

Exp-2

Problem statement:

Develop an object oriented program in C++ to create a database of student information system containing the following information: Name, Roll number, Class, division, Date of Birth, Blood group, Contact address, telephone number, driving license no. etc Construct the database with suitable member functions for initializing and destroying the data viz constructor, default constructor, Copy constructor, destructor, static member functions, friend class, this pointer, inline code and dynamic memory allocation operators-new and delete.

```
#include <iostream>
#include<string.h>
#include<iomanip>

using namespace std;
class db
{
int roll;
char name[20];
char Class[10];
char Div[10];
char dob[10];
char bg[3],contact[10];
char phone[10],license[12];

public:
static int stdno;
static void count()
{
cout<<"\nNo. of objects created: "<<stdno;
}
void fin(){cout<<"\nInline Function!";}

db()
{
roll=0;
strcpy(name,"Sachin");
strcpy(Class,"I");
strcpy(Div,"A");
strcpy(dob,"11/11/1111");
strcpy(bg,"A");
strcpy(contact,"city");
strcpy(phone,"9000000000");
strcpy(license,"A0101010");
++stdno;
}
db(db *ob)
```

```

{
strcpy(name,ob->name);
strcpy(dob,ob->dob);
strcpy(Class,ob->Class);
strcpy(Div,ob->Div);
strcpy(bg,ob->bg);
strcpy(contact,ob->contact);
strcpy(phone,ob->phone);
strcpy(license,ob->license);
++stdno;
}
void getdata()
{
cout<<"\n\nEnter:name,roll,Class,Div,Dob,bg,contact,phone,license \n\n\n";
cin>>name>>roll>>Class>>Div>>dob>>bg>>contact>>phone>>license;
}
friend void display(db d);
~db()
{
cout<<"\n\n"<<this->name<<"(Object) is destroyed!";
}
};

void display(db d)
{
cout<<"\n"<<setw(12)<<d.name<<setw(5)<<d.roll<<setw(4)<<d.Class<<setw(3)<<d.Div<<setw(12)<<
d.dob<<setw(4)<<d.bg<<setw(12)<<d.contact<<" "<<setw(12)<<d.phone<<" "<<setw(12)<<"
"<<d.license;
}
int db::stdno;

int main()
{
int n,i;
db d1,*ptr[5];
cout<<"\nDefault values:";
display(d1);

d1.getdata();
display(d1);

db d2(&d1);
cout<<"\n\nUse of copy constructor :\n";
display(d2);

cout<<"\nHow many objects u want to create?:";
cin>>n;

```

```
for(i=0;i<n;i++)
{
ptr[i]=new db();
ptr[i]->getdata();
}
cout<<"\n"<<setw(12)<<"name"<<setw(5)<<"roll"<<setw(4)<<"Class"<<setw(4)<<"Div"<<setw(12)<<
"dob"<<setw(4)<<"bg"<<setw(12)<<"contact"<<setw(12)<<"phone"<<setw(12)<<"license";
for(i=0;i<n;i++)
display(*ptr[i]);
db::count();
for(i=0;i<n;i++)
{
delete(ptr[i]);
}
cout<<"\nObjects deleted!" ;
return 0;
}
```