

```
#include<iostream.h>
#include<math.h>
void main()
{
int bin[8]={0,0,0,0,0,0,0,0},x,i=0;
cin>>x;
if(x>0)
bin[7]=0;
else
{
bin[7]=1;
x=abs(x);
}
do
{
bin[i]= x%2;
x=x/2;
i++;
}
while(x!=0);
cout<<"This For Sign-System"<<endl;
for(i=0;i<=7;++i)
cout<<bin[i];
cout<<endl;
for(i=0;i<=7;++i)
if (bin[i]==0)
bin[i]=1;
else
bin[i]=0;
cout<<"This For 1's complement"<<endl;
for(i=0;i<=7;++i)
cout<<bin[i];
cout<<endl;
}
```

```
#include<iostream.h>
#include<stdio.h>
#include<math.h>
void main()
{
int bin[8]={0,0,0,0,0,0,0,0},x,i=0;
cin>>x;
if(x>0)
bin[7]=0;
else
{
bin[7]=1;
x=abs(x);
}
do
{
bin[i]= x%2;
x=x/2;
i++;
}
while(x!=0);
cout<<"This For Sign System"<<endl;
for(i=0;i<=7;++i)
cout<<" "<<bin[i];
cout<<endl;
cout<<" ";
cout<<"inverse";
cout<<endl;
for(i=0;i<=7;++i)
if (bin[i]==0)
bin[i]=1;
else
bin[i]=0;
cout<<"This For 1st complement"<<endl;
for(i=0;i<=7;++i)
cout<<" "<<bin[i];
cout<<endl;
cout<<" +1"<<endl;
for(i=0;i<=7;++i)
if (bin[i]==0)
{
bin[i]=1;
```

```

break;
}
else
{
bin[i]=0;
continue;
}
cout<<"This For 2nd complement"<<endl;
for(i=0;i<=7;++i)
cout<<" "<<bin[i];
}

```

برنامج التحويل من الثنائي الى العشري

```

#include<iostream.h>
#include<math.h>
void main()
{
int s=0,i=0,a[8]={0,0,0,0,0,0,0,0};
for(i=0;i<=7;++i)
cin>>a[i];
s=s+a[i]*pow(2,i);
cout<<s;
}

```

برنامج المصفوفة الأحادية

```

#include<iostream.h>
void main()
{
int size=2,array={30},actaul,start,j=3,n={6},i=2,m={5};
cin>>start>>i>>j>>size;
if (i<=m)&&(j<=n)
{
actaul=start+(i-1)*n+(j-1)*size ;
cout<<actaul;
}
else
cout<<"is not fount";
}

```

```
#include<iostream.h>
#include<math.h>
void main()
{
int bin[8]={0,0,0,0,0,0,0,0},x,i=0;
cin>>x;
if(x>0)
bin[7]=0;
else
{
bin[7]=1;
x=abs(x);
}
do
{
bin[i]= x%2;
x=x/2;
i++;
}
while(x!=0);
for(i=0;i<=7;++i)
cout<<bin[i];
cout<<endl;
}
```

```
#include<iostream.h>
int stack[5],top,n=5,item,ch,i;
void creat()
{
top=5;
}
void insert(int item)
{
if(top==n-1)
cout<<"stack is full"<<endl;
else
{
stack[top]=item;
top++;
}
}
int delet(int item)
{
if(top==0)
cout<<"stack is empty"<<endl;
else
{
item=stack[top];
top--;
}
return item;
}
void print(int top,int stack[])
{
if(top>=0)
{
cout<<top<<endl;
for(i=0;i<=top;++i)
cout<<stack[i]<<endl;
}
else
cout<<"stack empty"<<endl;
}
void main()
{
do
{
cout<<"1-creat"<<endl;
```

```
cout<<"2-insert"<<endl;
cout<<"3-delet"<<endl;
cout<<"4-print"<<endl;
cout<<"5-exit"<<endl;
cout<<"entry your choice"<<endl;
cin>>ch;
{
switch (ch)
{
case 1:creat;break;
case 2:{cin>>item;insert(item);}break;
case 3:{delet(item);cout<<item;cout<<endl;}break;
case 4:print(top, stack);break;
case 5:break;
}
}
}
while(ch!=5);
}
```

```
# include <iostream.h>
int item,r,f,queue[4],n=4,ch;
void creat()
{
r=0;
f=0;
}
void insert(int item)
{
if (r==n-1)
cout<<"queue is full"<<endl;
else
{
r=r+1;
queue[r]=item;
}
}
void delet(int item)
{
if(f==r)
cout<<"queue is empty"<<endl;
else
{
item=queue[f];
f=f+1;
}
cout<<item<<"\t";
}
void main()
{
do
{
cout<<"1-creat"<<endl;
cout<<"2-isert"<<endl;
cout<<"3-delet"<<endl;
cout<<"4-exit"<<endl;
cout<<"entry your choice"<<"\t";
cin>>ch;
switch (ch)
{
case 1:creat;break;
case 2:{cout<<"entre item to the queue";cin>>item;insert(item);}break;
case 3:{delet(item);cout<<f<<"\t";cout<<endl;}break;
```

```
case 4:break;  
{  
{  
while (ch!=4);  
}
```

```
#include<iostream.h>
int f,r,cq[4],item,n=4,ch;
void creat()
{
r=-1;
f=0;
}
void insert(int item)
{
r=(r+1)%n;
if(r==f)
cout<<"cq is full"<<endl;
else
cq[r]=item;
}
void delet(int item)
{
if(f!=r)
{
f=(f+1)%n;
item=cq[f];
}
else
cout<<"cq is impty"<<endl;
}
void main()
{
do
{
cout<<"1-creat"<<endl;
cout<<"2-insert"<<endl;
cout<<"3-delet"<<endl;
cout<<"4-exit"<<endl;
cout<<"entry your choice"<<"\t";
cin>>ch;
switch (ch)
{
case 1:{creat;cout<<r<<"\t"<<f<<endl;}break;
case 2:{cout<<"entre item to the cq"<<"\t";cin>>item;insert(item);}break;
case 3:{delet(item);cout<<item<<"\t";cout<<endl;}break;
case 4:break;
}
}
}
```

```
}  
while (ch!=4);  
}
```

```
#include<iostream.h>
int end1,end2,half,dq[6],item,n=6,ch;
void creat(int n)
{
half=(n+1)/2;
end1=half;
end2=half+1;
cout<<end1<<" "<<end2<<endl;
}
void insert1(int item)
{
if(end1==0)
cout<<"dq is full"<<endl;
else
{
end1--;
dq[end1]=item;
}
}
void insert2(int item)
{
if(end2==n)
cout<<"dq is full"<<endl;
else
{
end1++;
dq[end2]=item;
}
}
void delet1(int item)
{
if(end1==half)
cout<<"dq is impty"<<endl;
else
{
item=dq[end1];
end1++;
}
cout<<item;
}
void delet2(int item)
{
if(end2==half-1)
```

```

cout<<"dq is impty"<<endl;
else
{
item=dq[end2];
end1--;
}
cout<<item;
}
void main()
{
do
{
cout<<"1-creat"<<endl;
cout<<"2-insert1"<<endl;
cout<<"3-insert2"<<endl;
cout<<"4-delet1"<<endl;
cout<<"5-delet2"<<endl;
cout<<"6-exit"<<endl;
cout<<"entry your choice"<<"\t";
cin>>ch;
switch (ch)
{
case 1:creat(n);break;
case 2:{cout<<"entre item to the end1"<<"\t";cin>>item;insert1(item);}break;
case 3:{cout<<"entre item to the end2"<<"\t";cin>>item;insert2(item);}break;
case 4:{delet1(item);cout<<item<<"\t";cout<<endl;}break;
case 5:{delet2(item);cout<<item<<"\t";cout<<endl;}break;
case 6:break;
}
}
while (ch!=6);
}

```

```
#include<iostream.h>
void main()
{
int ac=0,i,j,s,z,m,n,L,l;
cin>>i>>j>>n>>m>>s>>z>>L;
if((i<=m)&&(j<=n))
{
switch (L)
{
case 0:
{
l=(i-1)*n+(j-1);
cout<<"This for arow";
cout<<endl;
ac=s+l*z;
cout<<ac;;break;
}
case 1:
{
l=(i-1)+(j-1)*m;
cout<<"This for acolumn";
cout<<endl;
ac=s+l*z;
cout<<ac;break;
}
}
}
else
cout<<"Element not found";
}
```

```
#include<iostream.h>
void main()
{
int flag,list[5]={11,31,3,2,98},t,i=0;
do
{
flag=0;
for(i=0;i<=4;++i)
if(list[i]>list[i+1])
{
t=list[i];
list[i]=list[i+1];
list[i+1]=t;
flag=1;
}
}
while(flag!=0);
for(i=0;i<=4;++i)
cout<<list[i]<<"\t";
}
```

```
#include<iostream.h>
void main()
{
int flag,list[5]={11,1,3,2,9},t,i=0,half;
half=(1+5)/2;
do
{
do
{
flag=0;
for(i=0;i<=4-half;++i)
if(list[i]>list[i+half])
{
t=list[i];
list[i]=list[i+half];
list[i+half]=t;
flag=1;
}
}
while(flag!=0);
half=half/2;
}
while(half!=0);
for(i=0;i<=4;++i)
cout<<list[i]<<"\t";
}
```

```
#include<iostream.h>
void main()
{
int j,i,list[5]={12,64,2,75,100},n=5,t;
for(i=0;i<=n-2;++i)
    for(j=i+1;j<=n-1;++j)
        if(list[i]>list[j])
            {
            t=list[i];
            list[i]=list[j];
            list[j]=t;
            }
for(j=0;j<=4;++j)
cout<<list[j]<<"\t";
}
```

```
#include<iostream.h>
void main()
{
int i=0,list[8]={30,10,9,7,38,33,26,18},key,n=8,j=0;
cin>>key;
for(j=0;j<n;++j)
{
do
{
if(key==list[i])
{
continue;
}
else
i++;
}
while(i>n);
}
if(key==list[i])
cout<<"key is found"<<endl;
else
cout<<"key isn't found"<<endl;

}
```

```
#include<iostream.h>
void main()
{
int key, half, low=0, high=4, list[5]={10,20,30,40,50}, i;
cin>>key;
half=(low+high)/2;
cout<<half<<endl;
while((low<high)&&(key!=list[half]))
{
if(key>list[half])
low=half+1;
else
if(key<list[half])
high=half-1;
}
if(key==list[half])
cout<<"key is found"<<endl;
else
cout<<"key isn't found"<<endl;
}
```

```
#include<iostream.h>
void main()
{
int i,j,n;
cin>>n;
for(i=1;i<=n;++i)
{
for(j=1;j<=n;++j)
{
if((i>j)&&(i+j>n))
{
cout<<"*";
}
else
if((i<j)&&(i+j<=n))
{
cout<<"*";
}
else
if(i==j)
{
cout<<"*";
}
else
if((i+j)==(n+1))
{
cout<<"*";
}
else
{
cout<<" ";
}
}
cout<<endl;
}
}
```