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Practical No: 10

Title: a)Implement an index sequential file for any Database and perform all database operations on it

b)iii. Modify a record iv. Delete a record

Code:

```
#include<iostream>
#include<fstream>
#include<string.h>
using namespace std;
class Student
{
    char Name[10];
    int Roll_No;
public:
    Student(){ Name[0]='\0';Roll_No=-1;}
    void get_Data();
    void put_Data();
    int return_Roll(){ return Roll_No;}

};

void Student::get_Data()
{
    cout<<"\nEnter Student Data: ";
    cout<<"\nName: ";cin>>Name;
    cout<<"\nRoll Number: ";cin>>Roll_No;
}

void Student::put_Data()
{
    cout<<"\n"<<Roll_No<<"\t"<<Name;
}

class Seq_File
{
```

```

        char File_Name[15];
    public:
        Seq_File();
        Seq_File(char F[]);
        void Create();
        void Display();
        void Add();
        void Remove(int);
        void Modify(int);
};

Seq_File::Seq_File()
{
    ofstream File("Student.txt");
    strcpy(File_Name, " Student.txt");
    cout<<"\nDefault Constructor";
    if(File)
    {
        cout<<"\nFile opened Successfully";
        File.close();
    }
    else cout<<"\nFile creation Error";
}

Seq_File::Seq_File(char F[15])
{
    ofstream File;
    strcpy(File_Name, F);
    File.open(F);
    if(File)
    {
        cout<<"\nFile opened Successfully";
        File.close();
    }
    else cout<<"\nFile creation Error";
}

void Seq_File::Create()
{
    ofstream File;
    Student S;
    File.open(File_Name);
    S.get_Data();
    File.write(reinterpret_cast<char*>(&S), sizeof(S));
}

```

```

        File.close();
    }

void Seq_File::Display()
{
    ifstream File;
    Student S;
    File.open(File_Name);
    cout<<"\nRoll No\t Student Name";
    File.read(reinterpret_cast<char*>(&S), sizeof(S));
    while(!File.eof())
    {
        S.put_Data();
        File.read(reinterpret_cast<char*>(&S), sizeof(S));
    }
    File.close();
}

void Seq_File::Add()
{
    ofstream File;
    Student S;
    File.open(File_Name, ios::app);
    S.get_Data();
    File.write(reinterpret_cast<char*>(&S), sizeof(S));
    File.close();
}

void Seq_File::Remove(int Roll)
{
    ifstream File;
    ofstream Temp;
    Student S;
    int Flag=0;
    File.open(File_Name);
    Temp.open("Temp.Txt");
    File.read(reinterpret_cast<char*>(&S), sizeof(S));
    while(!File.eof())
    {
        if(Roll==S.return_Roll())
        {
            S.put_Data(); Flag=1;}
        else
    }
}

```

```

        Temp.write(reinterpret_cast<char*>(&S), sizeof(S));
        File.read(reinterpret_cast<char*>(&S), sizeof(S));
    }
    if(Flag==0) cout<<"Roll No. "<<Roll<<" does not present \n";
    File.close();
    Temp.close();
    remove(File_Name);
    rename("Temp.Txt",File_Name);
}
void Seq_File::Modify(int Roll)
{
    ifstream File;
    ofstream Temp;
    Student S;
    int Flag=0;
    File.open(File_Name);
    Temp.open("Temp.Txt");
    File.read(reinterpret_cast<char*>(&S), sizeof(S));
    while(!File.eof())
    {
        if(Roll==S.return_Roll())
        {
            S.put_Data();
            cout<<"\n Enter data to modify";
            S.get_Data();
            Flag=1;
        }
        Temp.write(reinterpret_cast<char*>(&S), sizeof(S));
        File.read(reinterpret_cast<char*>(&S), sizeof(S));
    }
    if(Flag==0) cout<<"Roll No. "<<Roll<<" does not present \n";
    File.close();
    Temp.close();
    remove(File_Name);
    rename("Temp.Txt",File_Name);
}
int main()
{
    int Choice;
    char F[15];
    int R;

```

```

    cout<<"\nEnter File Name : ";
    cin>>F;
    Seq_File sFile(F);
    do
    {
    cout<<"\n1: Create Database\n2: Display Database\n3: Add a
    record\n4: Delete a record\n5: Modify a record\nEnter your choice:
    ";
        cin>>Choice;
        switch(Choice)
        {
            case 1:
                sFile.Create();
                break;

            case 2:
                sFile.Display();
                break;

            case 3:
                sFile.Add();
                break;

            case 4:
                cout<<"\nEnter Roll No
to delete: ";

                cin>>R;
                sFile.Remove( R);
                break;

            case
5:
                cout<<"\nEnter Roll No
to Modify: ";

                cin>>R;
                sFile.Modify( R);
                break;
        }
    } while(Choice<6);

    cout<<"\n";
    return 1;
}

```

Output:

Enter File Name : vijay.txt

File opened Successfully

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 1

Enter Student Data:

Name: vijay

Roll Number: 73

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 3

Enter Student Data:

Name: shubham

Roll Number: 74

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 2

Roll No Student Name

73 vijay

74 shubham

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 3

Enter Student Data:

Name: vedant

Roll Number: 65

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 4

Enter Roll No to delete: 65

65 vedant

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 5

Enter Roll No to Modify: 74

74 shubham

Enter data to modify

Enter Student Data:

Name: shubhangiii

Roll Number: 74

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 2

Roll No Student Name

73 vijay

74 shubhangiii

1: Create Database

2: Display Database

3: Add a record

4: Delete a record

5: Modify a record

Enter your choice: 6