

```

//#include <conio.h>
#include <cstdio>
#include <iostream>
#include <string.h>
#include <cstdlib>
using namespace std;
static int p = 0;
class a
{
    char busn[5], driver[10], arrival[5], depart[5],
    from[10], to[10], seat[8][4][10];
public:
    void install();
    void allotment();
    void empty();
    void show();
    void avail();
    void position(int i);
    void cancel();
}
bus[10];
void vline(char ch)
{
    for (int i=80;i>0;i--)
        cout<<ch;
}

void a::install()
{
    cout<<"\n\n\n\t\t\tEnter bus no: ";
    cin>>bus[p].busn;
}

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cout<<"\n\t\tEnter Driver's name: ";
cin>>bus[p].driver;
cout<<"\n\t\tArrival time: ";
cin>>bus[p].arrival;
cout<<"\n\t\tDeparture: ";
cin>>bus[p].depart;
cout<<"\n\t\tFrom: ";
cin>>bus[p].from;
cout<<"\n\t\tTo: ";
cin>>bus[p].to;
bus[p].empty();
p++;

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cout<<"\n\t\tBus added Sucessfully ";
}

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void a::allotment()
{
    int seat;
    char number[5];
    top:
    cout<<"\n\n\n\t\tBus no: ";
    cin>>number;
    int n;
    for(n=0;n<=p;n++)
    {
        if(strcmp(bus[n].busn, number)==0)
        break;
    }
    while(n<=p)

    {
        cout<<"\n\t\tSeat Number: ";

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cin>>seat;
if(seat>32)
{
cout<<"\n\t\t\tThere are only 32 seats available in this
bus.";
}
else
{
if (strcmp(bus[n].seat[seat/4][(seat%4)-1],
"Empty")==0)
{
cout<<"\t\t\tEnter passanger's name: ";
cin>>bus[n].seat[seat/4][(seat%4)-1];

cout<<"\t\t\tSeat Reserved Sucessfully ";
break;
}
else
cout<<"\t\t\tThe seat no. is already reserved.\n";
}
}
if(n>p)
{
cout<<"\t\t\tEnter correct bus no.\n";
goto top;
}
}

```

```

void a::empty()
{
for(int i=0; i<8;i++)

```

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{

for(int j=0;j<4;j++)
{
strcpy(bus[p].seat[i][j], "Empty");
}
}
}

void a::show()
{
int n;
char number[5];
cout<<"\t\tEnter bus no: ";
cin>>number;
for(n=0;n<=p;n++)
{
if(strcmp(bus[n].busn, number)==0)
break;
}
while(n<=p)
{
vline('*');
cout<<"\t\tBus no: \t"<<bus[n].busn
<<"\n\t\tDriver: \t"<<bus[n].driver<<"\t\tArrival
time: \t"
<<bus[n].arrival<<"\t\tDeparture
time:"<<bus[n].depart
<<"\n\t\tFrom: \t"<<bus[n].from<<"\t\tTo:
\t"<<bus[n].to<<"\n";
vline('*');
bus[0].position(n);
int a=1;
for (int i=0; i<8; i++)

```

```

{

for(int j=0;j<4;j++)
{
a++;

if(strcmp(bus[n].seat[i][j],"Empty")!=0)
cout<<"\n\t\t\tThe seat no "<<(a-1)<<" is reserved for
"<<bus[n].seat[i][j]<<". ";
}
}
break;
}
if(n>p)
cout<<"\t\t\tEnter correct bus no: ";
}
void a::position(int l)
{
int s=0;p=0;
for (int i =0; i<8;i++)
{
cout<<"\n";
for (int j = 0;j<4; j++)
{
s++;
if(strcmp(bus[l].seat[i][j], "Empty")==0)
{
cout.width(5);
cout.fill(' ');
cout<<s<<". ";
cout.width(10);
cout.fill(' ');

```

```

cout<<bus[l].seat[i][j];
p++;

}
else
{
cout.width(5);
cout.fill(' ');

cout<<s<<".";
cout.width(10);
cout.fill(' ');
cout<<bus[l].seat[i][j];
}
}
}
cout<<"\n\n\t\t\tThere are "<<p<<" seats empty in
Bus No: "<<bus[l].busn;
}
void a::avail()
{

for(int n=0;n<p;n++)
{
vline('*');
cout<<"\t\t\tBus no:
\t"<<bus[n].busn<<"\n\t\t\tDriver: \t"<<bus[n].driver
<<"\t\t\tArrival time:
\t"<<bus[n].arrival<<"\t\t\tDeparture Time: \t"
<<bus[n].depart<<"\n\t\t\tFrom:
\t\t"<<bus[n].from<<"\t\t\tTo: \t\t\t"
<<bus[n].to<<"\n";

```

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vline('*');
vline('_');
}
}
void a::cancel(){
    int seat;
    char name[50];
    char number[5];
    top:
    cout<<"\n\n\n\t\tBus no: ";
    cin>>number;
    int n;
    for(n=0;n<=p;n++)
    {
        if(strcmp(bus[n].busn, number)==0)
            break;
    }
    while(n<=p)
    {
        cout<<"\n\t\t\tSeat Number: ";
        cin>>seat;
        cout<<"\n\t\t\tEnter your name: ";
        cin>>name;
        if(seat>32)
        {
            cout<<"\n\t\t\tThere are only 32 seats available in this
bus.";
        }
        else
        {
            if (strcmp(bus[n].seat[seat/4][(seat%4)-1], name)==0)
            {

```

```
strcpy(bus[n].seat[seat/4][(seat%4)-1],"Empty");
```

```
cout<<"\t\t\t\nReserved Seat Cancelled Sucessfully ";  
break;
```

```
}
```

```
else
```

```
cout<<"\t\t\tThe seat no. is already Empty.\n";
```

```
}
```

```
}
```

```
if(n>p)
```

```
{
```

```
cout<<"\t\t\tEnter correct bus no.\n";
```

```
goto top;
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
system("cls");
```

```
int w;
```

```
while(1)
```

```
{
```

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

```
cout<<"\t\t\tBus Reservation System Project in C++  
\n\n";
```

```
cout<<"\t\t\t1.Add Bus\n\t\t\t"
```



```
<<"2.Bus Reservation\n\t\t\t"
<<"3.Show\n\t\t\t"
<<"4.Buses Available. \n\t\t\t"
<<"5.Cancel Reservation\n\t\t\t"
<<"6.Exit";
cout<<"\n\t\t\tEnter your choice:-> ";
```

```
cin>>w;
switch(w)
{
case 1: bus[p].install();

break;
case 2: bus[p].allotment();
break;
case 3: bus[0].show();
break;
case 4: bus[0].avail();

break;
case 5:
bus[p].cancel();
break;
case 6: exit(0);
}
}
return 0;
}
```

