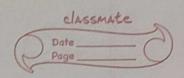
Assignment



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PRN

computer Algorithm course

we need to know the Pivot. guick sort algorithm, first 30, quick sont pivot algorithm is as follows

step 1: choose the highest index value as pivot

: Assign two variables to point left and right of the list.

Leftmost variable points to lower index.

! Rightmost variable points to higher index

: While value at left is less than pivot then Step 5 more night.

: While value at night is greater than pivot then Step 6 more left

If both steps 5 & 6 does not match, swap Step 7 left & night.

If left > right, the point where they met is Step 8 new pirot

guick Sort Algorithm !get some smaller partitions. In the end, each partition is then processed for quick sort Step 1: Assign the rightmost index value as pivot Step 2: Partition the array using pivot value. step 3 : guicksort left partition recursively step 4: guicksort night partition recursively. GUTCKSORT Corray A, start, end) 1. if (start < end) 3. p = partition (A, start, end) 4. QUICKSORT (A, start, p-1) 5. QUICKSORT (A, p+1, end) ethile value at left is less than ptints PARTITION (array A, start, end) 1. pivot? A [end] istart-10h 8 fe easte Atod AP: + aste 3. for i? start to end -1 Elder / 190 4. do it CACj] < pivot) {
5. then i? it 1
6. swap A [i] with ACj] 8. Swap A [i+1] with A [end] 9. return it1

· Time complexity

Best case complexity :-

The best case in quick-sort is when pivot element is the middle element or near to the middle element. So, time complexity for this case is ocn* logn)

Average case complexity:
It occurs when the array elements are in jumbled order. The average case time complexity of quick sort is ocn*logn).

worst case complexity:

It occurs when pivot is the either the smallest or the greatest element in the list Time complexity for the worst case is o(n2)

· Space complexity The space complexity of quicksort is o(n*logn)