**NAME:-VIVEK BULANI**

**ROLL NO:-SECOA115**

**ASSIGNMENT NO:-06**

**AIM** **:-** The ticket booking system of Cinemax theater has to be implemented using C++ program.

There are 10 rows and 7 seats in each row. Doubly circular linked list has to be maintained to keep track

of free seats at rows. Assume some random booking to start with. Use array to store pointers (Head

pointer) to each row. On demand

a) The list of available seats is to be displayed

b) The seats are to be booked

c) The booking can be canceled.

**PROGRAM:-**

#include<iostream>

#include<string>

using namespace std;

struct node

{

int status;

string name;

node \*next;

node \*prev;

};

class Cinemax

{

node \*nn;

public:

node \*head[10];

void create();

void display();

void Booking();

void Cancellation();

//void Information();

Cinemax()

{

for(int i=0;i<10;i++)

{

head[i]=NULL;

}

}

};

void Cinemax::create()

{

for(int i=0;i<10;i++)

{

for(int j=1;j<=7;j++)

{

nn=new node;

nn->status=0;

nn->name=" ";

nn->next=nn->prev=NULL;

if(head[i]==NULL)

{

head[i]=nn;

nn->prev=head[i];

nn->next=head[i];

}

else

{

node \*cn;

cn=head[i];

while(cn->next!=head[i])

{

cn=cn->next;

}

nn->next=cn->next;

cn->next=nn;

nn->prev=cn;

head[i]->prev=nn;

}

}

}

}

void Cinemax::Booking()

{

int r,s;

node \*cn;

cout<<"enter the row no.:"<<"\n";

cin>>r;

cout<<"enter the seat no.:"<<"\n";

cin>>s;

if ((r>0&&r<11)&&(s>0&&s<8))

{

cn=head[r-1];

for(int j=1;j<s;j++)

{

cn=cn->next;

}

if(cn->status==0)

{

cn->status=1;

cout<<"enter the name for booking:"<<"\n";

cin>>cn->name;

}

else

{

cout<<"seat is already booked:"<<"\n";

}

}

}

void Cinemax::Cancellation()

{

int r,s;

node \*cn;

cout<<"enter the row no.:"<<"\n";

cin>>r;

cout<<"enter the seat no.:"<<"\n";

cin>>s;

if ((r>0||r<11)&&(s>0||s<8))

{

cn=head[r-1];

for(int j=1;j<s;j++)

{

cn=cn->next;

}

if(cn->status==1)

{

cn->status=0;

cout<<"enter the name for cancellation:"<<"\n";

cin>>cn->name;

}

else

{

cout<<"Seat is available :"<<"\n";

}

}

}

void Cinemax::display()

{

for(int i=0;i<10;i++)

{

node \*cn;

cn=head[i];

do

{

if(cn->status==0)

{

cout<<"A"<<"\t";

}

else

{

cout<<"B"<<"\t";

} cn=cn->next;

}while(cn!=head[i]);

cout<<"\n";

}

}

int main()

{

Cinemax obj;

int ch;

do

{

cout<<” 1.Create \n 2.Booking \n 3.Cancellation \n 4.Display ”<<”\n”;

cout<<"enter ur choice:”<<”\n”;

cin>>ch;

switch(ch)

{

case 1:

obj.create();

break;

case 2:

obj.Booking();

break;

case 3:

obj.Cancellation();

break;

case 4:

obj.display();

break;

}

}while(ch!=5);

return 0;

}

**OUTPUT:-**

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 1

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 4

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 2

enter the row no.:

3

enter the seat no.:

5

enter the name for booking:

riya

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 4

A A A A A A A

A A A A A A A

A A A A B A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 3

enter the row no.:

3

enter the seat no.:

5

enter the name for booking:

manasi

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 4

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

A A A A A A A

1.Create

2.Booking

3.Cancellation

4.Display

enter ur choice: 5