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

class cine
{
      int i,j,n,count;
      node *nn,*head,*temp,*temp1;
      public:
      cine()
      {
            head=NULL;
            count=0;
      }

      void add(int *cl)
      {
            if(head!=NULL)
            {
                  temp1=head;
                  n=0;
                  do
                  {
                        if(temp1->data==*cl)
                        {
                              cout<<"\tAlready Reserved\n";
                              goto read;
                        }
                        else
                        {
                              temp1=temp1->next;
                              ++n;
                        }
                  }while(n!=count);
            }
            if(head==NULL)
            {
                  nn=new node;
                  head=nn;
                  temp1=nn;
                  nn->data=*cl;
                  ++count;
            }
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	else
	{
		nn=new node;
		nn->data=*cl;
		temp=head;
		do
		{
			if(*cl<head->data)
			{
				nn->next=head;
				head->prev=nn;
				head=nn;
				++count;
				break;
			}
			else if(temp->next==NULL)
			{
				temp->next=nn;
				nn->prev=temp;
				++count;
				break;
			}
			else if(*cl>temp->data && *cl<temp->next->data)
			{
				nn->next=temp->next;
				nn->prev=temp;
				nn->next->prev=nn;
				temp->next=nn;
				++count;
				break;
			}
			else
			{
				temp=temp->next;
			}
		}while(temp!=NULL);
	}
	read: cout<<endl;
}

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;
	}
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	else
	{
		for(i=1;i<=13;++i)
		{
			cout<<i<<" ";
		}
		cout<<endl;
	}
}
void del(int *cl)
{
	if(head!=NULL)
	{
		temp1=head;
		n=0;
		for(i=1;i<=count;++i)
		{
			if(head->next==NULL && *cl==head->data)
			{
				head->next=NULL;
				head->prev=NULL;
				head=NULL;
				--count;
				n=1;
				delete head;
				cout<<"\tSeat Succefully Cancelled\n";
			}
			else if(*cl==head->data && count>=2)
			{
				head->next->prev=NULL;
				head=head->next;
				n=1;
				--count;
				delete temp1;
				cout<<"\tSeat Succesfully Cancelled\n";
				break;
				//goto read1;
			}
			else if(*cl==temp1->data)
			{
				if(temp1->next==NULL)
				{
					temp1->prev->next=NULL;
					temp1->prev=NULL;
					n=1;
					--count;
					delete temp1;
					cout<<"\tSeat Succesfully Cancelled\n";
					break;
					//goto read1;
				}
				else
				{
					temp1->prev->next=temp1->next;
					temp1->next->prev=temp1->prev;
					n=1;
					--count;
					delete temp1;
					cout<<"\tSeat Succesfully Cancelled\n";
					break;
					//goto read1;
				}
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                        }
                        else
                        {
                              temp1=temp1->next;
                        }
                  }
                  if(n==0)
                  {
                        cout<<"\tNot A Reserved Seat\n";
                  }
                  else
                  {
                        cout<<"\tSeat Available For Booking\n";
                  }
            }
            else
            {
                  cout<<"\tAll Seats Available\n";
            }
            if(count==0)
            {
                  head=NULL;
            }
      }
};
int main()
{
      int i,c,r,cl;
      cine rows[10];
      cout<<"Welcome To Sinhgad Cine Big Screen\n";
     cout<<"=====================================================================\n";
      do
      {
            cout<<"\n\t1.Book\n\t2.Seat
Availablity\n\t3.Delete\n\t4.Exit\n\tEnter Choice\t : ";
      read: 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;
```

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                        case 2:
                              cout<<"\nSinhgad CinePlaza Screen 1 Sear Matrix";

      cout<<"n=========================================================\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>11)
                                    cout<<"\tEnter The Valid Row No.\n";
                              }while(r<=0 || r>11);
                              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].del(&cl);
                              break;

                        case 4:
                              cout<<endl;
                              break;

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

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