all and	Troll see					
,·				and the second s					
- 1		212	101	736	145				
	NA	XIX	121 ×2×	x3x	XYX				
	XOX		X Z X	. Va	1 2	1			
			14.						
		A PRIVATE REPORTED BY			289				
				181	390				
, .		× 6×	×7×	× D×	X CX				
	XSX	^ 6 \	A 1-A						
				7-1					
		h j = m			30				
	The array els		2 112 6	10 101 7	2 (1111	21 20-			

			and the second s	Figure 1995 and a region of the second secon		
Ite	ation - 3					
50 1 3 h			nd to be Wi	14. 14.	1	
	Now solve			e max signi		it i.e
cut	100th place	2			0	
		122	22		Y	
				1		
		121	000	1-11-61		
	pro-	121	289	390		
	OXX	121	2xx	3××	UXX	
	2		12			
			-			
	514		736			
	SXX	614	+xx	8××	9xx	
- 11		:- 12(n+k	1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
	Average Ca	re a Worst Co	<u> </u>			- 7-
				E15.		
Spac	e Complexet	- O Cn+	R)		X Y / /	
	Stable:-	Yes,				
		land land				
1 1 70.2						
1 1/3/8		32 .				
T XS	R. C.	· 1	187			
	The first contains a constitution of the contains and the				- 31	
1,20	113 17	721 810	C15 (**);	ा क्षेत्रभावित	inopal safed	
		and the second s	n palipungan dia sakalah sebagain sebagai sebagai di mengalah berana di misan di mengalah sebagai dan sebagai			