Name > SOMBIR

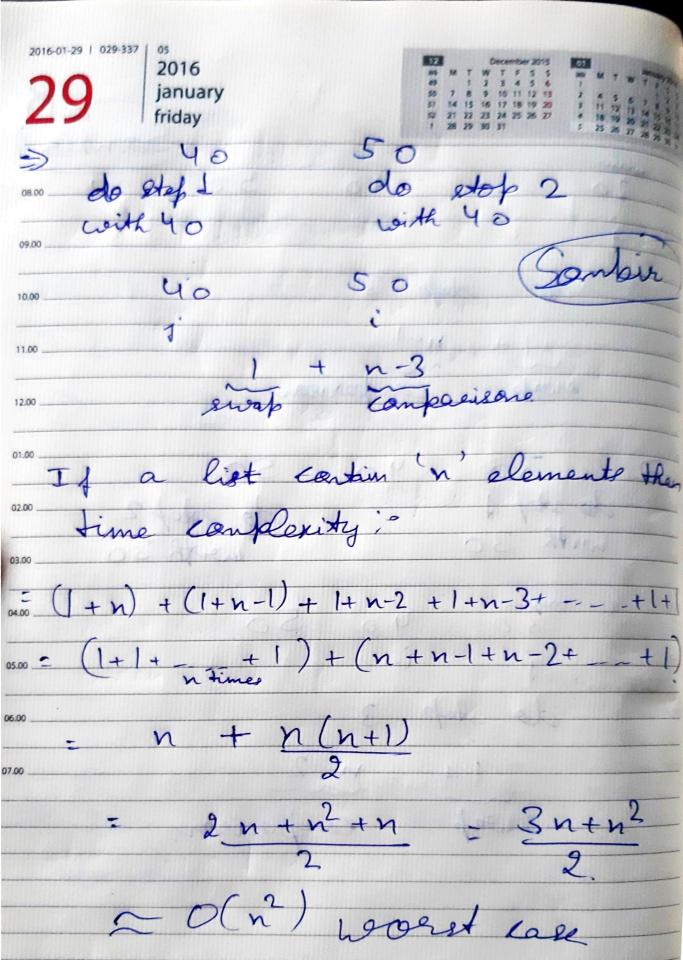
Roll no. > 11911025.

Branch > C.S.E.

Best Case time complenity Of Insertion sort briven array: 2,3,4,5 1 2 3 4 Comperision Movement Time complexity = 1+1+1=3 = O(n-1)  $\approx o(n)$ 

1200 D find element smeller than 10. main (20 30 40. 2) Step 3 3 swap the main element with jth element 1+ m swap compailar > 20 30 40 50 0 do extep 1 do extep 2 with 20 with 20.

Bubble Sort Bubble sort (intorret ], int n) { int i, i; 100 (i=0; i<n-1; i++) 100 (j=0; j<n-i-1; j++) if (arr[j] > arr[j+]) gwap Barr [j], Barr[j+)] Worst lase " inner loop run When i = 0 n-1 time n-2 time 2 times Total = n+n-1+n-2+n-3+-..+2= n(n+1)-1  $\approx 0(r$  $\approx O(n^2)$ 



Algorithm Time loses Beet Quick Sort nlogn Average Worst n2 Merge Sort Best Rase nlogn Average worst

	1	
Algorithm name	Loses	Time
name	HIGH A TONE	A STATE OF
0.11	Beet	An 0
Quick Sort	Average	nlogn
	Worst	, n2
01.00	9 1927) 69	
M. 0 190	Best care	0
Merge Sort	Best case Average worst	nlogn
03.00		
Insertion Sout	Reet	n <sup>2</sup>
04.00 Sood	Holage Worst	n <sup>2</sup>
05.00	Best	n
Bubble	A120000	n <sup>2</sup>
06.00 Sort	Average	n <sup>2</sup>
07.00		
- STEAM - N		
A GIN	mess	MAN : LINE