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Subject:Computer Algorithm

Assignment on profiling

Q.1 Write a modular algorithm "Quick Sort" with at least three functions(modules) for sorting given 'n' numbers.

Algorithm for Quick Sort:

Pre:Enter ‘n’ numbers in unsorted form.
Post:After quicksort numbers are obtained in sorted form.

1.Start
2.quicksort(array,leftmostindex,rightmostindex)
  2.1 if(leftmost<rightmost)
  2.2 pivotindex->partition(array,leftmostindex,rightmostindex)
  2.3 quicksort(array,leftmostindex,pivoteindex-1)
  2.4 quicksort(array,pivoteindex,rightmostindex)

3.partition(array,leftmostindex,rightmostindex)
  3.1 set rightmostindex as pivoteindex
  3.2 storeindex->leftmostindex-1
  3.3 for i -> leftmostindex+1 to rightmostindex
  3.4 if element[i] and element[storeindex]
      3.4.1 swap element[i] and element[storeindex]
      3.4.2 storeindex++
4.swap pivoteelement and element[storeindex+1]
5.return storeindex+1
6.End