

```
1  #include<bits/stdc++.h>
2  using namespace std;
3  int p = 0;
4  class a
5  {
6      char busn[5], driver[10], arrival[10], depart[10], from[10], to[10], seat[8][4][10];
7
8      public:
9      void addNewBus();
10     void allotmentOfSeatToPassenger();
11     void empty();
12     void showAvailableBusSeats();
13     void showAvailableBuses();
14     void showReservedBusSeats(int i);
15 }
16 bus[25];
17
18 void vline(char ch)
19 {
20     for (int i=75; i>0; i--){
21         cout<<ch;
22     }
23     cout<<endl;
24 }
25
26 void a::addNewBus()
27 {
28     cout<<"Enter bus no: ";
29     cin>>bus[p].busn;
30     cout<<"\nEnter Driver's name: ";
31     cin>>bus[p].driver;
32     cout<<"\nArrival time : ";
33     cin>>bus[p].arrival;
34     cout<<"\nDeparture: ";
35     cin>>bus[p].depart;
36     cout<<"\nFrom: \t\t\t";
37     cin>>bus[p].from;
38     cout<<"\nTo: \t\t\t";
39     cin>>bus[p].to;
40     bus[p].empty();
41     p++;
42 }
```

g [\*] bus reservation.cpp

```
43 void a::allotmentOfSeatToPassenger()
44 {
45     int seat; // Enter seat number between 1 to 32
46     char number[5]; // Bus number in which you want to reserve seat
47     top:
48     cout<<"Bus no: ";
49     cin>>number;
50     int n;
51     for(n=0;n<=p;n++)
52     {
53         if(strcmp(bus[n].busn, number)==0)//Check if bus number exist or not if exist n will be the index of array
54             break;
55     }
56     while(n<=p)
57     {
58         cout<<"\nSeat Number: ";
59         cin>>seat;
60         if(seat>32) //Can't allocate as there are only 32 seats
61         {
62             cout<<"\nThere are only 32 seats available in this bus.";
63         }
64         else
65         {
66             if (strcmp(bus[n].seat[seat/4][(seat%4)-1], "Empty")==0) // used to break the seat number in row-column ba
67             {
68                 cout<<"Enter passanger's name: ";
69                 cin>>bus[n].seat[seat/4][(seat%4)-1];
70                 break;
71             }
72             else
73             {
74                 cout<<"The seat number is already reserved.\n";
75             }
76         }
77         if(n>p)
78         {
79             cout<<"Enter correct bus no.\n";
80             goto top;
81         }
82     }
83 void a::empty()
84 {
```

[\*] bus reservation.cpp

```
127     break;
128 }
129 if(n>p)
130     cout<<"Enter correct bus no:" ;
131 }
132 void a::showReservedBusSeats(int l)
133 {
134     int s=0,h=0;
135     for (int i =0; i<8;i++)
136     {
137         cout<<"\n";
138         for (int j = 0;j<4; j++)
139         {
140             s++;
141             if(strcmp(bus[l].seat[i][j], "Empty")==0)
142             {
143                 cout.width(5);
144                 cout.fill(' ');
145                 cout<<s<<" ";
146                 cout.width(10);
147                 cout.fill(' ');
148                 cout<<bus[l].seat[i][j];
149                 h++;
150             }
151             else
152             {
153                 cout.width(5);
154                 cout.fill(' ');
155                 cout<<s<<" ";
156                 cout.width(10);
157                 cout.fill(' ');
158                 cout<<bus[l].seat[i][j];
159             }
160         }
161         cout<<"\n\nThere are "<<h<<" seats empty in Bus No: "<<bus[l].busn;
162     }
163 }
164 void a::showAvailableBuses()
165 {
166     for(int n=0;n<p;n++)
167     {
168         vline(" ");
```

[\*] bus reservation.cpp

```
85 for(int i=0; i<8;i++)
86 {
87 for(int j=0;j<4;j++)
88 {
89 strcpy(bus[p].seat[i][j], "Empty");
90 }
91 }
92 }
93
94 void a::showAvailableBusSeats()
95 {
96 int n;
97 char number[5];
98 cout<<"Enter bus no: ";
99 cin>>number;
100
101 for(n=0;n<=p;n++)
102 {
103 if(strcmp(bus[n].busn, number)==0)
104 break;
105 }
106
107 while(n<=p)
108 {
109 vline(""); // Prints a line with ""
110 cout<<"\nBus no: \t"<<bus[n].busn
111 <<"\nDriver: \t"<<bus[n].driver<<"\t\tArrival time: \t"
112 <<bus[n].arrival<<"\tDeparture time:"<<bus[n].depart
113 <<"\nFrom: \t\t"<<bus[n].from<<"\t\tTo: \t\t"<<
114 bus[n].to<<"\n";
115 vline("");
116 bus[o].showReservedBusSeats(n); //Checks for reserved seats in the current bus( nth bus)
117 int a=1;
118 for (int i=0; i<8; i++)
119 {
120 for(int j=0;j<4;j++)
121 {
122 a++;
123 if(strcmp(bus[n].seat[i][j], "Empty")!=0)
124 cout<<"\nThe seat no "<<(a-1)<<" is reserved for "<<bus[n].seat[i][j]<<". ";
125 }
126 }
```

```
177 // Main function
178 int main()
179 {
180     int choice;
181     vline('-');
182     cout<<"\t\t\t\t\t****SM Bus Travel Agency****"<<endl<<endl;
183     vline('-');
184     while(1)
185     {
186         //system("cls");
187         cout<<endl;
188         vline('-');
189         cout<<"\n\n";
190         cout<<"\t\t\t\t\t1. Add new Bus Details:\n\t\t\t\t\t"
191         <<"2. Reserve your seats:\n\t\t\t\t\t"
192         <<"3. Show the available seats in a bus:\n\t\t\t\t\t"
193         <<"4. Buses Available Now: \n\t\t\t\t\t"
194         <<"5. Exit";
195         cout<<endl;
196         vline('-');
197         cout<<"\n\t\t\t\t\tEnter your choice:-> ";
198         cin>>choice;
199         vline('-');
200         switch(choice)
201         {
202             case 1: bus[p].addNewBus();
203                     break;
204             case 2: bus[p].allotmentOfSeatToPassenger();
205                     break;
206             case 3: bus[o].showAvailableBusSeats();
207                     break;
208             case 4: bus[o].showAvailableBuses();
209                     break;
210             case 5: {
211                     cout<<"Successfully Logged out from the Application. Visit Again!"<<endl<<"<Thanks You :>"<<endl<<"C
212                     exit(0);
213                 };
214             }
215         }
216     }
217     return 0;
}
```

C:\Users\ASUS\Documents\bus reservation.exe

\*\*\*\*\*SM Bus Travel Agency\*\*\*\*\*

- 1.Add new Bus Details:
- 2.Reserve your seats:
- 3.Show the available seats in a bus:
- 4.Buses Available Now:
- 5.Exit

Enter your choice:-> 1

Enter bus no: 201

Enter Driver's name: AMULYA

Arrival time : 5:00PM

Departure: 12:AM

From: KARATAKA

To: KERALA

- 1.Add new Bus Details:
- 2.Reserve your seats:
- 3.Show the available seats in a bus:
- 4.Buses Available Now:
- 5.Exit

Enter your choice:-> 2

5.EXIT  
\*\*\*\*\*

Enter your choice:-> 2  
\*\*\*\*\*

Bus no: 201

Seat Number: 23

Enter passanger's name: AMULYA

\*\*\*\*\*

- 1.Add new Bus Details:
- 2.Reserve your seats:
- 3.Show the available seats in a bus:
- 4.Buses Available Now:
- 5.Exit

\*\*\*\*\*

Enter your choice:-> 3  
\*\*\*\*\*

Enter bus no: 201

\*\*\*\*\*

Bus no: 201  
Driver: AMULYA                      Arrival time: 5:00PM      Departure time:12:AM  
From: KARATAKA                      To: KERALA

\*\*\*\*\*

1.	Empty	2.	Empty	3.	Empty	4.	Empty
5.	Empty	6.	Empty	7.	Empty	8.	Empty
9.	Empty	10.	Empty	11.	Empty	12.	Empty
13.	Empty	14.	Empty	15.	Empty	16.	Empty
17.	Empty	18.	Empty	19.	Empty	20.	Empty
21.	Empty	22.	Empty	23.	AMULYA	24.	Empty
25.	Empty	26.	Empty	27.	Empty	28.	Empty
29.	Empty	30.	Empty	31.	Empty	32.	Empty

There are 31 seats empty in Bus No: 201

The seat no 23 is reserved for AMULYA.

\*\*\*\*\*

- 1.Add new Bus Details:
- 2.Reserve your seats:
- 3.Show the available seats in a bus:
- 4.Buses Available Now:
- 5.Exit

\*\*\*\*\*



\*\*\*\*\*

Enter your choice:-> 4

\*\*\*\*\*  
\*\*\*\*\*

Bus no:	201				
Driver:	AMULYA	Arrival time:	5:00PM	Departure Time:	12:AM
From:	KARATAKA	To:	KERALA		

\*\*\*\*\*

\*\*\*\*\*

- 1.Add new Bus Details:
- 2.Reserve your seats:
- 3.Show the available seats in a bus:
- 4.Buses Available Now:
- 5.Exit

\*\*\*\*\*

Enter your choice:-> 5

\*\*\*\*\*

Successfully Logged out from the Application. Visit Again!

<Thanks You :>

Created By Sourav Mondal

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Process exited after 132.8 seconds with return value 0

Press any key to continue . . .