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Roll Number: SYCOC303   Division: C

PRN Number: 122B2B303   Batch: C4

Name: VINAYAK MADAN SHETE

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Problem Statement:

⇨ **Write a program to maintain an employee database in binary file with employee information such as empId, name, age, department, post and salary. Write function for adding new record, displaying all records, searching for a particular employee, updating employee salary and post.**

==

INPUT:

```cpp
/*
 *     ====================================
 *           Program Name: FileHandling.cpp
 *     Created on: December 16, 2022
 *       Author: Vinayak Shete
 *   ====================================
 */


#include<iostream>
#include<fstream>
#include<string>

using namespace std;

class EmployeeDB
{
     public:
           int id,age,salary;
           char name[30],department[30],post[30];

           void getData()
```

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```cpp
        {
                cout<<"\n=====================";
                cout<<"\nEnter the following details of an Employee==>"<<endl;
                cout<<"ID:";
                cin>>this->id;
                cout<<"\nNAME:";
                cin>>this->name;
                cout<<"\nAGE:";
                cin>>this->age;
                cout<<"\nDEPARTMENT:";
                cin>>this->department;
                cout<<"\nPOST:";
                cin>>this->post;
                cout<<"\nSALARY:";
                cin>>this->salary;
                cout<<"\n=====================";
        }
        void displayData()
        {
                cout<<"\n=====================";
                cout<<"\nEmployee Details are:"<<endl;
                cout<<"ID:"<<this->id<<endl;
                cout<<"NAME:"<<this->name<<endl;
                cout<<"AGE:"<<this->age<<endl;
                cout<<"DEPARTMENT:"<<this->department<<endl;
                cout<<"POST:"<<this->post<<endl;
                cout<<"SALARY:Rs."<<this->salary<<endl;
                cout<<"\n=====================";
        }
};


int main()
{
    int ch,doch;
    int serID,isfound=0;
    int upID,pos,flag;
    int delID;
```

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```cpp
        EmployeeDB emp1,emp2,emp;

        fstream file;

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

        do

        {

                cout<<"\n1.Adding record into DB(Writing into file).\n2.Displaying the
records from DB(Reading from file).\n3.Searching particular record into DB(Searching
into file).\n4.Updating record in DB(Updating content from the file).\n5.Deleting
record from DB(Deleting content from file).\n6.EXIT";

                cout<<"\nEnter your choice:";

                cin>>ch;

                switch(ch)

                {

                        case 1:

                                emp1.getData();

                                file.open("employee1.txt",ios::out|ios::app|ios::binary);

                                file.write((char *)&emp1,sizeof(EmployeeDB));

                                file.close();

                                break;


                        case 2:

                                file.open("employee1.txt",ios::in|ios::binary);

                                if(file.eof())

                                        cout<<"\nFile is empty";

                                else

                                {

                                        while((file.read((char
*)&emp,sizeof(EmployeeDB)))!=NULL)

                                        {

                                                emp.displayData();

                                        }

                                }

                                file.close();

                                break;


                        case 3:

                                cout<<"\nEnter the employee ID you want to search for:";

                                cin>>serID;
```

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```
                        file.open("employee1.txt",ios::in);
                        while((file.read((char *)&emp2,sizeof(EmployeeDB)))!=NULL)
                        {
                                if(serID==emp2.id)
                                {
                                        isfound=1;
                                        break;
                                }
                                else
                                {
                                        isfound=0;
                                }
                        }
                        if(isfound==1)
                        {
                                cout<<"\nEmployee FOUND==>";
                                emp2.displayData();
                        }
                        else
                        {
                                cout<<"\nEmployee NOT FOUND!!";
                        }
                        file.close();
                        break;

                case 4:
                        cout<<"\nEnter ID of employee you want to UPDATE:";
                        cin>>upID;
                        file.open("employee1.txt",ios::in|ios::binary);
                        if(file.eof())
                                cout<<"\nFile is empty";
                        else
                        {
                                EmployeeDB e;
                                ofstream fout("newemployee.txt");
                                while(file.read((char*)&e,sizeof(EmployeeDB)))
                                {
```

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```
                                if(e.id==upID)
                                {
                                        cout<<"\nEnter new details:";
                                        e.getData();
                                        flag=1;
                                }
                                fout.write((char*)&e, sizeof(EmployeeDB));
                        }
                        fout.close();
                        file.close();
                        remove("employee1.txt");
                        rename("newemployee.txt","employee1.txt");
                        if(flag)
                                cout<<"\nRecord is Updated
Successfully!"<<endl;
                        else
                                cout<<"\nRecord Not Found.."<<endl;
                }
                break;

        case 5:
                cout<<"\nEnter ID of an employee to delete:";
                cin>>delID;
                file.open("employee1.txt",ios::in|ios::binary);
                if(file.eof())
                        cout<<"File is empty";
                else
                {
                        EmployeeDB e;
                        ofstream fout("newemployee.txt");
                        while(file.read((char*)&e,sizeof(EmployeeDB)))
                        {
                                if(e.id!=delID)

    fout.write((char*)&e,sizeof(EmployeeDB));
                        }
                        fout.close();
```

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```
                                    file.close();

                                    remove("employee1.txt");

                                    rename("newemployee.txt","employee1.txt");

                                    cout<<"\nRecord has been deleted
successfully!"<<endl;

                            }
                            file.close();
                            break;

                    case 6:
                            goto exit;
                            break;

                    default:
                            cout<<"\nPlease enter correct choice!";
                            break;
            }
            cout<<"\nDo you want to continue?[1 for YES || 0 for NO]-->";
            cin>>doch;
        }while(doch==1);
        exit:
        cout<<"\n======THANK YOU!======";
        return 0;
}
```

==

OUTPUT:

After starting execution of the program it will create a file employee1.txt as shown in the following snippet:

Adding Records into the file:

```
======WELCOME======
1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:1

======================
Enter the following details of an Employee==>
ID:101

NAME:ABC

AGE:20

DEPARTMENT:Computer

POST:HOD

SALARY:150000

======================
Do you want to continue?[1 for YES || 0 for NO]-->1
```

```
1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:1

======================
Enter the following details of an Employee==>
ID:102

NAME:PQR

AGE:26

DEPARTMENT:Admin

POST:Director

SALARY:200000

======================
Do you want to continue?[1 for YES || 0 for NO]-->1
```

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Reading the contents from the file:

```
1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:2

======================
Employee Details are:
ID:101
NAME:ABC
AGE:20
DEPARTMENT:Computer
POST:HOD
SALARY:Rs.150000

======================
======================
Employee Details are:
ID:102
NAME:PQR
AGE:26
DEPARTMENT:Admin
POST:Director
SALARY:Rs.200000

======================
Do you want to continue?[1 for YES || 0 for NO]-->
```

Searching into file:

```
1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:3

Enter the employee ID you want to search for:101

Employee FOUND==>
======================
Employee Details are:
ID:101
NAME:ABC
AGE:20
DEPARTMENT:Computer
POST:HOD
SALARY:Rs.150000

======================
Do you want to continue?[1 for YES || 0 for NO]-->
```

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Updating records in the file:

```
Enter ID of employee you want to UPDATE:101

Enter new details:
======================
Enter the following details of an Employee==>
ID:101

NAME:ABC

AGE:22

DEPARTMENT:Computer

POST:Administor

SALARY:175000


======================
Record is Updated Successfully!

Do you want to continue?[1 for YES || 0 for NO]-->1

1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:2

======================
Employee Details are:
ID:101
NAME:ABC
AGE:22
DEPARTMENT:Computer
POST:Administor
SALARY:Rs.175000

======================
```

Deleting record from the file:

```
1.Adding record into DB(Writing into file).
2.Displaying the records from DB(Reading from file).
3.Searching particular record into DB(Searching into file).
4.Updating record in DB(Updating content from the file).
5.Deleting record from DB(Deleting content from file).
6.EXIT
Enter your choice:5

Enter ID of an employee to delete:102

Record has been deleted successfully!
```

Folder Structure:

☐ Name	Date modified	Type	Size
📄 employee1	12/30/2022 9:19 PM	Text Document	1 KB
📄 File	12/30/2022 3:08 PM	C++ Source File	5 KB
📄 File	12/30/2022 9:10 PM	Application	1,881 KB

Contents in the file:

employee1 - Notepad

File   Edit   View

e   ▯   ˜«▯ ABC ▯   ▯   J▯ K   G▯   ▯ Computer   ▯   Administor   €▯þ▯   ▯

===