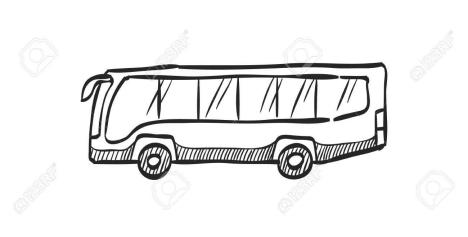
**PROJECT REPORT**

****

**Name -** Sagnik Ghosh

**Language** – C++

**Topic –** BUS TICKET RESERVATION

1

**Introduction**

This project for reservation of bus ticket for various buses. Each bus has 50 seats. The project is inspired by travel booking sites such as Makemytrip & RedBus. In this project, we have use the following algorithms -

1. Searching
2. Deletion
3. File handling

The following is the layout of the program:

**(The main menu)**

**1) Admin** (the menu for admin, password protected)

Enter password: **212173314**

i) Add a bus

ii) Show selected bus

iii) Display all buses

iv) Delete a bus

v) Modify a bus

vi) Exit

**2) Customer** (the menu for customers)

i) Book ticket

ii) Show ticket (the menu to search ticket)

a) Search by name

b) Search by phone no.

c) Exit

iii) Delete ticket (the menu to delete ticket)

a) Delete by name

b) Delete by phone no.

c) Exit

iv) Exit

**3) Exit**

**Header Files**

**1. FSTREAM.H:** For file handling, cin and cout **2. CONIO.H:** For clrscr(), getch() and gotoxy()

**3. STDIO.H:** For standard I/O operations **4. STRING.H:** For string handling

**5. DOS.H:** For delay()

**FILES**

**DATA FILES**

tourism.dat – to store details of bus, i.e., ∙ Bus id,

∙ From & To,

∙ Departure & Arrival,

∙ No. of seats & No. of seats booked,

∙ Fare & GST.

ticket.dat – to store details of ticket, i.e., ∙ Name,

∙ Phone no.,

∙ And details of selected bus.

**PROGRAM FILE**

BUS TICKET RESERVATION.CPP

**CODE**

#include<conio.h>

#include<stdio.h>

#include<string.h>

#include<fstream.h>

#include<dos.h>

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* CLASS FOR BUS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ class bus

{ int id;

char from[50];

char dest[50];

char timeA[10],timeD[10]; int maxseats;

int booked;

int fare;

int ticbook;

int gst;

public:

bus()

{ ticbook=0;

id=0;

maxseats=50;

booked=0;

fare=0;

strcpy(timeA,"");

strcpy(timeD,"");

strcpy(dest,"");

strcpy(from,"");

9

gst=0;

}

void input();

void show();

void display();

void selectedbus(); int getid()

{

return id;

}

void ticketcount(int n) {

ticbook=n;

}

void book(int n)

{

booked=booked+n; }

char\* getfrom()

{

return from;

}

char\* getdest()

{

return dest;

}

char\* gettimeA() {

return timeA;

10

}

char\* gettimeD()

{

return timeD;

}

int getbooked()

{

return booked;

}

int getfare()

{

return fare;

}

int getgst()

{

return gst;

}

};

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

CLASS FOR TICKET

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

class ticket

{ char name[25];

char phone[15];

bus b;

public:

// FUNC. TO GENERATE TICKET

void generate(char cname[],bus tb,char cphone[]) {

11

strcpy(name,cname);

strcpy(phone,cphone);

b=tb;

}

// FUNC. TO DISPLAY TICKET

void display()

{

clrscr();

cout<<"\n

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

cout<<"\t\t\t BUS TRAVEL AGENCY\n";

cout<<"

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

gotoxy(8,6);

cout<<"CUSTOMER: "<<name ;

gotoxy(47,14);

cout<<"Contact No.:"<<phone;

b.show();

}

char\* getname()

{ return name;

}

char\* getphone()

{ return phone;

}

};

12

// FUNC. TO INPUT REQD. BUS DATA

void bus::input()

{

cout<<"Enter bus id:";

cin>>id;

cout<<"Enter starting point:";

gets(from);

cout<<"Enter destination:";

gets(dest);

cout<<"Enter time of departure:";

gets(timeD);

cout<<"Enter time of arrival:";

gets(timeA);

cout<<"Enter fare of bus:";

cin>>fare;

cout<<"Enter GST:";

cin>>gst;

}

// FUNC. TO DISPLAY BUS DATA

void bus::display()

{

cout<<"\t"<<id<<"\t"<<from<<"\t"<<dest<<"\t"<<timeD<<"\t"< <timeA<<"\t"<<maxseats<<"\t"<<booked<<"\t"<<fare<<"\n"; }

// FUNC. TO SHOW DATA

void bus::show()

13

{

gotoxy(57,6);

cout<<"BUS ID: "<<id;

gotoxy(8,7);

cout<<"--------------------------------------------------------------"; gotoxy(8,8);

cout<<"Journey: "<<from<<" - "<<dest;

gotoxy(8,10);

cout<<"Departure: "<<timeD;

gotoxy(47,10);

cout<<"Arrival: "<<timeA;

gotoxy(8,12);

cout<<"Fare : "<<fare;

gotoxy(47,12);

cout<<"GST: "<<gst<<"%";

gotoxy(8,14);

cout<<"Tickets Booked: "<<ticbook;

gotoxy(47,18);

cout<<"TOTAL AMOUNT:

"<<((2\*gst\*fare\*ticbook)/100)+(fare\*ticbook); gotoxy(46,17);

cout<<"--------------------";

gotoxy(45,18);

cout<<"|";

gotoxy(66,18);

cout<<"|";

gotoxy(46,19);

cout<<"--------------------";

gotoxy(8,20);

14

cout<<"--------------------------------------------------------------"; gotoxy(22,21);

cout<<" THANK YOU, HAVE A HAPPY JOURNEY "; gotoxy(8,22);

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*";

}

// FUNC. TO SHOW DATA OF THE SELECTED BUS void bus::selectedbus()

{

cout<<"BUS ID.-"<<id<<endl

<<"From- "<<from<<" To- "<<dest<<endl

<<"Departure- "<<timeD<<"\tArrival-"<<timeA<<endl <<"Fare:"<<fare<<endl

<<"GST:"<<gst<<"%"<<endl;

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

FUNC. FOR ADMIN

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

void admin()

{ bus b;

ticket t;

int ch;

fstream f1,f2,f3,f4;

do

{ clrscr();

cout<<"\n\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

15

cout<<"\t\t\t\tWELCOME";

cout<<"\n\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n"; cout<<"\t\t\t 1.Add a new bus"<<endl

<<"\t\t\t 2.Show selected bus"<<endl

<<"\t\t\t 3.Display all bus"<<endl

<<"\t\t\t 4.Delete a bus"<<endl

<<"\t\t\t 5.Modify a bus"<<endl

<<"\t\t\t 6.Exit"<<endl

<<"\t\t\t\n Enter your choice:";

cin>>ch;

switch(ch)

{

case 1 :

//ADD NEW BUS

f1.open("tourism.dat",ios::app|ios::binary);

b.input();

f1.write((char\*)&b,sizeof(b));

f1.close();

cout<<"Bus added successfully"<<endl;

getch();

clrscr();

break;

case 2 :

//SHOW SELECTED BUS

int bid,ck=0;

cout<<"Enter the bus id:";

cin>>bid;

f3.open("tourism.dat",ios::in|ios::binary);

if(f3.fail())

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cout<<"Cant open file"<<endl;

else

{

while(f3.read((char\*)&b,sizeof(b)))

{

if(b.getid()==bid)

{

b.selectedbus();

getch();

ck=1;

}

}

if(ck==0)

cout<<"Bus not found"<<endl;

}

f3.close();

break;

case 3 :

//DISPLAY ALL BUSES

f1.open("tourism.dat",ios::in|ios::binary);

if(f1.fail())

cout<<"Can't open file"<<endl;

else

{ clrscr();

cout<<"\n

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

cout<<"\t\t\t BUS TRAVEL AGENCY\n\n";

17

cout<<"\tBUS

ID.\tFROM\tDEST\tDEP\tARRV\tSEATS\tBOOKED\tFARE\n"; cout<<"

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

while(f1.read((char\*)&b,sizeof(b)))

b.display();

}

f1.close();

cout<<"\nPress a key to continue";

getch();

clrscr();

break;

case 4 :

//DELETE A BUS

ck=0;

cout<<"Enter the bus ID:";

cin>>bid;

f1.open("tourism.dat",ios::in|ios::binary);

f2.open("temp.dat",ios::out|ios::binary);

f3.open("ticket.dat",ios::in|ios::binary);

f4.open("temp2.dat",ios::out|ios::binary);

if(f1.fail())

cout<<"Can't open file"<<endl;

else

{

while(f1.read((char\*)&b,sizeof(b)))

{

if(b.getid()!=bid)

18

{

f2.write((char\*)&b,sizeof(b));

}

else

{

b.selectedbus();

ck=1;

}

}

if(ck==0)

cout<<"Bus not found"<<endl; else

cout<<"Bus deleted"<<endl; }

f1.close();

f2.close();

remove("tourism.dat");

rename("temp.dat","tourism.dat"); while(f1.read((char\*)&t,sizeof(t))) if(b.getid()!=bid)

{

f2.write((char\*)&b,sizeof(b)); }

f3.close();

f4.close();

remove("ticket.dat");

rename("temp2.dat","ticket.dat"); cout<<"\nPress a key to continue"; getch();

19

clrscr();

break;

case 5 :

//MODIFY A BUS

cout<<"Enter bus id to be updated:";

cin>>bid;

f1.open("tourism.dat",ios::binary|ios::in|ios::out); if(f1.fail())

cout<<"Can't open file"<<endl;

else

{

while(f1.read((char\*)&b,sizeof(b)))

{

if(b.getid()==bid)

{

f1.seekp(f1.tellg()-sizeof(b));

b.input();

f1.write((char\*)&b,sizeof(b));

}

else

{ b.selectedbus();

ck=1;

}

}

if(ck==0)

cout<<"\nBus not found";

else

cout<<"\nBus updated\n";

20

}

f1.close();

break;

}

}while(ch!=6);

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

FUNC. FOR CUSTOMER

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

void customer()

{

int ch;

fstream f1,f2;

bus b;

ticket t;

do

{

clrscr();

cout<<"\n\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n"; cout<<"\t\t\t\tWELCOME";

cout<<"\n\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n"; cout<<"\t\t\t 1.Book a ticket"<<endl <<"\t\t\t 2.Show ticket"<<endl

<<"\t\t\t 3.Delete ticket"<<endl

<<"\t\t\t 4.Exit"<<endl

<<"\t\t\t\n Enter your choice:";

cin>>ch;

switch(ch)

21

{

case 1 :

//BOOK A TICKET

char destination[50],cname[25],cphone[15];

int ck=0,bid,n;

f2.open("tourism.dat",ios::in|ios::binary);

if(f2.fail())

cout<<"Can't open file"<<endl;

else

{ clrscr();

cout<<"\t\t\t BUS TRAVEL AGENCY";

cout<<"\n

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

cout<<"\tBUS

ID.\tFROM\tDEST\tDEP\tARRV\tSEATS\tBOOKED\tFARE\n"; cout<<"

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

while(f2.read((char\*)&b,sizeof(b)))

b.display();

}

f2.close();

getch();

cout<<"\n\nEnter BUS ID:";

cin>>bid;

f1.open("tourism.dat",ios::in|ios::out|ios::binary); if(f1.fail())

cout<<"Can't open file!"<<endl;

22

else

{

while(f1.read((char\*)&b,sizeof(b))) {

if(b.getid()==bid)

{

b.selectedbus();

ck=1;

if(b.getbooked()>=50)

{

cout<<"\nALL TICKETS ARE BOOKED"; }

else

{ cout<<"\nEnter the customer name:"; gets(cname);

cout<<"\nEnter the no. of tickets:";

cin>>n;

b.ticketcount(n);

cout<<"\nEnter the phone no.:";

gets(cphone);

b.book(n);

t.generate(cname,b,cphone);

}

f2.open("ticket.dat",ios::app|ios::binary); f2.write((char\*)&t,sizeof(t));

f2.close();

f1.seekp(f1.tellg()-sizeof(b),ios::beg); f1.write((char\*)&b,sizeof(b));

cout<<"\nTicket booked"<<endl;

23

cout<<"\n\t\t\t TICKET GENERATING"; delay(500);

cout<<".";

delay(500);

cout<<".";

delay(500);

cout<<".";

delay(500);

cout<<".";

delay(500);

cout<<".";

delay(500);

cout<<".";

delay(500);

clrscr();

t.display();

cout<<"\nPress a key to continue"<<endl; getch();

break;

}

}

if(ck==0)

cout<<"No record of bus found"<<endl; }

f1.close();

break;

case 2 :

//SHOW TICKET

int ch1;

24

do

{

clrscr();

//MENU FOR METHOD OF SEARCHING cout<<"\n\t\t\t1.Search by name"

<<"\n\t\t\t2.Search by phone no"

<<"\n\t\t\t3.Exit"

<<"\nEnter choice:";

cin>>ch1;

switch(ch1)

{

case 1 :

//SEARCH BY NAME

cout<<"Enter name:";

gets(cname);

f2.open("ticket.dat",ios::in|ios::binary); if(f2.fail())

cout<<"Can't open file!"<<endl;

else

{

while(f2.read((char\*)&t,sizeof(t)))

if(strcmp(t.getname(),cname)==0)

{

cout<<"\nBooked Ticket\n\n";

t.display();

ck=1;

}

else if(ck==0)

{

25

cout<<"No record of ticket found"; getch();

}

}

f2.close();

cout<<"\nPress a key to continue\n"; getch();

break;

case 2 :

//SEARCH BY PHONE NO.

cout<<"Enter phone no.:";

gets(cphone);

f2.open("ticket.dat",ios::in|ios::binary); if(f2.fail())

cout<<"Can't open file!"<<endl; else

{

while(f2.read((char\*)&t,sizeof(t))) if(strcmp(t.getphone(),cphone)==0) {

ck=1;

cout<<"\nBooked Ticket\n\n";

t.display();

}

else if(ck==0)

{

cout<<"No record of ticket found"; }

}

26

f2.close();

cout<<"\nPress a key to continue\n";

getch();

break;

}

}while(ch1!=3); //END OF SEARCH MENU break;

case 3 : //DELETE TICKET

int ch2;

do

{ clrscr();

cout<<"\t\t\t 1.Delete by name"

<<"\n\t\t\t 2.Delete by phone no."

<<"\n\t\t\t 3.Exit"

<<"\nEnter choice:";

cin>>ch2;

switch(ch2)

{

case 1 :

//DELETE BY NAME

ck=0;

cout<<"Enter name:";

gets(cname);

f1.open("ticket.dat",ios::in|ios::binary);

f2.open("temp.dat",ios::out|ios::binary);

if(f1.fail())

cout<<"Can't open file"<<endl;

27

else

{

while(f1.read((char\*)&t,sizeof(t))) if(strcmp(t.getname(),cname)!=0) {

f2.write((char\*)&t,sizeof(t));

}

else

{

clrscr();

t.display();

ck=1;

}

}

if(ck==0)

cout<<"Ticket not found"<<endl; else

cout<<"\nTicket deleted"<<endl; f1.close();

f2.close();

remove("ticket.dat");

rename("temp.dat","ticket.dat"); getch();

clrscr();

break;

case 2 :

//DELETE BY PHONE NO.

28

ck=0;

cout<<"Enter Phone no.:";

gets(cphone);

f1.open("ticket.dat",ios::in|ios::binary); f2.open("temp.dat",ios::out|ios::binary); if(f1.fail())

cout<<"Can't open file"<<endl; else

{

while(f1.read((char\*)&t,sizeof(t))) if(strcmp(t.getphone(),cphone)!=0) {

f2.write((char\*)&t,sizeof(t)) ;

}

else

{

clrscr();

t.display();

ck=1;

}

}

if(ck==0)

cout<<"Ticket not found"<<endl; else

cout<<"\nTicket deleted"<<endl; f1.close();

f2.close();

remove("ticket.dat");

rename("temp.dat","ticket.dat");

29

getch();

clrscr();

break;

}

}while(ch!=3); //END OF TICKET DELETION MENU }

}while(ch!=4); //END OF ADMIN MENU

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MAIN FUCTION

31

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

void main()

{ clrscr();

cout<<"\nPress any key to continue....";

getch();

clrscr();

int ch;

//LOADING SCREEN

for(int s=0;s<100;s++)

{ clrscr();

gotoxy(35,12);

cout<<"LOADING "<<s<<"%";

delay(30);

}

do

{ clrscr();

cout<<"\n

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

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

delay(100);

cout<<"U";

delay(100);

cout<<"S";

delay(100);

cout<<" T";

delay(100);

32

cout<<"R";

delay(100);

cout<<"A";

delay(100);

cout<<"V";

delay(100);

cout<<"E";

delay(100);

cout<<"L";

delay(100);

cout<<" A";

delay(100);

cout<<"G";

delay(100);

cout<<"E";

delay(100);

cout<<"N";

delay(100);

cout<<"C";

delay(100);

cout<<"Y";

delay(100);

cout<<"\n

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\*\n";

delay(1000);

//FIRST MENU

cout<<"\t\t\t 1.Admin\n"

<<"\t\t\t 2.Customer\n"

33

<<"\t\t\t 3.Exit\n"

<<"\t\t\t\n Enter your choice:";

cin>>ch;

switch(ch)

{

case 1 :

//PASSWORD PROGRAM TO ACCESS ADMIN FUNC. char pwd[20];

char pswd[]="212173314";

cout<<"Enter password:";

for(int i=0;i<9;i++)

{ pwd[i]=getch();

cout<<"\*";

}

pwd[i]='\0';

if(strcmp(pwd,pswd)==0)

{

//ACCESSING ADMIN FUNC.

admin();

}

else

cout<<"\nInvalid password!!!";

getch();

break;

case 2 :

//ACCESSING CUSTOMER FUNC.

customer();

break;

34

case 3 :

//EXIT MESSAGE

clrscr();

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING"; delay(300);

clrscr();

delay(300);

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING"; delay(300);

clrscr();

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING"; delay(300);

clrscr();

delay(300);

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING"; delay(300);

clrscr();

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING"; delay(300);

clrscr();

delay(300);

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING";

35

delay(300);

clrscr();

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING";

delay(300);

clrscr();

delay(300);

gotoxy(30,12);

cout<<"THANK YOU FOR VISITING";

delay(300);

break;

}

}while(ch!=3);

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* END OF PROGRAM

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

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**OUTPUT**

37

38

**1.Admin**

****39

**i) Add new bus**

****

**ii) Show selected bus**

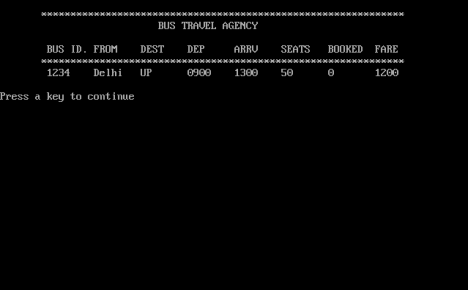
****40

**iii) Display all buses**

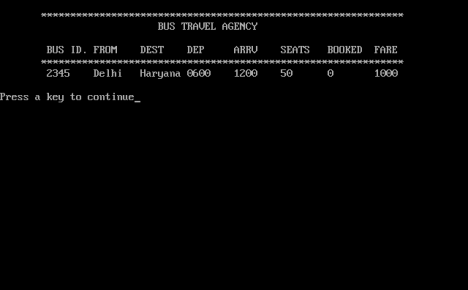
****

**iv) Delete bus**

****41

**v) Modify a bus**

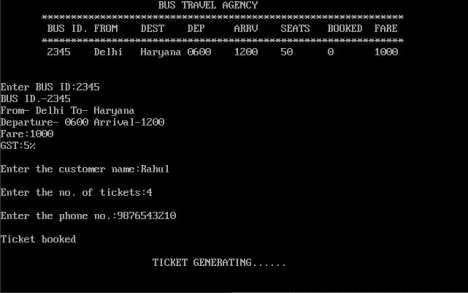
****42

**//END OF ADMIN MENU**

**2) Customer**

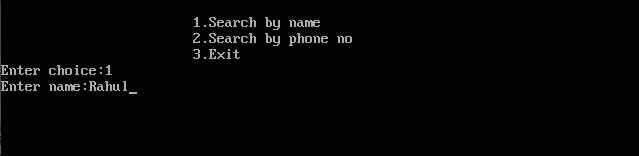
****43

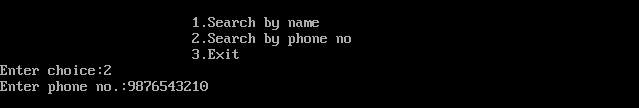
**i) Book ticket**

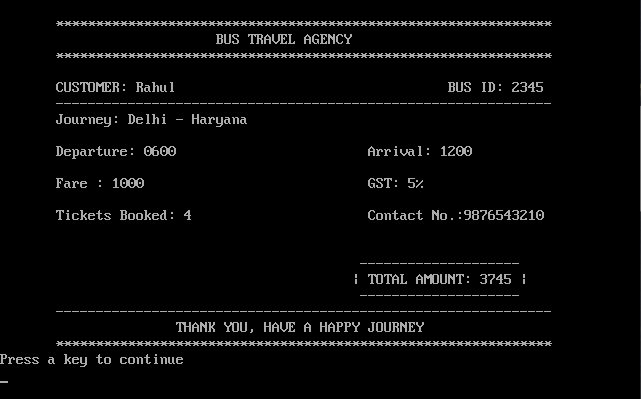
****44

**ii) Show ticket**

**a) Search by name**

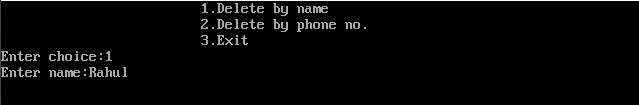
**b) Search by phone no.**

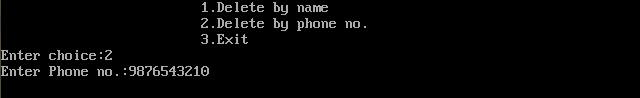
**Output for both is same:**

****

**iii) Delete ticket**

**a) Delete by name**

**b)Delete by phone no.**

**Output for both is same:**

**//END OF CUSTOMER MENU**

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**3) EXIT**

**//END OF PROGRAM**

**Bibliography**

∙ COMPUTER SCIENCE with C++ Sumita Arora CLASS XII ∙ www.google.com

∙ www.cbseportal.com

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