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**INTRODUCTION**

Student management system has been designed with the purpose of maintaining student records which helps in simplifying the process of information storage and its regular updation. At first glance, the following comprises the main sections observed in the program:

* **Record entry section**: In this section, the data of the student has been entered and saved.
* **Searching record section:** In this section, the record of the following student has been searched by entering the roll number or by name.
* **Display section:** In this section, the record of student has been displayed at a glance.
* **Modify section:** In this section, if any detail of the particular student has been entered wrong, then that has been corrected.
* **Delete record:** In this section, the record of the student has been deleted permanently.

The framing of the program has been designed using ‘switch case’ and some graphic functions like textcolor(color), textbackground(color), textcolor(BLINK) and using gotoxy(row,column).

**CLASS HIERARCHY**

The only main class ‘student’ has been declared having the following data members and functions:

**Private data members** are fname (for entering father’s name of the student), mname (for entering mother’s name of the student), gen (for gender of student), add (address of student), e\_id (for e-mail id), br (for branch of student), hsf (for whether hostel facilities required or not), rollno (for student roll number), admin\_no (for student admission number), dd (for day date of student date of birth), mm (for month of student date of birth), yy (for the year of student date of birth), dt, mt, yt (for day, month and year of admission) and ph\_no (for phone number).

**Public data members and functions** are name (for entering student name),

**‘void getdata()’** for inputting the details of the student (like name, roll number, admission number, date of birth, gender, father’s name, mother’s name, admission date, address, e-mail id, branch, hotel requirement)

**‘void putdata()’** for displaying the data of the student when it is searched either by roll number or name as specified from the main block.

**‘void modifydata()’** for editing the details of student present in the list.

**‘void display()’** for displaying the complete list of student details.

The record of the student can be searched and deleted but function has not been declared for it in the class, direct coding has been done in the **‘main()’** .

Other information about variable has been written in the non-compiled statement (in source code) i.e.as comment lines.

**BIBLIOGRAPHY**

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**CONCLUSION**

C++ is an enhanced c language and base of every high-end programming language, which is used as OOP language (i.e. object oriented programming). This C++ helps us to thoroughly relate with classes, different types of user defined functions, operators, etc. by doing all these programs of C++, we get to know the use of different header files and their features. Lastly, we gathered to correct the errors in a loop. After finishing the corrections, we cherish the moment of completion and then headed towards submitting the project on ***“STUDENT MANAGEMENT SYSTEM “***.

**SOURCE CODE**

//\*\*\*\*\*\*\*\*STUDENT MANAGEMENT SYSTEM\*\*\*\*\*\*\*\*//

#include<fstream.h>

#include<conio.h>

#include<process.h>

#include<stdio.h>

#include<string.h>

class student

{

char fname[20],mname[20],gen[5],add[30],e\_id[30],br[8],hsf; //father name, mother name, gender, address, e-mail id, branch, hostel facility requirement

int rollno,admin\_no,dd,mm,yy,dt,mt,yt; //roll number, admission number, date, month, year for date of birth and admission date

char ph\_no[15]; //phone number

public:

char name[20];

void getdata(); //function for input data

void putdata();

void modifydata(); //function to edit data

void display(); //function to display data

int get\_roll() //function return rollno

{

return rollno;

}

}s1;

void student::getdata()

{

clrscr();

gotoxy(10,2);textcolor(0);textbackground(10);

cprintf(":: Record Entry Section::");

gotoxy(12,6);textcolor(3);textbackground(0);

cprintf("1. Enter the rollno:");cin>>rollno;

gotoxy(12,7);textcolor(3);

cprintf("2. Enter the name:");gets(name);

gotoxy(12,8);textcolor(3);

cprintf("3. Gender:");gets(gen);

gotoxy(12,9);textcolor(3);

cprintf("4. Father name:");gets(fname);

gotoxy(12,10);textcolor(3);

cprintf("5. Mother name:");gets(mname);

gotoxy(12,11);textcolor(3);

cprintf("6. Address:");gets(add);

gotoxy(12,12);textcolor(3);

cprintf("7. Phone no.:");gets(ph\_no);

gotoxy(12,13);textcolor(3);

cprintf("8. e-mail id:");gets(e\_id);

gotoxy(12,14);textcolor(3);

cprintf("9. Branch(CSE/ECE/EEE/EE/IT/Others):");gets(br);

gotoxy(12,15);textcolor(3);-

cprintf("10. Enter admission no.:");

cin>>admin\_no;

gotoxy(12,16);textcolor(3);

cprintf("11. Admission date:");

gotoxy(14,17);textcolor(3);

cprintf("Date:");cin>>dt;

gotoxy(14,18);textcolor(3);

cprintf("Month:");cin>>mt;

gotoxy(14,19);textcolor(3);

cprintf("Year:");cin>>yt;

gotoxy(12,20);textcolor(3);

cprintf("12. Enter date of birth:");

gotoxy(14,21);textcolor(3);

cprintf("Date:");cin>>dd;

gotoxy(14,22);textcolor(3);

cprintf("Month:");cin>>mm;

gotoxy(14,23);textcolor(3);

cprintf("Year:");cin>>yy;

gotoxy(12,24);textcolor(3);

cprintf("13. Hostel Facility(y/n):");cin>>hsf;

}

//---------------Display Student Record-------------//

void student::putdata()

{

clrscr();

gotoxy(10,2);textcolor(7);textbackground(5);

cprintf("::RECORD::");

gotoxy(12,6);textcolor(3);textbackground(0);

cprintf("1.Rollno:");

cout<<rollno;

gotoxy(12,7);textcolor(3);

cprintf("2.Name:");

puts(name);

gotoxy(12,8);textcolor(3);

cprintf("3.Gender:");puts(gen);

gotoxy(12,9);textcolor(3);

cprintf("4.Father name:");puts(fname);

gotoxy(12,10);textcolor(3);

cprintf("5.Mother name:");puts(mname);

gotoxy(12,11);textcolor(3);

cprintf("6.Address:");puts(add);

gotoxy(12,12);textcolor(3);

cprintf("7.Phone no:");puts(ph\_no);

gotoxy(12,13);textcolor(3);

cprintf("8.email-id:");puts(e\_id);

gotoxy(12,14);textcolor(3);

cprintf("9.Branch:");puts(br);

gotoxy(12,15);textcolor(3);

cprintf("10.Admission ID:");cout<<admin\_no;

gotoxy(12,16);textcolor(3);

cprintf("11.Admission date:");

cout<<dt<<"/"<<mt<<"/"<<yt;

gotoxy(12,17);textcolor(3);

cprintf("12.Date of birth:");

cout<<dd<<"/"<<mm<<"/"<<yy;

gotoxy(12,18);textcolor(3);

cprintf("13.Hostel facility:");cout<<hsf;

}

//---------------Modify Student Record-----------//

void student::modifydata()

{

char nm[15],fath[15],moth[15],gn[5],adr[30],phn[15],id[30],hf,brh[8];

int rno,d,m,y,admis,dh,mh,yh;

clrscr();

gotoxy(10,2);textcolor(0+BLINK);textbackground(8);

cprintf("Enter New Record:");

gotoxy(11,5);textcolor(14);textbackground(0);

cprintf("Name:");

gets(nm);

gotoxy(11,6);textcolor(14);

cprintf("Roll No.:");

cin>>rno;

gotoxy(11,7);textcolor(14);

cprintf("Gender:");gets(gn);

gotoxy(11,8);

cprintf("Father name:");

gets(fath);

gotoxy(11,9);textcolor(14);

cprintf("Mother name:");

gets(moth);

gotoxy(11,10);textcolor(14);

cprintf("Address:");gets(adr);

gotoxy(11,11);textcolor(14);

cprintf("Phone no:");gets(phn);

gotoxy(11,12);textcolor(14);

cprintf("email-id:");gets(id);

gotoxy(11,13);textcolor(14);

cprintf("Branch:");gets(brh);

gotoxy(11,14);textcolor(14);

cprintf("Admission ID:");

cin>>admis;

gotoxy(11,15);textcolor(14);

cprintf("Admission date:");

gotoxy(14,16);textcolor(14);

cprintf("Date:");

cin>>dh;

gotoxy(14,17);textcolor(14);

cprintf("Month:");

cin>>mh;

gotoxy(14,18);textcolor(14);

cprintf("Year:");

cin>>yh;

gotoxy(11,19);textcolor(14);

cprintf("Date of Birth:");

gotoxy(14,20);textcolor(14);

cprintf("Date:");

cin>>d;

gotoxy(14,21);textcolor(14);

cprintf("Month:");

cin>>m;

gotoxy(14,22);textcolor(14);

cprintf("Year:");

cin>>y;

strcpy(name,nm);

strcpy(gen,gn);

strcpy(fname,fath);

strcpy(mname,moth);

strcpy(add,adr);

strcpy(ph\_no,phn);

strcpy(e\_id,id);

strcpy(br,brh);

hsf=hf;

rollno=rno;

admin\_no=admis;dd=d;mm=m;yy=y;

dt=dh;mt=mh;yt=yh;

}

//----------------Display all records of the student----------------//

void student::display()

{

student \*p3;

int z=6;

clrscr();

gotoxy(30,1);

textbackground(1);textcolor(6);

cprintf("Student Information");

gotoxy(30,2);textbackground(RED);

textcolor(WHITE+BLINK);

cprintf("::Display Record::");

textbackground(0);textcolor(11);

gotoxy(1,3);

cprintf("--------------------------------------------------------------------------------");

gotoxy(1,4);

cprintf("Name Rollno Admission no. Dateofbirth Fathername Mothername");

gotoxy(1,5);

cprintf("--------------------------------------------------------------------------------");

textcolor(7);

ifstream fff;

fff.open("student.txt",ios::in);

while(!fff.eof())

{

fff.read((char\*)&s1,sizeof(s1));

{

gotoxy(1,z);

cout<<name;

gotoxy(15,z);

cout<<rollno;

gotoxy(24,z);

cout<<admin\_no;

gotoxy(38,z);

cout<<dd<<"/"<<mm<<"/"<<yy;

gotoxy(54,z);

puts(fname);

gotoxy(70,z);

puts(mname);

z++;

}

}

gotoxy(50,24);

textcolor(13);

cprintf("press any key to continue");

getch();

}

//------------------------main function--------------------------//

int main()

{

start:

clrscr();

int a;

textcolor(5+BLINK);

textbackground(7);

gotoxy(25,2);

cprintf("::STUDENT INFORMATION SYSTEM::");

gotoxy(10,4);

textcolor(12);

textbackground(0);

cprintf("1.Enter new record");

gotoxy(10,6);textcolor(12);

cprintf("2.Search student record");

gotoxy(10,8);textcolor(12);

cprintf("3.Display record");

gotoxy(10,10);textcolor(12);

cprintf("4.Modify the record");

gotoxy(10,12);textcolor(12);

cprintf("5.Delete student record");

gotoxy(10,14);textcolor(12);

cprintf("6.Exit");

gotoxy(31,16);textcolor(2);

cprintf("Enter the option:");cin>>a;

do{

switch(a)

{

case 1:

clrscr();

char ch;

ofstream fout;

fout.open("student.txt",ios::app|ios::ate);

if(!fout)

{

cout<<"file not exist";

exit(1);

}

do{

s1.getdata();

fout.write((char\*)&s1,sizeof(s1));

clrscr();

gotoxy(10,7);textcolor(4);

cprintf("---record added successfully---");

gotoxy(10,8);textcolor(3);

cprintf("do u want to add more record(y/n):");cin>>ch;

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

fout.close();

goto start;

case 2:

start3:

clrscr();

int a;

gotoxy(10,2);textcolor(10+BLINK);

cprintf("::Search Record::");

gotoxy(11,6);textcolor(14);

cprintf("1.Search by roll no.");

gotoxy(11,7);textcolor(14);

cprintf("2.Search by name");

gotoxy(11,8);textcolor(14);

cprintf("3.Back");

gotoxy(17,9);textcolor(6);

cprintf("Enter the option:");cin>>a;

switch(a)

{

case 1:

clrscr();

int r\_no;

char found='n';

gotoxy(17,17);textcolor(14);

cprintf("Enter the roll no:");cin>>r\_no;

ifstream fin;

fin.open("student.txt",ios::in);

while(!fin.eof())

{

fin.read((char\*)&s1,sizeof(s1));

if(s1.get\_roll()==r\_no)

{

s1.putdata();

found='y';

getch();

goto start3;

}

}

if(found=='n')

{

clrscr();gotoxy(25,25);textcolor(9);

cprintf("Sorry!record not found");

getch();

}

fin.close();

getch();

goto start3;

case 2:

clrscr();

student \*s;

s=&s1;

char s\_name[20];

char confirm='n';

gotoxy(17,17);textcolor(14);

cprintf("Enter the name:");gets(s\_name);

ifstream fn;

fn.open("student.txt",ios::in);

while(!fn.eof())

{

fn.read((char\*)&s1,sizeof(s1));

if(strcmpi(s\_name,s->name)==0)

{s->putdata();

confirm='Y';

getch();

goto start3;

}}

if(confirm=='n')

{

clrscr();gotoxy(25,25);textcolor(9);

cprintf("Sorry!record not found");

getch();

}

fn.close();

getch();

goto start3;

case 3:

goto start;

default:gotoxy(15,10);textcolor(4);

cprintf("Illegal option");

break;

}

break;

case 3:

clrscr();

s1.display();

goto start;

case 4:

clrscr();

char find='n';

int r\_n;

long pos;

fstream ff;

ff.open("student.txt",ios::in|ios::out|ios::binary);

gotoxy(15,15);textcolor(5);

cprintf("Enter the rollno to modify");

cin>>r\_n;

while(!ff.eof())

{

pos=ff.tellg();

ff.read((char\*)&s1,sizeof(s1));

if(s1.get\_roll()==r\_n)

{

find='y';

s1.modifydata();

ff.seekg(pos);

ff.write((char\*)&s1,sizeof(s1));

ff.close();

goto start;

}}

if(find=='n')

{

clrscr();

gotoxy(15,15);

textcolor(3);

cprintf("Record not found !");

}

break;

case 5:

clrscr();

student \*ss;

ss=&s1;

int stno; //for rollno

char found='f',confirm='n';

ifstream fi;

fi.open("student.txt",ios::in);

ofstream fo;

fo.open("tem.txt",ios::out);

cout<<"Enter the rollno to delete:";

cin>>stno;

while(!fi.read((char\*)&s1,sizeof(s1)))

{

if(ss->get\_roll()==stno)

{

ss->putdata();

found='y';

cprintf("Are you sure (y/n):");

cin>>confirm;

if(confirm=='n'||confirm=='N')

{

fo.write((char\*)&s1,sizeof(s1));

cprintf("Abort by the user");

getch();

}

else

fo.write((char\*)&s1,sizeof(s1));

}}

if(found=='f')

{

cprintf("Record not found");

}

fi.close();

fo.close();

remove("student.txt");

rename("tem.txt","student.txt");

goto start;

case 6:

clrscr();

exit(0);

break;

default:textcolor(1+BLINK);

gotoxy(10,20); //clrscr();

cprintf("!!!Wrong choice!!!"); //break;

getch();

goto start;

}}

while(0);

getch();

return 0;

}