Bubble Sort Algorithm.

Bubble Sort is simple companison-based sorting algorithm. It works by vielectedly swapping abjacent element of they are in worng order. This process continues until array is fully sorted

Example 1- [3,1,5,4,2]

First pass: 3,1,5,4,2

\$1,3,5,4,2

with first pass

the largest element

came to end.

1, 3, 4, 5, 2

7

1,3,4,52,5

Second bass :- \$1,3,4,2,5

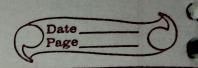
1,3,92,4,5

3rd pass 1- 1,3,2,4,5

1, 2, 3, 4, 5

.. Shorted

the 2nd largent
element came to
2nd last in the
position.



	Worst Case:- i=0 5,4,3,2,1 1st bay
	i=0 5,4,3,2,1
	1st paus
	4, 5, 3, 2, 1
	4,3,5,2,1
	Total Salvada analdan Ji anda
	4,3,2,5,1
	TIME (MADIENTLY) THE
	4,3,2,18,5 => (N-1) Comparision
	Best Page 20(11) & Serted Array
	i=1 4,3,2,1,5 -already sorted
	and pass.
	3, 4, 2, 1, 5
	The Property cathanas of t
	3,2,4,1,5
	3, 2, 1, 4, 5 => N-2 companision
	well to a single all property and a single and a single all property and a single and a single all property all property and a single all property all property all property and a single all property all property all property and a single all property a
	i=2 3,2,1,4,5 - abready sorted
Stu	3rd pass
	2,3,1,4,5
-41	which suley and done much basided - well
	2,1,3,4,5 => N-3 companision
	convered who had not move significant
	i=3 2,1,[3,4,5 - already sorted
	4th pais
	1,2,3,4,5 => N-4 companision
-	

total Compansion = N-1+ N-2 + N-3 + N-4 = 4N - (1+2+3+4) = 4N - [NX (N+1)] => 7N-N2 => In time complexity constant 4 less So; Time complexity = O(N2) dominating term are ignored Strable Baso Stable Sorting Algorithms :-10 20 20 30 10 1808t. 10 10 20 20 30 Here; In original array to (black)10 is before 10 (red) 4 this is maintained in sorted array Unstable Sorting Algorithm !-10 20 20 30 10 10 10 20 20 80

Here; Order is not mainted in corted array