

*****Assignment No2*****

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Class: SE -I Div:D
Roll No:205A081

Develop a program in C++ to create a database of student's information system containing the following information: Name, Roll number, Class, Division, Date of Birth, Blood group, contact address, Telephone number, Driving license no. and other. Construct the database with suitable member functions. Make use of constructor, default constructor, copy constructor, destructor, static member functions, friend class, this pointer, inline code and dynamic memory allocation operators-new and delete as well as exception handling.

```
#include<iostream>
#include<string.h>
using namespace std;
#define max 100;
class per_info
{
    string lic,dob,bldgrp;
public:
    per_info();
    per_info(per_info &);
    ~per_info()
    {
        cout<<"\n DESTRUCTOR CALLED !!!!!"<<endl<<"RECORD DELETED
SUCCESSFULLY !!!!!";
    }
    friend class student ;
};
class student
{
    string name,address,year;
    char div;
    int roll_no;
    long mob;
    static int cnt;
public:
    void create(per_info &);
    void display(per_info &);

    inline static void incnt()
    {
        cnt++;
    }
    inline static void showcnt()
    {
        cout<<"\n TOTAL NUMBER OF RECORDS ARE :"<<cnt;
    }
    student();
```

```

        student(student &);
        ~student()
        {
            cout<<"\n DESTRUCTOR IS CALLED !!!"<<endl<<"RECORDS
DELETED SUCCESSFULLY !!!!";

        }
    };
    int student::cnt;
    student :: student()
    {
        name="srushti vhare";
        address="Dharashiv";
        year="SECOMP";
        div='A';
        roll_no=20581;
        mob=8605687730;

    }
    per_info::per_info()
    {
        lic="ABCD123";
        dob="18-9-2004";
        bldgrp="o+";

    }
    student::student(student &obj)
    {
        this->name=obj.name;
        this->address=obj.address;
        this->year=obj.year;
        this->div=obj.div;
        this->roll_no=obj.roll_no;
        this->mob=obj.mob;

    }
    per_info::per_info(per_info &obj)
    {
        lic=obj.lic;
        dob=obj.dob;
        bldgrp=obj.bldgrp;

    }
    void student::create(per_info &obj)
    {
        cout<<"\n Name :";
        cin>>name;
        cout<<"\n Address :";
        cin>>address;
        cout<<"\n Date of birth :";
        cin>>obj.dob;
        cout<<"\n Year :";

```

```

        cin>>year;
        cout<<"\n Division :";
        cin>>div;
        cout<<"\n Roll Number :";
        cin>>roll_no;
        cout<<"\n Blood Group :";
        cin>>obj.bldgrp;
        cout<<"\n License Number :";
        cin>>obj.lic;
        cout<<"\n Mobile Number :";
        cin>>mob;
    }
    void student::display(per_info &obj)
    {
        cout<<"\n *****Student Information *****";
        cout<<"\n Name : "<<name;
        cout<<"\n Address : "<<address;
        cout<<"\n Date of birth : "<<obj.dob;
        cout<<"\n Year : "<<year;
        cout<<"\n Division : "<<div;
        cout<<"\n Roll Number : "<<roll_no;
        cout<<"\n Blood Group : "<<obj.bldgrp;
        cout<<"\n License Number : "<<obj.lic;
        cout<<"\n Mobile Number : "<<mob;
        cout<<"\n*****";
    }
}
int main()
{
    int n;
    int ch;
    char ans;

    cout<<"\n Enter No Of Student :";
    cin>>n;
    cout<<"\n*****";
    student *sobj=new student[n];
    per_info *pobj=new per_info[n];

    do
    {
        cout<<"\n Menu \n 1.Create Databse \n 2.Display Database \n 3.Copy Constructor \n
4.Default Constructor \n 5.Delete(Destructor)";
        cout<<"\nEnter Your Choice :";
        cin>>ch;
        switch(ch)
        {
            case 1:
            {

```

```

        for(int i=0;i<n;i++)
        {
            subj[i].create(pobj[i]);
            subj[i].incnt();
        }
    }
    break;
case 2:
    {
        subj[0].showent();
        for(int i=0;i<n;i++)
        {
            subj[i].display(pobj[i]);
        }
    }
    break;
case 3:
    {
        student obj1;
        per_info obj2;
        obj1.create(obj2);
        student obj3(obj1);

        per_info obj4(obj2);

        cout<<"\n Copy Constructor Is Called";
        obj3.display(obj4);
    }
    break;
case 4:
    {
        student obj1;
        per_info obj2;
        cout<<"\n Default Constructor Is Called ";
        obj1.display(obj2);
    }
    break;
case 5:

        delete [] subj;
        delete [] pobj;

    }
    cout<<"\n Want To Continue :(y/n)";
    cin>>ans;

}while(ans=='y');
return 0;

}

```

Output:

```
stes@stes: ~/srushti oop practicals
Multiplication of two complex    number:-7 + 22i(base) stes@stes:~/srushti oop practicals$ g++ Assignment2.cpp -o Assignment2
(base) stes@stes:~/srushti oop practicals$ ./Assignment2

Enter No Of Student :2

*****
Menu
1.Create Database
2.Display Database
3.Copy Constructor
4.Default Constructor
5.Delete(Destructor)
Enter Your Choice :1

Name :srushti
Address :pune
Date of birth :18/9/2004
Year :2023
Division :D
Roll Number :81
Blood Group :o+
License Number :123se
Mobile Number :86018928
Name :rachana
Address :paranda
Date of birth :12/6/1996
Year :2023
```

```
stes@stes: ~/srushti oop practicals
Date of birth :12/6/1996
Year :2023
Division :B
Roll Number :21
Blood Group :A
License Number :1233D
Mobile Number :234355
Want To Continue :(y/n)y

Menu
1.Create Database
2.Display Database
3.Copy Constructor
4.Default Constructor
5.Delete(Destructor)
Enter Your Choice :2

TOTAL NUMBER OF RECORDS ARE :2
*****Student Information *****
Name :srushti
Address :pune
Date of birth :18/9/2004
Year :2023
Division :D
Roll Number :81
Blood Group :o+
License Number :123se
Mobile Number :86018928
*****
*****Student Information *****
Name :rachana
Address :paranda
```

```
stes@stes: ~/srushti oop practicals
*****Student Information *****
Name :rachana
Address :paranda
Date of birth :12/6/1996
Year :2023
Division :B
Roll Number :21
Blood Group :A
License Number :1233D
Mobile Number :234355
*****
Want To Continue :(y/n)y

Menu
1.Create Database
2.Display Database
3.Copy Constructor
4.Default Constructor
5.Delete(Destructor)
Enter Your Choice :3

Name :krushna
Address :pune
Date of birth :23/7/1996
Year :2023
Division :n
Roll Number :65
Blood Group :B
License Number :SJY33
Mobile Number :28365
```

```
stes@stes: ~/srushti oop practicals
Address :pune
Date of birth :23/7/1996
Year :2023
Division :n
Roll Number :65
Blood Group :B
License Number :SJY33
Mobile Number :28365

Copy Constructor Is Called
*****Student Information *****
Name :krushna
Address :pune
Date of birth :23/7/1996
Year :2023
Division :n
Roll Number :65
Blood Group :B
License Number :SJY33
Mobile Number :28365
*****
DESTRUCTOR CALLED !!!!!
RECORD DELETED SUCCESSFULLY !!!!
DESTRUCTOR IS CALLED !!!
RECORDS DELETED SUCCESSFULLY !!!!
DESTRUCTOR CALLED !!!!!
RECORD DELETED SUCCESSFULLY !!!!
DESTRUCTOR IS CALLED !!!
RECORDS DELETED SUCCESSFULLY !!!!
Want To Continue :(y/n)Y
(base) stes@stes:~/srushti oop practicals$
```