#include <stdio.h>   
#include<time.h>   
void bubble(int [],int);   
int main(){

int i,n;   
clock\_t start,end;   
double cpu\_time\_used;   
printf("enter number of elements in array");   
scanf("%d",&n);

int a[n];

printf("enter values in array");   
for (i=0;i<n;i++){   
 scanf("%d",&a[i]);   
}   
start=clock();   
bubble(a,n);   
end=clock();   
cpu\_time\_used= ((double)(end-start))/CLOCKS\_PER\_SEC;

printf("sorted array:");   
for (i=0;i<n;i++){   
 printf("%d ,",a[i]);   
}

printf("\n CPU Time Used=%lf",cpu\_time\_used);

}   
void bubble(int a[],int n)   
{   
 int last,j,temp,pass,exch;   
 last=n-1;   
 for(pass = 1; pass <= n-1; pass++)   
 {   
 exch=0;   
 for(j = 0; j <= last-1; j++)   
 {   
 if(a[j] > a[j+1])   
 {   
 temp = a[j];   
 a[j] = a[j+1];   
 a[j+1] = temp;

|  |  |
| --- | --- |
| } | exch++; |

}   
if(exch==0)   
break;   
else   
 last=last-1;

}

|  |  |
| --- | --- |
| } | printf("\nnumber of passes:%d",pass-1); |