

```
#include<iostream>
#include <fstream>
#include<string.h>
#include<stdlib.h>
#include<stdio>
using namespace std;
char str[30];
class ticket;
class admin
{
    char source[30];
    int train_number;
    char destination[30];
    float fare;
public:
    char* ret_source()
    {
        return source;
    }
    char* ret_destination()
    {
        return destination;
    }
    float ret_fare()
    {
        return fare;
    }
    int ret_train_number()
    {
        return train_number;
    }
    void read()
    {
        cout<<"Enter the source\n";
        cin>>source;
        cout<<"Enter the destination\n";
        cin>>destination;
        cout<<"Enter the train number\n";
        cin>>train_number;
        cout<<"Enter fare for the journey\n";
        cin>>fare;
    }
    void disp()
    {
        cout<<"SOURCE : ";
        cout<<source<<"\n";
        cout<<"DESTINATION : ";
        cout<<destination<<"\n";
        cout<<"TRAIN NUMBER";
        cout<<train_number<<"\n";
        cout<<"FARE : ";
        cout<<fare<<"\n";
    }
    friend void database();
    friend class ticket;
};
class user
{
    char name[30];
    int age;
    char username[30];
    char password[30];
public:
    void read_up()
    {
        cout<<"Enter your name\n";
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cin>>name;
cout<<"Enter your age\n";
cin>>age;
cout<<"Enter your username\n";
cin>>username;
cout<<"Enter your password\n";
cin>>password;
}
char* ret_username()
{
    return username;
}
char* ret_password()
{
    return password;
}
int ret_age()
{
    return age;
}
char* ret_name()
{
    return name;
}
friend void sign_in();
friend void change_password();
friend class ticket;
void display()
{
    cout<<"NAME : "<<name<<"\n";
    cout<<"AGE : "<<age<<"\n";
    cout<<"USERNAME : "<<username<<"\n";
}
};
class ticket:public user,public admin
{
public :
    char name[30];
    int age;
    char username[30];
    char source[30];
    int train_number;
    char destination[30];
    float fare;
    char* ret_source()
    {
        return source;
    }
    char* ret_destination()
    {
        return destination;
    }
    char* ret_username()
    {
        return username;
    }
    void ticket_disp()
    {
        cout<<"
|
TICKET | RAILWAY \n";
        cout<<"
| \n";
        cout<<" | \n";
    }
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        cout<<"      | train
number:"<<train_number<<"          \n";
        cout<<"      | name : "<<name<<"
age : "<<age<<"          \n";
        cout<<"      |
username : "<<username<<"          \n";
        cout<<"      |
source : "<<source<<"          \n";
        cout<<"      | destination : "<<destination<<"
fare : "<<fare<<"          \n";
        cout<<"      |
_____ \n";
    }
    friend void book_ticket();
};

void database();
void create_account();
void user_option(user);
void ticket_display();
void cancel_ticket();
void sign_in()
{
    int i=0,m;
    user a,b;
    x:
    cout<<"Enter your username\n";
    cin>>a.username;
    ifstream fin("user_data.txt",ios::binary);
    while(fin.read((char*)&b,sizeof(b))&&(i==0))
    {
        if(strcmp(b.ret_username(),a.username)==0)
        {
            cout<<"Enter your password\n";
            cin>>a.password;
            if(strcmp(b.ret_password(),a.password)==0)
            {
                cout<<"You have successfully logged in\n";
                i=1;
                strcpy(str,b.ret_username());
                system("clear");
                user_option(b);
            }
        }
    }
    if(i!=1)
    {
        system("clear");
        cout<<"account not found or incorrect information\n";
        cout<<" 1: try again || 2:create an account\n";
        cin>>m;
        if(m==1)
            goto x;
        else
            create_account();
    }
    fin.close();
}

void create_account()
{
    user b;
    ifstream fin("user_data.txt",ios::binary);
    fin.read((char*)&b,sizeof(b));
    if(b.ret_username())
    {

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    ofstream fout("user_data.txt",ios::app | ios::binary);
    cout<<"Enter the following information\n";
    b.read_up();
    fout.write((char*)&b,sizeof(b));
    cout<<"\n\nPROCESSING.....\n";
    for(int i=0;i<1000000000;i++);
    cout<<"account created successfully\n";
    for(int j=0;j<1090000000;j++);
    system("clear");
    cout<<"welcome to the sign in page\n";
    fout.close();
    sign_in();
}
else
{
    ofstream fout("user_data.txt",ios::binary);
    cout<<"Enter the following information\n";
    b.read_up();
    fout.write((char*)&b,sizeof(b));
    cout<<"\n\nPROCESSING.....\n";
    for(int i=0;i<1000000000;i++);
    cout<<"account created successfully\n";
    for(int j=0;j<1090000000;j++);
    system("clear");
    cout<<"welcome to the sign in page\n";
    fout.close();
    sign_in();
}
}
void change_password()
{
    char ch[30];
    fstream file("user_data.txt",ios::in | ios::out);
    user b;
    cout<<"Enter your username\n";
    cin>>ch;
    while(file.read((char*)&b,sizeof(b)))
    {
        if(strcmp(b.ret_username(),ch)==0)
        {
            cout<<"Enter the new password\n";
            cin>>b.password;
            int pos=-1 * sizeof(b);
            file.seekp(pos,ios::cur);
            file.write((char*)&b,sizeof(b));
        }
    }
    file.close();
    system("clear");
    cout<<"welcome to the sign in page\n";
    sign_in();
}
void about()
{
    system("clear");
    cout<<"THIS IS A C++ PROGRAM DESIGNED TO RESERVE RAILWAY TICKETS.THE PROGRAM  

    CONSISTS OF A ADMIN DATABASE AND A USER DATABASE.\n";
    cout<<"THE USER HAS ACCESS TO CREATE AN ACCOUNT OR SIGN IN,TICKETS CAN BE BOOKED  

    OR CANCELLED AT ANY INSTANCE.WHEREAS THE ADMIN \n";
    cout<<"HAS ACCESS TO THE CHANGE THE DATABASE INFORMATION LIKE JOURNEY  

    DETAILS,FARE AND MORE.THIS PROGRAM HELPS IN FEATURING ALL \n";
    cout<<"FUNCTIONS EXISTING AT A RESERVATION COUNTER WITHOUT THE USE OF MAN  

    POWER.IT HELPS IN DECREASING THE WORK LOAD AND BETTER \n";
    cout<<"MAINTAINENCE OF THE SYSTEM.\n";
    cout<<"\n";
    cout<<"MADE BY:\n\n";
}

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```
cout<<"BHARAT DHYANI\n";
cout<<"RA1511008010146\n\n";
cout<<"HEMANT CHOUDHARY\n\n";
cout<<"RA1511008010026\n";
cout<<"PRASHAST VAISH\n";
cout<<"RA1511008010142\n";
}
void user_display()
{
    ifstream fin("user_data.txt",ios::binary);
    user b;
    cout<<"THESE ARE THE USER INFO\n";
    while(fin.read((char*)&b,sizeof(b)))
    {
        if(strcmp(b.ret_username(),str)==0)
            b.display();
        cout<<"\n\n";
    }
    fin.close();
}
void admin_display()
{
    ifstream fin("admin.txt",ios::binary);
    admin b;
    cout<<"THESE ARE THE DATABASE INFO\n";
    while(fin.read((char*)&b,sizeof(b)))
    {
        b.disp();
        cout<<"\n\n";
    }
    fin.close();
}
int main()
{
    system("clear");
    int a;
    cout<<"
                WELCOME TO RAILWAY TICKET RESERVATION \n\n\n";
    n:
    cout<<"1:SIGN UP    ||    2:USER SIGN IN        ||    3:ADMIN LOG IN    ||    4:ABOUT
||    5:QUIT\n";
    cin>>a;
    switch(a)
    {
        case 1: create_account();
                break;
        case 2: cout<<"welcome to the sign in page\n";
                sign_in();
                break;
        case 3: c:
                char user_id[30],pass[30];
                cout<<"Enter the user id\n";
                cin>>user_id;
                if(strcmp(user_id,"railways")==0)
                {
                    cout<<"Enter password\n";
                    cin>>pass;
                    if(strcmp(pass,"admin")==0)
                        database();
                    else
                    {
                        system("clear");
                        cout<<"incorrect info...Enter again\n";
                        goto c;
                    }
                }
        else
```

[illegible]

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        while(fin.read((char*)&obj,sizeof(obj)))
        {
            if(strcmp(s,obj.ret_source())==0)
            if(strcmp(d,obj.ret_destination())==0)
            {
                ticket z;
                strcpy(z.name,c.ret_name());
                z.age=c.ret_age();
                strcpy(z.username,c.ret_username());
                strcpy(z.source,obj.ret_source());
                strcpy(z.destination,obj.ret_destination());
                z.train_number=obj.ret_train_number();
                z.fare=obj.ret_fare();
                fout.write((char*)&z,sizeof(z));
            }
        }
        fout.close();
        fin.close();
    }
    cout<<"TICKET BOOKED SUCCESSFULLY\n";
    goto l;
}
break;

case 2:
{
    char s[30],d[30];
    ifstream fin("ticket.txt",ios::binary);
    ofstream fout("tempo.txt",ios::binary);
    ticket f;
    cout<<"Enter the source\n";
    cin>>s;
    cout<<"enter the destination\n";
    cin>>d;
    while(fin.read((char*)&f,sizeof(f)))
    {
        if(strcmp(str,f.ret_username())!=0)
            fout.write((char*)&f,sizeof(f));
        else
            if(strcmp(s,f.ret_source())!=0)
                fout.write((char*)&f,sizeof(f));
            else
                if(strcmp(d,f.ret_destination())!=0)
                    fout.write((char*)&f,sizeof(f));
    }
    fin.close();
    fout.close();
    remove("ticket.txt");
    rename("tempo.txt","ticket.txt");
    cout<<"your ticket has been cancelled\n\n\n";
    goto l;
}
break;

case 3: ticket_display();
goto l;
break;

case 4: v:
    cout<<"a): SHOW DETAILS    ||    b): CHANGE PASSWORD\n";
    cin>>ch;
    if(ch=='a')
        user_display();
    else
        if(ch=='b')
            change_password();
        else
        {
            cout<<"WRONG INPUT .....enter again\n";

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        goto v;
    }
    goto l;
    break;
case 5: cout<<"\n\n LOGGING OUT.....\n";
    for(int i=0;i<1009000000;i++);
    system("clear");
    main();
default: system("clear");
    cout<<"WRONG CHOICE...ENTER AGAIN\n";
    goto l;
}
}
void database()
{
    int choice;
    char s[30],d[30];
    admin b;
    cout<<"1:ADD JOURNEY    ||    2:DELETE JOURNEY    ||    3:MODIFY FARE    ||
4:DISPLAY DATABASE    ||    5:GO TO HOME PAGE\n";
    cin>>choice;
    switch(choice)
    {
        case 1:
        {
            ifstream fin("admin.txt",ios::binary);
            fin.read((char*)&b,sizeof(b));
            if(b.ret_source())
            {
                ofstream fout("admin.txt",ios::app | ios::binary);
                cout<<"Enter the following information\n";
                b.read();
                fout.write((char*)&b,sizeof(b));
                cout<<"\n\nPROCESSING.....\n";
                for(int i=0;i<1000000000;i++);
                cout<<"Database updated successfully\n";
                for(int j=0;j<1090000000;j++);
                system("clear");
                fout.close();
                database();
            }
        }
        else
        {
            ofstream fout("admin.txt",ios::binary);
            cout<<"Enter the following information\n";
            b.read();
            fout.write((char*)&b,sizeof(b));
            cout<<"\n\nPROCESSING.....\n";
            for(int i=0;i<1000000000;i++);
            cout<<"Database updated successfully\n";
            for(int j=0;j<1090000000;j++);
            system("clear");
            fout.close();
            database();
        }
    }
}
case 2:
{
    cout<<"Enter the source\n";
    cin>>s;
    cout<<"Enter the destination\n";
    cin>>d;
    ifstream fin("admin.txt",ios::binary);
    ofstream fout("temp.txt",ios::binary);
    while(fin.read((char*)&b,sizeof(b)))
    {

```



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        if(strcmp(s,b.ret_source())!=0)
            fout.write((char*)&b,sizeof(b));
        else
            if(strcmp(d,b.ret_destination())!=0)
                fout.write((char*)&b,sizeof(b));
    }
    fin.close();
    fout.close();
    remove("admin.txt");
    rename("temp.txt","admin.txt");
    database();
}

case 3:
{
    float f;
    fstream file("admin.txt",ios::in | ios::out);
    cout<<"Enter the source\n";
    cin>>s;
    cout<<"Enter the destination\n";
    cin>>d;
    while(file.read((char*)&b,sizeof(b)))
    {
        if(strcmp(b.ret_source(),s)==0)
            if(strcmp(b.ret_destination(),d)==0)
            {
                cout<<"Enter the new fare\n";
                cin>>b.fare;
                int pos=-1 * sizeof(b);
                file.seekp(pos,ios::cur);
                file.write((char*)&b,sizeof(b));
            }
    }
    file.close();
    system("clear");
    database();
}

case 4: admin_display();
        database();
        break;
case 5: main();
        break;
default: cout<<"wrong choice...Enter again\n";
        database();
    }
}

void ticket_display()
{
    char ch;
    int i=0;
    ifstream fin("ticket.txt",ios::binary);
    ticket b;
    while(fin.read((char*)&b,sizeof(b)))
    {
        if(strcmp(str,b.username)==0)
        {
            cout<<"THESE ARE THE ticket INFO\n";
            b.ticket_disp();
            i++;
            cout<<"\n\n";
        }
    }
    if(i==0)
        cout<<"\n\nYOU HAE NOT BOOKED ANY TICKETS YET\n\n\n";
    fin.close();
}

```