PROGRAM:---

```cpp
#include<iostream>

using namespace std;

 struct node

{

    int seatc,seatr;

    string status;

    struct node *next ,*prev;

}*head[10],*last[10];


class ticket

{

public:

    ticket()

    {

        for(int i=1 ; i<=10 ; i++)

        {

            head[i]=last[i]=NULL;

            struct node* temp;

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

```c
        {
            temp=create_node(i,j);

            if(head[i]==last[i] && head[i]==NULL)

            {
                head[i]=last[i]=temp;

                head[i]->next=last[i]->next=NULL;

                head[i]->prev=last[i]->prev=NULL;
            }
            else  //Insertion at beginning

            {
                temp->next=head[i];

                head[i]->prev=temp;

                head[i]=temp;

                head[i]->prev=last[i];

                last[i]->next=head[i];
            }
        }
    }
}
node* create_node(int x,int y)

{
    struct node*temp;
```

```cpp
        temp=new(struct node);

        if(temp==NULL)

        {

            cout<<"\nMemory not allocated";

            return 0;

        }

        else

        {

            temp->seatr=x;

            temp->seatc=y;

            temp->status="A";

            temp->next=NULL;

            temp->prev=NULL;

            return temp;

        }

}

void book()

{

    int x,y;

    cout<<"\nEnter row and column";

    cin>>x>>y;

    struct node* temp;
```

```cpp
        temp=head[x];

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

        {

            if(temp->seatc==y)

            {

                if(temp->status=="A")

                {

                    temp->status="B";

                }

                else

                {

                    cout<<"\nSORRY !! Already booked!!";

                }

            }

            temp=temp->next;

        }

        display();

}

void cancel(){

    int x,y;

    cout<<"\nEnter row and column to cancel booking : ";

    cin>>x>>y;
```

```cpp
    struct node* temp;

    temp=head[x];

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

    {

        if(temp->seatc==y)

        {

            if(temp->status=="B")

            {

                temp->status="A"

            }

            else

            {

                cout<<"\nSORRY !! Already unbooked!!";

            }

        }

        temp=temp->next;

    }

    display();

}

void display()

{

    struct node* temp;
```

```cpp
            for(int j=1 ; j<=10 ; j++)

            {

                temp=head[j];

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

                {

                    cout<<temp->seatr<<","<<temp->seatc<<temp->status<<"\t";

                    temp=temp->next;

                }

                cout<<"\n";

            }

        }

};

int main()

{

    ticket t;

    int ch;

    t.display();

    do{

        cout<<"\n1.Book Ticket \n2.Cancel Booking  \n3.EXIT";

        cout<<"\n Enter Your Choice:";

        cin>>ch;

        switch(ch)
```

```
        {
            case 1:t.book();break;
            case 2:t.cancel();break;
        }
    }while(ch!=3);
    return 0;
}
```

OUTPUT:---

```
1,7A   1,6A   1,5A   1,4A   1,3A   1,2A   1,1A

2,7A   2,6A   2,5A   2,4A   2,3A   2,2A   2,1A

3,7A   3,6A   3,5A   3,4A   3,3A   3,2A   3,1A

4,7A   4,6A   4,5A   4,4A   4,3A   4,2A   4,1A

5,7A   5,6A   5,5A   5,4A   5,3A   5,2A   5,1A

6,7A   6,6A   6,5A   6,4A   6,3A   6,2A   6,1A

7,7A   7,6A   7,5A   7,4A   7,3A   7,2A   7,1A

8,7A   8,6A   8,5A   8,4A   8,3A   8,2A   8,1A

9,7A   9,6A   9,5A   9,4A   9,3A   9,2A   9,1A

10,7A  10,6A  10,5A  10,4A  10,3A  10,2A  10,1A


1.Book Ticket

2.Cancel Booking

3.EXIT
```

Enter Your Choice:--1

Enter row and column:--5

4

1,7A	1,6A	1,5A	1,4A	1,3A	1,2A	1,1A
2,7A	2,6A	2,5A	2,4A	2,3A	2,2A	2,1A
3,7A	3,6A	3,5A	3,4A	3,3A	3,2A	3,1A
4,7A	4,6A	4,5A	4,4A	4,3A	4,2A	4,1A
5,7A	5,6A	5,5A	5,4B	5,3A	5,2A	5,1A
6,7A	6,6A	6,5A	6,4A	6,3A	6,2A	6,1A
7,7A	7,6A	7,5A	7,4A	7,3A	7,2A	7,1A
8,7A	8,6A	8,5A	8,4A	8,3A	8,2A	8,1A
9,7A	9,6A	9,5A	9,4A	9,3A	9,2A	9,1A
10,7A	10,6A	10,5A	10,4A	10,3A	10,2A	10,1A

1.Book Ticket

2.Cancel Booking

3.EXIT

Enter Your Choice:--1

Enter row and column:--5

4

SORRY !! Already booked!!1,7A   1,6A   1,5A   1,4A   1,3A   1,2A   1,1A

2,7A   2,6A   2,5A   2,4A   2,3A   2,2A   2,1A

3,7A   3,6A   3,5A   3,4A   3,3A   3,2A   3,1A

4,7A   4,6A   4,5A   4,4A   4,3A   4,2A   4,1A

5,7A   5,6A   5,5A   5,4B   5,3A   5,2A   5,1A

6,7A   6,6A   6,5A   6,4A   6,3A   6,2A   6,1A

7,7A   7,6A   7,5A   7,4A   7,3A   7,2A   7,1A

8,7A   8,6A   8,5A   8,4A   8,3A   8,2A   8,1A

9,7A   9,6A   9,5A   9,4A   9,3A   9,2A   9,1A

10,7A   10,6A   10,5A   10,4A   10,3A   10,2A   10,1A

1.Book Ticket

2.Cancel Booking

3.EXIT

 Enter Your Choice:--2

Enter row and column to cancel booking:-- 5

4

1,7A   1,6A   1,5A   1,4A   1,3A   1,2A   1,1A

2,7A   2,6A   2,5A   2,4A   2,3A   2,2A   2,1A

3,7A   3,6A   3,5A   3,4A   3,3A   3,2A   3,1A

4,7A   4,6A   4,5A   4,4A   4,3A   4,2A   4,1A

5,7A   5,6A   5,5A   5,4A   5,3A   5,2A   5,1A

6,7A   6,6A   6,5A   6,4A   6,3A   6,2A   6,1A

7,7A   7,6A   7,5A   7,4A   7,3A   7,2A   7,1A

8,7A   8,6A   8,5A   8,4A   8,3A   8,2A   8,1A

9,7A   9,6A   9,5A   9,4A   9,3A   9,2A   9,1A

10,7A   10,6A   10,5A   10,4A   10,3A   10,2A   10,1A

1.Book Ticket

2.Cancel Booking

3.EXIT

 Enter Your Choice:--1

Enter row and column:--5

4

1,7A   1,6A   1,5A   1,4A   1,3A   1,2A   1,1A

2,7A   2,6A   2,5A   2,4A   2,3A   2,2A   2,1A

3,7A   3,6A   3,5A   3,4A   3,3A   3,2A   3,1A

4,7A   4,6A   4,5A   4,4A   4,3A   4,2A   4,1A

5,7A   5,6A   5,5A   5,4B   5,3A   5,2A   5,1A

6,7A   6,6A   6,5A   6,4A   6,3A   6,2A   6,1A

7,7A   7,6A   7,5A   7,4A   7,3A   7,2A   7,1A

8,7A   8,6A   8,5A   8,4A   8,3A   8,2A   8,1A

9,7A   9,6A   9,5A   9,4A   9,3A   9,2A   9,1A

10,7A 10,6A 10,5A 10,4A 10,3A 10,2A 10,1A

1.Book Ticket

2.Cancel Booking

3.EXIT

 Enter Your Choice:--3