```
//Cinemax using SLL
//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 sll_cinemax;
};

class sll_cinemax
{
   int i,n,count;
   node *nn,*head,*temp,*temp1;
public:
   sll_cinemax()
   {
      count=0;
      head=NULL;
   }
   void add(int *cl)
   {
      if(head==NULL)
      {
         nn=new node;
         nn->data=*cl;
         head=nn;
         temp=nn;
         ++count;
      }
```

```
else
{
   temp1=head;
   for(i=0;i<count;++i)
   {
      if(temp1->data==*cl)
      {
         cout<<"\t====> Already A Reserved Seat <====\n";
                        goto read;
      }
                        temp1=temp1->next;
                }
                temp1=head;
                nn=new node;
                nn->data=*cl;
                for(i=0;i<count;++i)
                {
                        if(*cl<head->data)  //Adding At Start
                        {
                                nn->next=head;
                                head=nn;
                                ++count;
                                break;
                        }
                        else if(count==1)
                        {
                                if(*cl<head->data)  //Adding At Start When Count Was 1
                                {
                                        nn->next=head;
                                        head=nn;
                                        ++count;
                                        break;
                                }
                                else       //Adding At End When Count Was 1
                                {
                                        head->next=nn;
                                        temp=nn;
                                        ++count;
                                        break;
                                }
                        }
                        else if(*cl>temp1->data && *cl<temp1->next->data)   //Adding In
The Middle
                        {
                                nn->next=temp1->next;
                                temp1->next=nn;
                                ++count;
                                break;
                        }
```

```
else if(temp1->next==temp)  //Adding At The End When Count Was Arbitrary But Not 1
                            {
                                    temp->next=nn;
                                    temp=nn;
                                    ++count;
                                    break;
                            }
                            else
                            {
                                    temp1=temp1->next;
                            }
                    }
        }
          read:;
    }

          void display()
          {
                  if(head!=NULL)
                  {
                          temp1=head;
                          for(i=1;i<=13;++i)
                          {
                                  if(temp1->data==i)
                                  {
                                          cout<<"- ";
                                          if(temp1->next!=NULL)
                                          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)     //Deleting Head
				{
					if(count==1)
					{
						delete head;
						--count;
						cout<<"\tSeat Succesfully Cancelled\n";
						break;
					}
					else
					{
						head=head->next;
						--count;
						delete temp1;
						cout<<"\tSeat Succesfully Cancelled\n";
						break;
					}
				}
				else if(temp1!=temp)    //Deleting Mid Elements
				{
					nn=head;
					for(n=1;n<=i-2;++n)
					{
						nn=nn->next;
					}
					nn->next=temp1->next;
					--count;
					delete temp1;
					cout<<"\tSeat Succesfully Cancelled\n";
					break;
				}
```

```
                                        else            //Deleting last element
                                        {
                                                nn=head;
                                                for(i=1;i<count-1;++i)
                                                {
                                                        nn=nn->next;
                                                }
                                                nn->next=NULL;
                                                temp=nn;
                                                delete temp1;
                                                --count;
                                                cout<<"\t2Seat Succesfully Cancelled\n";
                                                break;
                                        }
                                }
                                else
                                {
                                        temp1=temp1->next;
                                        ++n;
                                }
                        }
                        if(count==0)
                        {
                                head=NULL;
                        }
                        if(n==count)
                        {
                                cout<<"\t Seat Is Available For Booking\n";
                        }
                }
                else
                {
                        cout<<"\t All Seats Available For Booking\n";
                }
        }
};
int main()
{
        int r,cl,c,i;
        sll_cinemax rows[10];//s
        cout<<"\tWelcome To Sinhgad Cinemax\n";
        cout<<"\t============================================================
\n\n";
        do
        {
                cout<<"\n\t1.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";

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

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                        case 4:
                                break;

                        default:
                                cout<<"\tEnter The Proper Choice\t : ";
                                goto read1;
                        break;
                }
        }while(c!=4);

        cout<<"Closing The System .....\n";
        getch();
        return 0;
}
```