#include<fstream.h>

#include<conio.h>

#include<ctype.h>

#include<string.h>

#include<stdio.h>

#include<stdlib.h>

#include<graphics.h>

#include<process.h>

class Donor

{

char name[20];

char bgp[4]; //blood group

char address[10];

long int phno;

char gender[7];

public:

void read(); //To accept the details of the donor

void display(); //To display the details

char \* ret\_bog() //To return the value

{ return bgp; }

char \* ret\_name() //To return the name

{ return name; }

}

void Donor::display() {

textcolor(3);

cout<<"\n";

cprintf("Name : ");

cout<<name<<endl;

cout<<"\n";

cprintf("Gender : ");

cout<<gender<<endl;

cout<<"\n";

cprintf("Address : ");

cout<<address<<endl;

cout<<"\n";

cprintf("Phone No. : ");

cout<<phno<<endl;

cout<<"\n";

cprintf("Blood group : ");

cout<<bgp<<endl;

cout<<"\n";

}

void create() { // Creating a new record

out.open("blood.dat",ios::binary);

do

{

D.read();   
 out.write((char\*)&D,sizeof(Donor));

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

cin>>ch;

}while(ch=='y'||ch=='Y');

out.close();

}

void add() /\* As we are storing all enteries in a single file, every 2nd record needs to be appended. Else they get overwritten \*/

{

out.open("blood.dat",ios::binary|ios::app);

do

{

D.read();

out.write((char\*)&D,sizeof(Donor));

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

cin>>ch;

}while(ch=='y'||ch=='Y');

out.close();

}

void search() //Searching for a donor’s details

{

char b[7];

int flag=-1;

in.open("blood.dat",ios::binary);

cout<<" Enter the blood group to be searched ";

gets(b);

while(in.read((char\*)&D,sizeof(Donor)))

{

if (strcmpi(D.ret\_bog(),b)==0)

{ flag=0; break;

}

else

flag=-1;

}

in.close();

if(flag==0)

D.display();

else

textcolor(14+BLINK);

cprintf(" Sorry! Blood group not available..");

}

void count() //Counting no. of donors in each blood group

{

int a1=0,a2=0,b1=0,b2=0,ab1=0,ab2=0,o1=0,o2=0;

in.open("blood.dat",ios::binary);

while(in.read((char\*)&D,sizeof(Donor)))

{

if(strcmpi(D.ret\_bog(),"A+")==0) a1++;   
else if(strcmpi(D.ret\_bog(),"A-")==0) a2++;

else if(strcmpi(D.ret\_bog(),"B+")==0) b1++;

else if(strcmpi(D.ret\_bog(),"B-")==0) b2++;

else if(strcmpi(D.ret\_bog(),"O+")==0) o1++;

else if(strcmpi(D.ret\_bog(),"O-")==0) o2++;

else if(strcmpi(D.ret\_bog(),"AB+")==0) ab1++;

else ab2++;

}

in.close();

textcolor(18);

cprintf(" \n No. of A+ records : "); cout<<a1<<endl;

cprintf(" No. of A- records : "); cout<<a2<<endl;

cprintf(" No. of B+ records : "); cout<<b1<<endl;

cprintf(" No. of B- records : "); cout<<b2<<endl;

cprintf(" No. of O+ records : "); cout<<o1<<endl;

cprintf(" No. of O- records : "); cout<<o2<<endl;

cprintf(" No. of AB+ records: "); cout<<ab1<<endl;

cprintf(" No. of AB- records: "); cout<<ab2<<endl;

}

void Delete() { //Deleting a donor entry.

char n[20];

in.open("blood.dat",ios::binary);

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

cout<<"Enter the Donor Name to be deleted ";

gets(n);

while(in.read((char\*)&D,sizeof(Donor)))

{

if (strcmpi(D.ret\_name(),n)!=0)

out.write((char\*)&D,sizeof(Donor));

}

textcolor(27+BLINK);

cprintf("\n Record successfully deleted!!");

in.close();

out.close();

remove("blood.dat");

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

}

void disp()

{ in.open("blood.dat",ios::binary);

while(in.read((char\*)&D,sizeof(Donor)))

D.display();

in.close();

}

void facts() { //Random facts which could be displayed to get the effect of a blood bank.

textcolor(27+BLINK);

cprintf(" \n \t \t \t DID YOU KNOW????? \n");

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

textcolor(18);

cprintf(" O- are the universal donors! \n");

cprintf(" AB+ are the universal acceptors! \n");

cprintf (" 34.3 % of people have A+! \n");

cprintf (" 5.7 % of people have A-! \n");

cprintf (" 8.6 % of people have B+! \n");

cprintf (" 1.7 % of people have B-! \n");

cprintf (" 38.5 % of people have O+! \n");

cprintf (" 6.5 % of people have O-! \n");

cprintf (" 4.3 % of people have AB+! \n");

cprintf (" 0.7 % of people have AB-! \n");

}

void main()

{ int y; clrscr(); int choice;

do

{

clrscr();

textcolor(20);

cprintf(" MAIN MENU \n");

cprintf(" \n 1..... Create a new record \n");

cprintf(" \n 2..... Add a new record (append) \n" );

cprintf(" \n 3..... Search blood group \n");

cprintf(" \n 4..... Count Records \n");

cprintf(" \n 5..... Display donor details \n");

cprintf(" \n 6..... Delete old records \n");

cprintf(" \n 7..... Some facts \n");

cprintf(" \n 8..... Exit \n");

cprintf(" \n Enter your choice (1-8) : ");

cin>>choice;

switch(choice)

{ case 1: clrscr();

cout<<" \t \t ENTER THE DONOR DETAILS! \n ";

create();

break;

case 2: clrscr();

cout<<" \t \t ENTER THE DONOR DETAILS! \n";

add();

break;

case 3: clrscr();

cout<<" \t \t BLOOD GROUP SEARCH!! \n ";

search();

break;

case 4: clrscr();

cout<<" \t \t BLOOD GROUP COUNT \n ";

count();

break;

case 5: clrscr();

cout<<" \t \t DONOR DETAILS! \n ";

disp();

break;

case 6: clrscr();

cout<<" \t \t DELETE DONOR DETAILS! \n ";

Delete();

break;

case 7: clrscr();

cout<<" \t \t FACTS ABOUT BLOOD DONATION & BLOOD GROUP!! \n ";

facts();

}

getch();

}while(choice!=8);

}

}