

```

//Cinemax USing SCLL
//By:-Mr. Mdkasim Sache
#include<iostream>
#include<conio.h>
#include<iomanip>
using namespace std;
class node
{
    int data;
    node *next;
    node()
    {
        data=0;
        next=NULL;
    }
    friend class scll_cinemax;
};

class scll_cinemax
{
    int i,n,count;
    node *nn,*head,*temp,*temp1;
public:
    scll_cinemax()
    {
        count=0;
        head=NULL;
    }
    void add(int *cl)
    {
        if(head==NULL)
        {
            nn=new node;
            nn->data=*cl;
            head=nn;
            temp=nn;
            nn->next=head;
            ++count;
        }
        else
        {
            temp1=head;
            for(i=0;i<count;++i)
            {
                if(*cl==temp1->data)
                {
                    cout<<"\t====> Already A Reserved Seat <====\n";
                    goto read;
                }
            }
        }
    }
};

```

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        else
        {
            temp1=temp1->next;
        }
    }
    nn=new node;
    nn->data=*cl;
    for(i=0;i<count;++i)
    {
        if(*cl<head->data)
        {
            temp->next=nn;
            nn->next=head;
            head=nn;
            ++count;
            break;
        }
        else if(*cl>temp1->data && *cl<temp1->next->data)
        {
            nn->next=temp1->next;
            temp1->next=nn;
            ++count;
            break;
        }
        else if(*cl>temp1->data && temp1->next==head)
        {
            temp->next=nn;
            nn->next=head;
            temp=nn;
            ++count;
            //cout<<count<<" Element Added At Last\n";
            break;
        }
        temp1=temp1->next;
    }
}
read: cout<<endl;
}

```

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void display()
{
    if(head!=NULL)
    {
        temp1=head;
        for(i=1;i<=13;++i)
        {
            if(temp1->data==i)
            {
                cout<<"- ";
                if(count>=1)
                {
                    temp1=temp1->next;
                }
            }
            else
            {
                cout<<i<<" ";
            }
        }
        cout<<endl;
    }
    else
    {
        for(i=1;i<=13;++i)
        {
            cout<<i<<" ";
        }
        cout<<endl;
    }
}

```

```

void delt(int *cl)
{
    if(head!=NULL)
    {
        temp1=head;
        n=0;
        for(i=1;i<=count;++i)
        {
            if(temp1->data==*cl)
            {
                if(*cl==head->data)
                {
                    if(count==1)
                    {
                        --count;
                        delete head;
                        cout<<"\tSeat Succesfully Cancelled\n";
                        break;
                    }
                    else
                    {
                        nn=head;
                        head=head->next;
                        temp1->next=head;
                        temp->next=head;
                        --count;
                        delete nn;
                        cout<<"\tSeat Succesfully Cancelled\n";
                        break;
                    }
                }
            }
            else if(temp1==temp)
            {
                nn=head;
                for(i=1;i<=count-2;++i)
                {
                    cout<<nn->data<<" ";
                    nn=nn->next;
                }
                nn->next=temp1->next;
                temp=nn;
                --count;
                delete temp1;
                cout<<"\tSeat Succesfully Cancelled\n";
                break;
            }
        }
    }
}

```

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else//optimisation is possible
{
    nn=head;
    for(n=0;n<i-2;++n)
    {
        nn=nn->next;
    }
    nn->next=temp1->next;
    --count;
    delete temp1;
    cout<<"\tSeat Succesfully Cancelled\n";
    break;
}
}
else
{
    temp1=temp1->next;
    ++n;
}
}
if(n==count)
{
    cout<<"\tSeat Is Available For Booking\n";
}
if(count==0)
{
    head=NULL;
}
}
else
{
    cout<<"\tAll Seats Available For Booking\n";
}
}

};

int main()
{
    int r,cl,c,i;
    scll_cinemax rows[10];
    cout<<"\tWelcome To Sinhgad Cinemax\n";
    cout<<"\t=====
\n\n";
    do
    {
        cout<<"\n1.Book\n\t2.Seat Availability\n\t3.Cancel\n\t4.Exit\n";
        cout<<"\tEnter The choice\t : ";
        read1: cin>>c;
        switch(c)
        {

```

case 1:

```
cout<<"\n\tEnter The Row\t : ";
do
{
    cin>>r;
    if(r<=0 || r>10)
        cout<<"\tEnter The Valid Row No.\n";
}while(r<=0 || r>10);
r=r-1;
cout<<"\n\tEnter The Seat No.\t : ";
do
{
    cin>>cl;
    if(cl<=0 || cl>13)
        cout<<"\tEnter The Valid Seat No.\n";
}while(cl<=0 || cl>13);
rows[r].add(&cl);
break;
```

case 2:

```
cout<<"\nSinhgad CinePlaza Screen 1 Sear Matrix\n";
```

```
cout<<"=====\\n"
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;

```
cout<<endl;
for(i=0;i<10;i++)
{
    cout<<setw(3)<<i+1<<"] ";
    rows[i].display();
}
cout<<endl;
break;
```

case 3:

```
cout<<"\n\tEnter The Row\t : ";
do
{
    cin>>r;
    if(r<=0 || r>10)
        cout<<"\tEnter The Valid Row No.\n";
}while(r<=0 || r>10);
r=r-1;
cout<<"\n\tEnter The Seat No.\t : ";
do
{
    cin>>cl;
    if(cl<=0 || cl>13)
        cout<<"\tEnter The Valid Seat No.\n";
}while(cl<=0 || cl>13);
rows[r].delt(&cl);
break;
```

```
        case 4:
        break;

        default:
        cout<<"\tEnter The Proper Choice\t : ";
        goto read1;
        break;
    }
}while(c!=4);
cout<<"Closing The System ..... \n";
getch();
return 0;
}
```