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Department: Computer

Class: SE Div: C

Roll no: 47

Subject: Object Oriented Programming

# EXPERIMENT NO. 2

***Code:-***

*/\* 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>

using namespace std;

class data

{

private:

string name;

char bg;

string address;

string dob;

string cldiv;

string lic;

static int c;

int roll;

long int phone;

public:

data();

static int getcount();

void getdata();

void show();

data(data \*obj);

data(int roll,long int phone,string name,string address,string dob,string cldiv, string lic);

~data();

};

int data::c=0;

data::data(data \*obj)

{

cout<<"\nCopy constructor implemented"<<endl;

}

data::~data()

{

cout<<"Destructor called \n";

}

void data::getdata()

{

cout<<"Enter roll number \n";

cin>>roll;

cout<<"Enter telephone number \n";

cin>>phone;

cout<<"Enter Name \n";

cin>>name;

cout<<"Enter address \n";

cin>>address;

cout<<"Enter D.O.B \n";

cin>>dob;

cout<<"Enter Class and Division\n";

cin>>cldiv;

cout<<"Enter license number \n";

cin>>lic;

}

void data::show()

{

cout<<"Name :"<<name<<endl;

cout<<"Roll Number :"<<roll<<endl;

cout<<"Telephone Number :"<<phone<<endl;

cout<<"Address :"<<address<<endl;

cout<<"Date of birth :"<<dob<<endl;

cout<<"Class and division: "<<cldiv<<endl;

cout<<"License number :"<<lic<<endl;

}

data::data(int roll,long int phone,string name,string address,string dob,string cldiv,string lic)

{

cout<<"\nParameterized Constructor"<<endl;

c++;

this->roll=roll;

this->phone=phone;

this->name=name;

this->address=address;

this->dob=dob;

this->cldiv=cldiv;

this->lic=lic;

}

data::data()

{

roll=0;

phone=0;

name="Name";

address="Address";

dob="DOB";

cldiv="Class and Division";

lic="License no.";

cout<<"Default Constructor"<<endl;

c++;

}

int data::getcount()

{

return c;

}

int main()

{

int num;

data \*d1= new data();

d1->show();

delete d1;

data \*d2=new data(73,9823694961,"Hello","Ravet","26.11.85","SE C","MSIN85U");

d2->show();

data \*d3=new data(d2);

d3->show();

delete d2;

cout<<"\nEnter size of database";

cin>>num;

data dx[num];

for(int i=0;i<num;i++)

{

dx[i].getdata();

}

for(int i=0;i<num;i++)

{

dx[i].show();

}

cout<<"Number of constructor calls and total number of objects:"<<data::getcount()<<endl;

return 0;

}

**OUTPUT :-**

comp@ubuntu:~/SEC47$ g++ Exp2.cpp

comp@ubuntu:~/SEC47$ ./a.out

Default Constructor

Name :Name

Roll Number :0

Telephone Number :0

Address :Address

Date of birth :DOB

Class and division: Class and Division

License number :License no.

Destructor called

Parameterized Constructor

Name :Hello

Roll Number :73

Telephone Number :9823694961

Address :Ravet

Date of birth :26.11.85

Class and division: SE C

License number :MSIN85U

Copy constructor implemented

Name :

Roll Number :0

Telephone Number :0

Address :

Date of birth :

Class and division:

License number :

Destructor called

Enter size of database1

Default Constructor

Enter roll number

23

Enter telephone number

7276605175

Enter Name

Jayesh

Enter address

xyz

Enter D.O.B

27-07-2005

Enter Class and Division

SE C

Enter license number

Name : Jayesh

Roll Number :23

Telephone Number :7276605175

Address :xyz

Date of birth :27-07-2005

Class and division: SE

License number :C

Number of constructor calls and total number of objects:3

Destructor called