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CSA0389

Assingment 5

1. write the algorithm for insertion sort and sort the following sequence:

    3,1,4,1,5,9,2,6,5

ii. Explain the procedure for merge sort and perform the merge sort for the following inputs Also, show the result for each step of iteration. 64,8,216,512,27,729,0,4,343,125.

Sol. **Algorithm for Insertion :-**

1. Begin with the second element in the list
2. compare the current element to the previous elements
3. Shift all larger elements one position to the right
4. Insert the current element into its correct position
5. Repeat steps 2-4 for each element in the list until the entire list is sorted

    Sorting the sequences :-

Sequence : 3,1,4,1,5,9,2,6,5

3	1	4	1	5	9	2	6	5	Compare 3&1, 3>1
									Swap 3
1	3	4	1	5	9	2	6	5	Compare 4&1, 4>1
									Swap 4,1
1	3	1	4	5	9	2	6	8	Compare 3&1, 3>1
									Swap 3
1	1	3	4	5	9	2	6	8	Compare 9&2, 9>2
									Swap 9,2
1	1	3	4	5	2	9	6	8	Compare 5&2, 5>2
									Swap 5,2