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EXPERIMENT NO:16

PROGRAM:

#include<stdio.h>

#include<conio.h>

void median(int a[],int n)

{

int i,j,temp;

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

{

for(j=i+1;j<n;j++)

{

if(a[i]>a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

if(n%2==0)

printf("\n Median:%d",(a[n/2]+a[(n/2)-1])/2);

else

printf("\n Median:%d",a[(n-1)/2]);

}

int freq(int a[],int n,int freqt[10][2])

{

int i,j,k,no,s;

k=0;

for(i=0;i<n;i++) //create frequency table

{ freqt[k][0]=a[i];

freqt[k][1]=1;

for(j=i+1;j<n;j++)

{

if(a[i]==a[j])

{

freqt[k][1]++;

}

}

k++;

}

no=n+1;

for(i=0;i<n;i++) //avoid reduntancy

{

for(j=i+1;j<n;j++)

{

if(freqt[i][0]==freqt[j][0])

{

freqt[j][0]=freqt[j+1][0];

freqt[j][1]=freqt[j+1][1];

for(s=j+1;s<n+1;s++)

{

freqt[s][0]=freqt[s+1][0];

freqt[s][1]=freqt[s+1][1];

}

no--;

}

}

}

return no;

}

void mode(int freqt[10][2],int no)

{ int large,mod,i,f,in;

in=freqt[0][1];

for(i=0;i<no-1;i++)

{

if(freqt[i][1]==in)

f=1;

else

{

f=0;

break;

}

}

if(f==0)

{

for(i=0;i<no-1;i++)

{ if(i==0)

{

large=freqt[0][1];

mod=freqt[0][0];

}

if(freqt[i][1]>large)

{

large=freqt[i][1];

mod=freqt[i][0];

}

}

printf("\n Mode:%d",mod);

}

else

printf("\n There is no mode for the given list..");

}

void main()

{

int a[10],n,no,i;

int freqt[10][2];

clrscr();

printf("\n Enter no of elements:");

scanf("%d",&n);

printf("\n Enter elements:");

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

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

median(a,n);

printf("\n");

no=freq(a,n,freqt);

printf("\n Frequency table\n");

printf(" NO.\tFrequency\n");

for(i=0;i<no-1;i++)

{

printf(" %d\t%d\n",freqt[i][0],freqt[i][1]);

}

mode(freqt,no);

getch();

}

OUTPUT:

Enter no of elements:5

Enter elements:1

3

2

3

4

Median:3

Frequency table

NO. Frequency

1 1

2 1

3 2

4 1

Mode:3