***Bus Reservation System***

#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);

}

bus[10];

void vline(char ch)

{

for (int i=80;i>0;i--)

cout<<ch;

}

void a::install()

{

cout<<"Enter bus no: ";

cin>>bus[p].busn;

cout<<"\nEnter Driver's name: ";

cin>>bus[p].driver;

cout<<"\nArrival time: ";

cin>>bus[p].arrival;

cout<<"\nDeparture: ";

cin>>bus[p].depart;

cout<<"\nFrom: \t\t\t";

cin>>bus[p].from;

cout<<"\nTo: \t\t\t";

cin>>bus[p].to;

bus[p].empty();

p++;

}

void a::allotment()

{

int seat;

char number[5];

top:

cout<<"Bus no: ";

cin>>number;

int n;

for(n=0;n<=p;n++)

{

if(strcmp(bus[n].busn, number)==0)

break;

}

while(n<=p)

{

cout<<"\nSeat Number: ";

cin>>seat;

if(seat>32)

{

cout<<"\nThere are only 32 seats available in this bus.";

}

else

{

if (strcmp(bus[n].seat[seat/4][(seat%4)-1], "Empty")==0)

{

cout<<"Enter passanger's name: ";

cin>>bus[n].seat[seat/4][(seat%4)-1];

break;

}

else

cout<<"The seat no. is already reserved.\n";

}

}

if(n>p)

{

cout<<"Enter correct bus no.\n";

goto top;

}

}

void a::empty()

{

for(int i=0; i<8;i++)

{

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

{

strcpy(bus[p].seat[i][j], "Empty");

}

}

}

void a::show()

{

int n;

char number[5];

cout<<"Enter bus no: ";

cin>>number;

for(n=0;n<=p;n++)

{

if(strcmp(bus[n].busn, number)==0)

break;

}

while(n<=p)

{

vline('\*');

cout<<"Bus no: \t"<<bus[n].busn

<<"\nDriver: \t"<<bus[n].driver<<"\t\tArrival time: \t"

<<bus[n].arrival<<"\tDeparture time:"<<bus[n].depart

<<"\nFrom: \t\t"<<bus[n].from<<"\t\tTo: \t\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<<"\nThe seat no "<<(a-1)<<" is reserved for "<<bus[n].seat[i][j]<<".";

}

}

break;

}

if(n>p)

cout<<"Enter 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\nThere are "<<p<<" seats empty in Bus No: "<<bus[l].busn;

}

void a::avail()

{

for(int n=0;n<p;n++)

{

vline('\*');

cout<<"Bus no: \t"<<bus[n].busn<<"\nDriver: \t"<<bus[n].driver

<<"\t\tArrival time: \t"<<bus[n].arrival<<"\tDeparture Time: \t"

<<bus[n].depart<<"\nFrom: \t\t"<<bus[n].from<<"\t\tTo: \t\t\t"

<<bus[n].to<<"\n";

vline('\*');

vline('\_');

}

}

int main()

{

system("cls");

int w;

while(1)

{

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

cout<<"\t\t\t1.Install\n\t\t\t"

<<"2.Reservation\n\t\t\t"

<<"3.Show\n\t\t\t"

<<"4.Buses Available. \n\t\t\t"

<<"5.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: exit(0);

}

}

return 0;

}