**1)**

#include<stdio.h>

int greatest(int b[],int x)

{

int i,l;

printf("enter the values in the array\n");

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

{

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

}

l=b[0];

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

{

if(b[i]>l)

{

l=b[i];

}

}

return l;

}

int main()

{

int n;

printf("enter the size of array \n");

scanf("%d",&n);

int a[n];

printf("the greatest number in array is %d",greatest(a,n));

return 0;

}

**2)**

#include<stdio.h>

int smallest(int b[],int x)

{

int i,l;

printf("enter the values in the array \n");

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

{

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

}

l=b[0];

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

{

if(b[i]<l)

{

l=b[i];

}

}

return l;

}

int main()

{

int n;

printf("enter the size of array \n");

scanf("%d",&n);

int a[n];

printf("the smallest number is %d",smallest(a,n));

return 0;

}

**3)**

#include<stdio.h>

int sort(int b[],int x)

{

int i,j,l;

printf("enter the values in the array \n");

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

{

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

}

for(i=0;i<x-1;i++)

{

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

{

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

{

l=b[i];

b[i]=b[j];

b[j]=l;

}

}

}

return b[x];

}

int main()

{

int n,i;

printf("enter the size of an array\n");

scanf("%d",&n);

int a[n];

a[n]=sort(a,n);

printf("\n\n\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

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

{

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

}

return 0;

}

**4)**

#include<stdio.h>

int array(int b[],int x)

{

int n,d,i,j;

printf("enter the values in the array\n");

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

{

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

}

printf("enter the number of place to rotate \n");

scanf("%d",&n);

printf("enter the direction 0 for left 1 for right\n");

scanf("%d",&d);

if(d==1)

{

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

{

int l=b[x-1],t;

for(i=x-2;i>=0;i--)

{

b[i+1]=b[i];

}

b[0]=l;

}

}

else if(d==0)

{

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

{

int l=b[0];

for(i=1;i<x;i++)

{

b[i-1]=b[i];

}

b[x-1]=l;

}

}

printf("resulted array is \n");

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

{

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

}

}

int main()

{

int n;

printf("enter the size of an array \n");

scanf("%d",&n);

int a[n];

array(a,n);

return 0;

}

**5)**

#include<stdio.h>

int array(int b[],int x)

{

int i,flag=0;

printf("enter the values in the array\n");

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

{

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

}

for(i=0;i<x-1;i++)

{

if(b[i]==b[i+1])

{

flag=1;

printf("the first adjacent duplicate values are in index %d and %d\n",i,i+1);

return b[i];

}

}

if(flag==0)

{

return 1;

}

}

int main()

{

int n,l;

printf("enter the size of array\n");

scanf("%d",&n);

int a[n];

l=array(a,n);

if(l==1)

printf("no duplicate numbers found ");

else

printf("the duplicate element is %d",l);

return 0;

}

**6)**

#include<stdio.h>

void array(int b[],int x)

{

int i;

printf("enter the values in the array \n");

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

{

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

}

printf("reversed array is \n");

for(i=x-1;i>=0;i--)

{

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

}

}

int main()

{

int n;

printf("enter the size of the array \n");

scanf("%d",&n);

int a[n];

array(a,n);

return 0;

}

**7)**

#include<stdio.h>

int array(int b[],int x)

{

int i,j,c=0;

printf("enter the values in the array \n");

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

{

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

}

for(i=0;i<x-1;i++)

{

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

{

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

{

c++;

}

}

}

return c;

}

int main()

{

int n;

printf("enter the size of array \n");

scanf("%d",&n);

int a[n];

printf("total number of a duplicate element is %d ",array(a,n));

return 0;

}

**8)**

#include<stdio.h>

void array(int b[],int x)

{

int i,j,flag=0;

printf("enter the values in the array \n");

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

{

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

}

printf("unique elements in the array are \n");

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

{

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

{

if(i!=j)

{

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

{

flag=1;

}

}

}

if(flag==0)

{

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

}

flag=0;

}

}

int main()

{

int n;

printf("enter the size of an array\n");

scanf("%d",&n);

int a[n];

array(a,n);

return 0;

}

**9)**

#include<stdio.h>

void merge(int c[],int x ,int d[],int y)

{

int i,j;

printf("enter the values in the first array\n");

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

{

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

}

printf("enter the values in the second array\n");

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

{

scanf("%d",&d[j]);

}

c[x]=sort(c,x);

d[y]=sort(d,y);

int t[x+y],l;

i=0;j=0;

for(l=0;l<(x+y);l++)

{

if(i<x&&j<y)

{

if(c[i]<d[j])

{

t[l]=c[i];

i++;

}

else if(c[i]>d[j])

{

t[l]=d[j];

j++;

}

}

else if(i>=x)

{

while(j!=y)

{

t[l]=d[j];

j++;

l++;

if(l==(x+y))

break;

}

}

else if(j>=y)

{

while(i!=x)

{

t[l]=c[i];

i++;

l++;

if(l==(x+y))

break;

}

}

}

for(l=0;l<(x+y);l++)

{

printf("%d ",t[l]);

}

}

int sort(int c[],int x)

{

int i,j,temp;

for(i=0;i<x-1;i++)

{

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

{

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

{

temp=c[i];

c[i]=c[j];

c[j]=temp;

}

}

}

return c[x];

}

int main()

{

int n,m;

printf("enter the size of first array\n");

scanf("%d",&n);

printf("enter the size of second array \n");

scanf("%d",&m);

int a[n],b[m];

merge(a,n,b,m);

return 0;

}

**10)**

#include<stdio.h>

void array(int b[],int x)

{

int i,j,c[50];

printf("enter the values in the array \n");

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

{

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

}

for(j=0;j<50;j++)

{

c[j]=0;

}

i=0,j=0;

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

{

for(j=0;j<50;j++)

{

if(b[i]==j)

{

c[j]++;

}

}

}

for(j=0;j<50;j++)

{

if(c[j]!=0)

{

printf("the number %d has frequency of %d\n",j,c[j]);

}

}

}

int main()

{

int n ;

printf("enter the size of array\n");

scanf("%d",&n);

int a[n];

array(a,n);

return 0;

}