**Project source code**

#include<iostream>

#include<fstream>

#include<iomanip>

#include<stdlib.h>

using namespace std;

class Student

{

int admno;

char name[20];

char gender;

int std;

float marks;

float percentage;

public:

void getData();

void showData();

int getAdmno(){return admno;}

}s;

void Student::getData()

{

cout<<"\n\nEnter Student Details......\n";

cout<<"Enter Admission No. : "; cin>>admno;

cout<<"Enter Full Name : "; cin.ignore(); cin.getline(name,20);

cout<<"Enter Gender (M/F) : "; cin>>gender;

cout<<"Enter Standard : "; cin>>std;

cout<<"Enter Marks (out of 500): "; cin>>marks;

cout<<endl;

percentage=marks\*100.0/500.00;

}

void Student::showData()

{

cout<<"\n\n.......Student Details......\n";

cout<<"Admission No. : "<<admno<<endl;

cout<<"Full Name : "<<name<<endl;

cout<<"Gender : "<<gender<<endl;

cout<<"Standard : "<<std<<endl;

cout<<"Marks (out of 500): "<<marks<<endl;

cout<<"Percentage : "<<percentage<<endl;

cout<<endl;

}

void addData()

{

ofstream fout;

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

s.getData();

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

fout.close();

cout<<"\n\nData Successfully Saved to File....\n";

}

void displayData()

{

ifstream fin;

fin.open("Students.dat",ios::in|ios::binary);

while(fin.read((char\*)&s,sizeof(s)))

{

s.showData();

}

fin.close();

cout<<"\n\nData Reading from File Successfully Done....\n";

}

void searchData()

{

int n, flag=0;

ifstream fin;

fin.open("Students.dat",ios::in|ios::binary);

cout<<"Enter Admission Number you want to search : ";

cin>>n;

while(fin.read((char\*)&s,sizeof(s)))

{

if(n==s.getAdmno())

{

cout<<"The Details of Admission No. "<<n<<" shown herewith:\n";

s.showData();

flag++;

}

}

fin.close();

if(flag==0)

cout<<"The Admission No. "<<n<<" not found....\n\n";

cout<<"\n\nData Reading from File Successfully Done....\n";

}

void deleteData()

{

int n, flag=0;

ifstream fin;

ofstream fout,tout;

fin.open("Students.dat",ios::in|ios::binary);

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

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

cout<<"Enter Admission Number you want to move to Trash : ";

cin>>n;

while(fin.read((char\*)&s,sizeof(s)))

{

if(n==s.getAdmno())

{

cout<<"The Following Admission No. "<<n<<" has been moved to Trash:\n";

s.showData();

tout.write((char\*)&s,sizeof(s));

flag++;

}

else

{

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

}

}

fout.close();

tout.close();

fin.close();

if(flag==0)

cout<<"The Admission No. "<<n<<" not found....\n\n";

remove("Students.dat");

rename("tempStud.dat","Students.dat");

}

void getTrash()

{

ifstream fin;

fin.open("TrashStud.dat",ios::in|ios::binary);

while(fin.read((char\*)&s,sizeof(s)))

{

s.showData();

}

fin.close();

cout<<"\n\nData Reading from Trash File Successfully Done....\n";

}

void modifyData()

{

int n, flag=0, pos;

fstream fio;

fio.open("Students.dat",ios::in|ios::out|ios::binary);

cout<<"Enter Admission Number you want to Modify : ";

cin>>n;

while(fio.read((char\*)&s,sizeof(s)))

{

pos=fio.tellg();

if(n==s.getAdmno())

{

cout<<"The Following Admission No. "<<n<<" will be modified with new data:\n";

s.showData();

cout<<"\n\nNow Enter the New Details....\n";

s.getData();

fio.seekg(pos-sizeof(s));

fio.write((char\*)&s,sizeof(s));

flag++;

}

}

fio.close();

if(flag==0)

cout<<"The Admission No. "<<n<<" not found....\n\n";

}

void project()

{

int ch;

do

{

system("cls");

cout<<"...............STUDENT MANAGEMENT SYSTEM..............\n";

cout<<"======================================================\n";

cout<<"0. Exit from Program\n";

cout<<"1. Write Data to File\n";

cout<<"2. Read Data From File\n";

cout<<"3. Search Data From File\n";

cout<<"4. Delete Data From File\n";

cout<<"5. Get Deleted Records from Trash file\n";

cout<<"6. Modify Data in File\n";

cout<<"Enter your choice : ";

cin>>ch;

system("cls");

switch(ch)

{

case 1: addData(); break;

case 2: displayData(); break;

case 3: searchData(); break;

case 4: deleteData(); break;

case 5: getTrash(); break;

case 6: modifyData(); break;

}

system("pause");

}while(ch);

}

int main()

{

project();

}