EXPERIMENT NO 12

```cpp
#include<iostream>
#include<fstream>
#include<cstdio>

using namespace std;

class student
{
    public:
     int rollno;
    char name[50];
    char add[50];
    char div[5];
    void setData()
    {
        cout<<"Enter Roll no: ";
        cin>>rollno;
        cout<<"Enter Name: ";
        cin>>name;
        cout<<"Address of student: ";
        cin>>add;
        cout<<"Division of student: ";
        cin>>div;
    }

    void showData()
    {
        cout<<"\n Roll no. of student: "<<rollno;
        cout<<"\n Name of the student: "<<name;
        cout<<"\n Address of student: "<<add;
        cout<<"\n Division of student: "<<div;
    }

    int retrollno()
    {
        return rollno;
    }
};

void write_record()
{
    ofstream outfile;
    outfile.open("StudentData", ios::binary | ios::app);

    student obj;
    obj.setData();
    outfile.write((char*)&obj, sizeof(obj));
    outfile.close();
}

void display_record()
{
    ifstream infile;
    infile.open("StudentData", ios::binary);
```

```cpp
    student obj;

    while(infile.read((char*)&obj, sizeof(obj)))
        {
            obj.showData();
        }
    infile.close();
}

void search_record(int n)
{
    bool flag=false;
    ifstream infile;
    infile.open("StudentData", ios::binary);

    student obj;


    while (infile.read((char*)&obj, sizeof(obj)))
    {
        if(obj.rollno==n)
        {
            flag=true;
            obj.showData();
            break;
        }
        if(flag==false)
        {
            cout<<"Record for roll no. is not found in the file.";
        }
    }
}

void delete_record(int n)
{
    student obj;


    ifstream infile;
    infile.open("StudentData", ios::binary);

    ofstream outfile;
    outfile.open("StudentNewData", ios::out | ios::binary);

    while(infile.read((char*)&obj, sizeof(obj)))
    {
        if(obj.retrollno() != n)
        {
            outfile.write((char*)&obj, sizeof(obj));
        }
    }
    infile.close();
    outfile.close();
    remove("StudentData");
```

```cpp
    rename("StudentNewData","StudentData");
}

int main()
{
    int ch;
    do
    {
        cout<<"\n******File Operations******\n 1.Add Record. \n 2.Display Record. \n
3.Search a particular Record. \n 4.Delete particular Record.";

        cout<<"\n Enter your choice: ";
        cin>>ch;
        switch(ch)
        {
        case 1:
            cout<<"Enter total no. of records you want to store in a file: ";
            int n;
            cin>>n;
            for(int i=0; i<n; i++)
            {
                write_record();
            }
            break;
        case 2:
            cout<<"\n List of records: ";
            display_record();
            break;
        case 3:
            cout<<"Enter student roll no. whose record you want search: ";
            int s;
            cin>>s;
            search_record(s);
            break;
        case 4:
            cout<<"Enter student roll no. whose record you want delete: ";
            int t;
            cin>>t;
            delete_record(t);
            cout<<"Record Deleted Successfully!!";
            break;
        case 5:
            return 0;
        }
    }while(ch!=6);
}
```
OUTPUT:
******File Operations******
 1.Add Record.
 2.Display Record.
 3.Search a particular Record.
 4.Delete particular Record.
 Enter your choice: 1
Enter total no. of records you want to store in a file: 3
Enter Roll no: 1

```
Enter Name: mahesh
Address of student: sambhajinagr
Division of student: c
Enter Roll no: 2
Enter Name: hareram
Address of student: Ahilyanagar
Division of student: c
Enter Roll no: 8
Enter Name: aditya
Address of student: Satara
Division of student: c

******File Operations******
 1.Add Record.
 2.Display Record.
 3.Search a particular Record.
 4.Delete particular Record.
 Enter your choice: 2

 List of records:
 Roll no. of student: 1
 Name of the student: mahesh
 Address of student: sambhajinagr
 Division of student: c
 Roll no. of student: 2
 Name of the student: hareram
 Address of student: Ahilyanagar
 Division of student: c
 Roll no. of student: 8
 Name of the student: aditya
 Address of student: Satara
 Division of student: c
******File Operations******
 1.Add Record.
 2.Display Record.
 3.Search a particular Record.
 4.Delete particular Record.
 Enter your choice: 3
Enter student roll no. whose record you want search: 8
Record for roll no. is not found in the file.Record for roll no. is not found in the file.
 Roll no. of student: 8
 Name of the student: aditya
 Address of student: Satara
 Division of student: c
******File Operations******
 1.Add Record.
 2.Display Record.
 3.Search a particular Record.
 4.Delete particular Record.
 Enter your choice: 4
Enter student roll no. whose record you want delete: 8
Record Deleted Successfully!!
******File Operations******
 1.Add Record.
 2.Display Record.
```

3.Search a particular Record.
4.Delete particular Record.
Enter your choice: 2

List of records:
Roll no. of student: 1
Name of the student: mahesh
Address of student: sambhajinagr
Division of student: c
Roll no. of student: 2
Name of the student: hareram
Address of student: Ahilyanagar
Division of student: c
******File Operations******
1.Add Record.
2.Display Record.
3.Search a particular Record.
4.Delete particular Record.
Enter your choice: 5

Process exited after 101.6 seconds with return value 0
Press any key to continue . . .