DAA Assignment 2

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***Divide and Conquer technique (Quick Sort)***

***Code Implementation :***

#include <iostream>

using namespace std;

**int partition**(int l,int r,int a[])

{

int pivot=a[l],i,j;

i=l;

j=r;

while (i<j) {

while(a[i]<=pivot) {

i++;

}

while(pivot<a[j]) {

j--;

}

if (i<j) {

int temp1;

temp1=a[j];

a[j]=a[i];

a[i]=temp1;

}

}

int temp2;

temp2=a[j];

a[j]=a[l];

a[l]=temp2;

return j;

}

**void quicksort**(int l,int r,int a[])

{

if(l<r)

{

int p = partition(l,r,a);

quicksort(l,p-1,a);

quicksort(p+1,r,a);

}

}

**int main**()

{

int n;

std::cout << "Enter Size : ";

cin>>n;

int a[n];

std::cout << "Enter Array : ";

for (int i = 0; i < n; i++)

cin>>a[i];

quicksort(0,n-1,a);

std::cout << "Sorted Array : ";

for (int i = 0; i < n; i++) {

std::cout << a[i]<<" ";

}

std::cout<< '\n';

}

***Output:***

