Merge\_sort program

#include<stdio.h>

#include<conio.h>

#include<process.h>

int count = 0;

void merge(int[10],int ,int ,int);

void main()

{

void getdata(int[10],int);

void putdata(int[10],int);

void merge\_sort(int[10],int,int);

int i,a[100],n,a;

clrscr();

printf("enter the value ofn\n");

scanf("%d",&n);

getdata(a,n);

printf("\n before sorting\n");

putdata(a,n);

printf("Hey");

merge\_sort(a,0,n-1);

printf("hey");

printf("\nafter sorting\n");

putdata(a,n) ;

printf("\n for n =%d value of count is %d", n, count);

}

void getdata(int a[10],int n)

{

int k;

printf("enter the value for sorting\n");

for(k=0; k<n; k++)

{

scanf("%d", &a[k]);

}

}

void putdata(int a[10],int n)

{

int k;

for(k=0; k<n; k++)

{

printf("%d\t", a[k]);

}

printf("\n");

}

void merge\_sort(int a[], int p, int r)

{

int q;

printf("\n now merge sort start");

if(p<r)

{

q=(p+r)/2;

merge\_sort(a,p,q);

merge\_sort(a,q+1,r);

merge(a,p,q,r);

}

}

void merge(int[], int p,int q, int r)

{

int n1, n2;

int i,j,k;

int l[100],r1[100];

n1=q-p+1;

count++;

n2=r-q;

count++;

l[n1]=999;

r1[n2]=999;

for(i=0;i<n1;i++)

{

count++;

l[i]=a[p+i];

count++;

}

count++;

for(j=0;j<n;j++)

{

count++;

r1[j]=a[q+j+1];

count++;

}

count++;

i=1;

count++;

j=1;

count++;

for(k=p;k<=r;k++)

count++;

{

count++;

if(l[i]<=r1[j])

{

count++;

a[k]=l[i];

count++;

i=j+1;

count++;

}

else

{

count++;

a[k]=r1[j];

count++;

j=j+1;

count++;

}

count++;

}

count++;

}

|  |  |  |  |
| --- | --- | --- | --- |
| n | best case | average case | wrost case |
| 5 | 21 | 42 | 51 |
| 10 | 46 | 169 | 181 |
| 15 | 71 | 194 | 386 |
| 20 | 96 | 195 | 660 |
| 25 | 121 | 379 | 1021 |