**Write a program for transaction processing that write and read object randomly to and from a random access file so that user can add, update, delete and display the account information (accountnumber, lastname, firstname, totalbalance).**

**#include <iostream>**

**#include <fstream>**

**#include <cstring>**

**using namespace std;**

**class Transaction{**

**private:**

**char firstName[20], lastName[20];**

**int accountNumber, totalBalance;**

**public:**

**Transaction(){};**

**Transaction(char fn[], char ln[], int an, int tb):accountNumber(an),totalBalance(tb){**

**strncpy(firstName,fn,20);**

**strncpy(lastName,ln,20);**

**}**

**friend istream& operator>>(istream& in, Transaction &tr);**

**friend ostream& operator<<(ostream& out, Transaction tr);**

**};**

**istream& operator>>(istream& in, Transaction &tr)**

**{**

**cout << "------------------------------------------" << endl;**

**cout << "First Name: ";**

**in >> tr.firstName;**

**cout << "Last Name: ";**

**in >> tr.lastName;**

**cout << "Account Number: ";**

**in >> tr.accountNumber;**

**cout << "Total Balance: ";**

**in >> tr.totalBalance;**

**cout << "------------------------------------------" << endl;**

**return in;**

**}**

**ostream &operator<<(ostream &out, Transaction tr)**

**{**

**cout << "------------------------------------------" << endl;**

**out << "First Name: " << tr.firstName << endl;**

**out << "Last Name: " << tr.lastName << endl;**

**out << "Account Number: " << tr.accountNumber << endl;**

**out << "Total Balance: " << tr.totalBalance << endl;**

**cout << "------------------------------------------" << endl;**

**return out;**

**}**

**int main()**

**{**

**int ans;**

**do**

**{**

**cout << "Menu" << endl;**

**cout << "1.create record" << endl;**

**cout << "2.add record" << endl;**

**cout << "3.delete record" << endl;**

**cout << "4.edit record" << endl;**

**cout << "5.display record" << endl;**

**cout << "Enter your choice";**

**cin >> ans;**

**fstream acc;**

**if(ans== 1)**

**{**

**char ans;**

**acc.open("account.dat",ios::out|ios::binary);**

**do**

**{**

**Transaction tr;**

**cin >> tr;**

**acc.write(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if (!acc)**

**{**

**cerr << "Couldnot write the data to the file";**

**return 1;**

**}**

**cout << "Do you want to continue y/n ";**

**cin >> ans;**

**}**

**while(ans=='y');**

**acc.close();**

**}**

**else if(ans == 2)**

**{**

**char ans;**

**acc.open("account.dat",ios::out|ios::app|ios::binary);**

**do**

**{**

**Transaction tr;**

**cin >> tr;**

**acc.write(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if (!acc)**

**{**

**cerr << "Couldnot modify the data of the file";**

**return 2;**

**}**

**cout << "Do you want to continue y/n ";**

**cin >> ans;**

**}**

**while(ans=='y');**

**acc.close();**

**}**

**else if(ans == 3)**

**{**

**char ns;**

**Transaction tr;**

**acc.open("account.dat",ios::in|ios::binary);**

**fstream newacc;**

**newacc.open("tmp.dat",ios::out|ios::binary);**

**if(!newacc)**

**{**

**cerr << "couldnot create tmp record file";**

**}**

**while(!acc.eof())**

**{**

**acc.read(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if (acc)**

**{**

**cout << tr;**

**cout << "Do you want to delete this record y/n ";**

**cin >> ns;**

**if (ns != 'y')**

**{**

**newacc.write(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if(!newacc)**

**{**

**cerr << "unable to write to a temp file";**

**return 3;**

**}**

**}**

**else**

**{**

**cout << "record deleted" << endl;**

**}**

**}**

**}**

**acc.close();**

**newacc.close();**

**remove("account.dat");**

**rename("tmp.dat","account.dat");**

**}**

**else if(ans == 4)**

**{**

**char ans;**

**acc.open("account.dat",ios::in|ios::binary|ios::out);**

**while(!acc.eof())**

**{**

**Transaction tr;**

**int pos = acc.tellg();**

**acc.read(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if (acc)**

**{**

**cout << tr;**

**cout << "Do you want to edit this record y/n";**

**cin >> ans;**

**if (ans == 'y')**

**{**

**cin >> tr;**

**acc.seekp(pos);**

**acc.write(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if(acc)**

**{**

**cout << "Record sucessfully edited"<< endl;**

**}**

**else**

**{**

**cerr<< "Unable to modify the record";**

**return 4;**

**}**

**}**

**}**

**}**

**acc.close();**

**}**

**else if (ans == 5)**

**{**

**acc.open("account.dat",ios::in|ios::binary);**

**while(!acc.eof())**

**{**

**Transaction tr;**

**acc.read(reinterpret\_cast<char \*>(&tr),sizeof(tr));**

**if(acc)**

**{**

**cout << tr;**

**}**

**else**

**{**

**cerr << "Couldnot read through the file" << endl;**

**}**

**}**

**acc.close();**

**}**

**}**

**while(ans <= 5 && ans > 0 );**

**return 0;**

**}**

**#include<iostream>//or**

**#include<fstream>**

**#include<iomanip>**

**using namespace std;**

**class transaction**

**{**

**long int account\_number;**

**char lastname[20],firstname[20];**

**float total\_balance;**

**public:**

**void getdata()**

**{**

**cout<<endl<<"Enter the following information:"<<endl;**

**cout<<"Account number:\t";**

**cin>>account\_number;**

**cin.ignore();**

**cout<<endl<<"First name:\t";**

**cin.getline(firstname,20);**

**cout<<endl<<"Last name:\t";**

**cin.getline(lastname,20);**

**cout<<endl<<"Total balance:\t";**

**cin>>total\_balance;**

**}**

**void display()**

**{ cout<<setiosflags(ios::left)<<setw(25)<<account\_number<<setw(20)<<firstname<<setw(20)<<lastname<<setw(20)<<total\_balance<<endl;**

**}**

**};**

**int main()**

**{**

**transaction tr;**

**fstream file;**

**int choice;**

**while(1){**

**cout<<"\n\nEnter your choice:"<<endl;**

**cout<<"1) Create record\n";**

**cout<<"2) Add record\n";**

**cout<<"3) Update record\n";**

**cout<<"4) Delete record\n";**

**cout<<"5) Display record\n";**

**cout<<"6) Exit\n";**

**cout<<"Enter your choice:";**

**cin>>choice;**

**int record\_pos,location;**

**char ch;**

**switch(choice)**

**{**

**case 1:{**

**file.open("transaction.txt",ios::out|ios::binary);**

**do**

**{**

**tr.getdata();**

**file.write(reinterpret\_cast<char\*>(&tr),sizeof(tr));**

**cout<<"Do you want to continue (y/n)?";**

**cin>>ch;**

**}while(ch!='n');**

**file.close();**

**break;**

**}**

**case 2:{**

**file.open("transaction.txt",ios::out|ios::app|ios::binary);**

**do**

**{**

**tr.getdata();**

**file.write(reinterpret\_cast<char\*>(&tr),sizeof(tr));**

**cout<<"Do you want to continue (y/n)?";**

**cin>>ch;**

**}while(ch!='n');**

**file.close();**

**break;**

**}**

**case 3:{**

**file.open("transaction.txt",ios::out|ios::in|ios::binary);**

**cout<<"Enter record number to be updated:";**

**cin>>record\_pos;**

**location=(record\_pos-1)\*sizeof(tr);**

**tr.getdata();**

**file.seekp(location);**

**file.write(reinterpret\_cast<char\*>(&tr),sizeof(tr));**

**file.close();**

**break;**

**}**

**case 4:{**

**file.open("transaction.txt",ios::in|ios::binary);**

**ofstream file\_new("temp.txt",ios::out|ios::binary);**

**cout<<"Enter record number to be deleted:";**

**cin>>record\_pos;**

**location=(record\_pos)\*sizeof(tr);**

**while(file.read(reinterpret\_cast<char\*>(&tr),sizeof(tr)))**

**{**

**if(file.tellg()!=location)**

**{**

**file\_new.write(reinterpret\_cast<char\*>(&tr),sizeof(tr));**

**}**

**else**

**{**

**continue;**

**}**

**}**

**file.close();**

**file\_new.close();**

**remove("transaction.txt");**

**rename("temp.txt","transaction.txt");**

**break;**

**}**

**case 5:{**

**file.open("transaction.txt",ios::in|ios::binary);**

**cout<<endl<<setiosflags(ios::left)<<setfill('\*')<<setw(78)<<'\*'<<endl;**

**cout<<setfill(' ')<<setw(25)<<"Account number"<<setw(20)<<"First name"<<setw(20)<<"Last name"<<setw(20)<<"Total balance"<<endl;**

**cout<<setiosflags(ios::left)<<setfill('\*')<<setw(78)<<'\*'<<setfill(' ')<<endl;**

**while(file.read(reinterpret\_cast<char\*>(&tr),sizeof(tr)))**

**{**

**tr.display();**

**}**

**file.close();**

**break;**

**default:**

**exit(0);**

**}**

**}**

**}**

**}**