ANAGHA ACHARYA

1BM19CS224

Sort a given set of N integer elements using Insertion Sort technique and compute its time taken.

#include<stdio.h>

#include<stdlib.h>

#include<time.h>

void insertionsort(int a[],int n)

{

int last,j;

if(n<=1)

return;

insertionsort(a,n-1);

last=a[n-1];

j=n-2;

while(j>=0 && a[j]>last){

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

j--;

}

a[j+1]=last;

}

void main(){

int a[1000],i,n;

clock\_t start,end;

double time;

printf("Enter the number of elements: ");

scanf("%d",&n);

printf("The numbers are:\n");

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

{

a[i]=(int)rand()%10000;

printf("%d ",a[i]);

}

start=clock();

insertionsort(a,n);

end=clock();

time=((double)(end-start))/CLOCKS\_PER\_SEC;

printf("\nSorted array:\n");

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

{

printf("%d ",a[i]);

}

printf("\nTime taken=%1f\n",time);

}



