#include <iostream>

#include <fstream>

#include <cstring>

#include <iomanip>

#include<cstdlib>

using namespace std;

class phoneBook{

char name[10],add[10];

int div,roll;

public:

void getdata();

void showdata();

char \*getname(){ return name; }

int getroll(){ return roll; }

void update ( char \*nm,char \*addr, int divi )

{

strcpy(name,nm);

strcpy(add,addr);

div=divi;

}

};

void phoneBook :: getdata(){

cout<<"\nEnter Name : ";

cin>>name;

cout<<"\nEnter Roll Number : ";

cin>>roll;

cout<<"\nEnter Division : ";

cin>>div;

cout<<"\nEnter City : ";

cin>>add;

}

void phoneBook :: showdata()

{

cout<<"\n\nName-: "<<name;

cout<<"\nRoll Number-: "<<roll;

cout<<"\nDivision-:"<<div;

cout<<"\nCity-: "<<add<<"\n";

}

int main()

{

phoneBook rec;

fstream file;

file.open("data.dat", ios::ate | ios::in | ios::out | ios::binary);

char ch,nm[10],addr[10];

int choice,found=0;

int roll,div;

while(1)

{

//clrscr();

cout<<"\n\*\*\*\*\*Department Students\*\*\*\*\*\n";

cout<<"1) Add New Record\n";

cout<<"2) Display All Records\n";

cout<<"3) Search Roll No.\n";

cout<<"4) Search Person Name\n";

cout<<"5) Update Information\n";

cout<<"6) Exit\n";

cout<<"Choose your choice : ";

cin>>choice;

int cnt=0;

switch(choice)

{

case 1 : //New Record

rec.getdata();

cin.get(ch);

file.write((char \*) &rec, sizeof(rec));

break;

case 2 : //Display All Records

file.seekg(0,ios::beg);

cout<<"\n\n================Records in Phone Book===================\n";

while(file)

{

file.read((char \*) &rec, sizeof(rec));

if(!file.eof())

{

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

rec.showdata();

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

}

}

file.clear();

break;

case 3 : //Search when person name is known.

cout<<"\n\nEnter Name : ";

cin>>nm;

file.seekg(0,ios::beg);

found=0;

while(file.read((char \*) &rec, sizeof(rec)))

{

if(strcmp(nm,rec.getname())==0)

{

found=1;

rec.showdata();

}

}

file.clear();

if(found==0)

cout<<"\n\n---Record Not found---\n";

// getch();

break;

case 4 : //Search name on basis of roll no.

cout<<"\n\nEnter Roll No : ";

cin>>roll;

file.seekg(0,ios::beg);

found=0;

while(file.read((char \*) &rec, sizeof(rec)))

{

if(roll==rec.getroll())

{

found=1;

rec.showdata();

}

}

file.clear();

if(found==0)

cout<<"\n\n---Record Not found---\n";

// getch();

break;

case 5 : //Update Information.

cout<<"\n\nEnter Roll No : ";

cin>>roll;

file.seekg(0,ios::beg);

found=0;

while(file.read((char \*) &rec, sizeof(rec)))

{

cnt++;

if(rec.getroll()==roll)

{

found=1;

break;

}

}

file.clear();

if(found==0)

cout<<"\n\n---Record Not found---\n";

else

{

int location = (cnt-1) \* sizeof(rec);

cin.get(ch);

if(file.eof())

file.clear();

cout<<"Enter Updated name : ";

cin>>nm;

cout<<"\nEnter Updated Division-: ";

cin>>div;

cout<<"\nEnter Updated Address-: ";

cin>>addr;

file.seekp(location);

rec.update(nm,addr, div);

file.write((char \*) &rec, sizeof(rec));

file.flush();

}

break;

case 6 : exit(1);

break;

}

}

file.close();

}