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#include<iostream>
#include<fstream>
#include<stdio.h>

using namespace std;

//Employee class Declaration
class Employee{
private:
    int code;
    char name[20];
    float salary;
    char designation[20];

public:
    void read();
    void display();
    //will return employee code
    int getEmpCode()          { return code;}
    //will return employee salary
    int getSalary()           { return salary;}
    //will update employee salary
    void updateSalary(float s) { salary=s;}
};

//Read employee record
void Employee::read(){
    cout<<"Enter employee code: ";
    cin>>code;
    cout<<"Enter name: ";
    cin.ignore(1);
    cin.getline(name,20);
    cout<<"Enter Designation: ";
    cin>>designation;
    cout<<"Enter salary: ";
    cin>>salary;
}

//Display employee record
void Employee::display()
{
    cout<<code<<" "<<name<<"\t"<<salary<<endl;
}

//global declaration
fstream file;

//Will delete file when program is being executed
//because we are create file in append mode
void deleteExistingFile()

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{
    remove("EMPLOYEE.DAT");
}

//function to append record into file
void appendToFile(){
    Employee    x;

    //Read employee record from user
    x.read();

    file.open("EMPLOYEE.DAT",ios::binary|ios::app);
    if(!file){
        cout<<"ERROR IN CREATING FILE\n";
        return;
    }
    //write into file
    file.write((char*)&x,sizeof(x));
    file.close();
    cout<<"Record added sucessfully.\n";
}

void displayAll(){
    Employee    x;

    file.open("EMPLOYEE.DAT",ios::binary|ios::in);
    if(!file){
        cout<<"ERROR IN OPENING FILE \n";
        return;
    }
    while(file){
        if(file.read((char*)&x,sizeof(x)))
            /*if(x.getSalary()>=10000 && x.getSalary()<=20000)*/
            x.display();
    }
    file.close();
}

void searchForRecord(){
    //read employee id
    Employee    x;
    int c;
    int isFound=0;

    cout<<"Enter employee code: ";
    cin>>c;

    file.open("EMPLOYEE.DAT",ios::binary|ios::in);
    if(!file){
        cout<<"ERROR IN OPENING FILE \n";
        return;
    }
}

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while(file){
    if(file.read((char*)&x,sizeof(x))){
        if(x.getEmpCode()==c){
            cout<<"RECORD FOUND\n";
            x.display();
            isFound=1;
            break;
        }
    }
}
if(isFound==0){
    cout<<"Record not found!!!\n";
}
file.close();
}

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//Function to increase salary

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void increaseSalary(){
    //read employee id
    Employee x;
    int c;
    int isFound=0;
    float sal;

    cout<<"enter employee code \n";
    cin>>c;

    file.open("EMPLOYEE.DAT",ios::binary|ios::in);
    if(!file){
        cout<<"ERROR IN OPENING FILE \n";
        return;
    }
    while(file){
        if(file.read((char*)&x,sizeof(x))){
            if(x.getEmpCode()==c){
                cout<<"Salary hike? ";
                cin>>sal;
                x.updateSalary(x.getSalary()+sal);
                isFound=1;
                break;
            }
        }
    }
    if(isFound==0){
        cout<<"Record not found!!!\n";
    }
    file.close();
    cout<<"Salary updated successfully."<<endl;
}

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//Insert record by assuming that records are in
//ascending order

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void insertRecord(){
    //read employee record
    Employee x;
    Employee newEmp;

    //Read record to insert
    newEmp.read();

    fstream fin;
    //read file in input mode
    file.open("EMPLOYEE.DAT",ios::binary|ios::in);
    //open file in write mode
    fin.open("TEMP.DAT",ios::binary|ios::out);

    if(!file){
        cout<<"Error in opening EMPLOYEE.DAT file!!!\n";
        return;
    }
    if(!fin){
        cout<<"Error in opening TEMP.DAT file!!!\n";
        return;
    }
    while(file){
        if(file.read((char*)&x,sizeof(x))){
            if(x.getEmpCode()>newEmp.getEmpCode()){
                fin.write((char*)&newEmp, sizeof(newEmp));
            }
            //no need to use else
            fin.write((char*)&x, sizeof(x));
        }
    }

    fin.close();
    file.close();

    rename("TEMP.DAT", "EMPLOYEE.DAT");
    remove("TEMP.DAT");
    cout<<"Record inserted successfully."<<endl;
}

int main()
{
    char ch;

    //if required then only remove the file
    deleteExistingFile();

    do{
        int n;

        cout<<"ENTER CHOICE\n"<<"1.ADD AN EMPLOYEE\n"<<"2.DISPLAY\n"<<"3.SEARCH\n"<<"4.INCREASE
        SALARY\n"<<"5.INSERT RECORD\n";
        cout<<"Make a choice: ";
    }
}

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```
cin>>n;

switch(n){
    case 1:
        appendToFile();
        break;
    case 2 :
        displayAll();
        break;
    case 3:
        searchForRecord();
        break;
    case 4:
        increaseSalary();
        break;
    case 5:
        insertRecord();
        break;

    default :
        cout<<"Invalid Choice\n";
}

cout<<"Do you want to continue ? : ";
cin>>ch;

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

return 0;
}
```