Sir Syed C@SE Institute of Technology

OOP Lab #3

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Example task

Code:

```cpp
#include <iostream>
using namespace std;
class myClass{
    private:
            int y;
    public:
        int x;

        myClass(){
            x=5;
            y=5;
        }
        void display(){
            cout<<"x is: "<<x<<endl;
            cout<<"y is: "<<y<<endl;

        }
};
int main()
{
    myClass myObject;
    myObject.display();
```
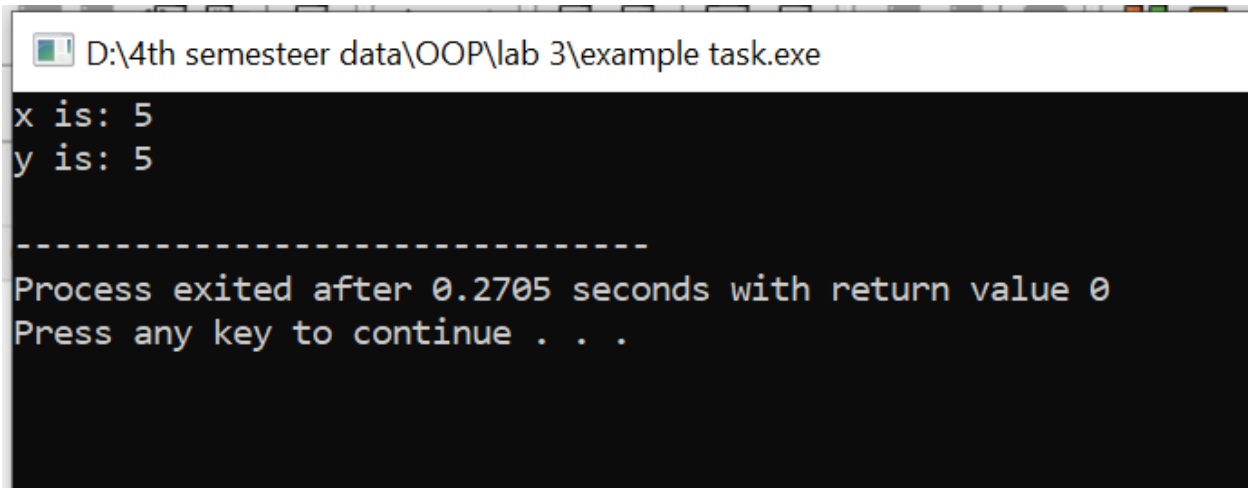
```
        return 0;


}
```

D:\4th semesteer data\OOP\lab 3\example task.exe

```
x is: 5
y is: 5


---------------------------------
Process exited after 0.2705 seconds with return value 0
Press any key to continue . . .
```

Task 1

Code:

```cpp
#include <iostream>
using namespace std;
class myClass{
            public:
            myClass(){
                cout<<"I am the default constructor"<<endl;
            }
            myClass(int x,int y){
            cout<<"I am parameterized constructor"<<endl;
            }
            myClass(myClass &c){
                cout<<"I am the copy constructor"<<endl;
```

```
                }
                ~myClass(){
                    cout<<"******I am the destructor:"<<endl;
                }
};
int main(){

                myClass c1;
                myClass c2(2,4);
                myClass c3(c1);
                return 0;

}
```
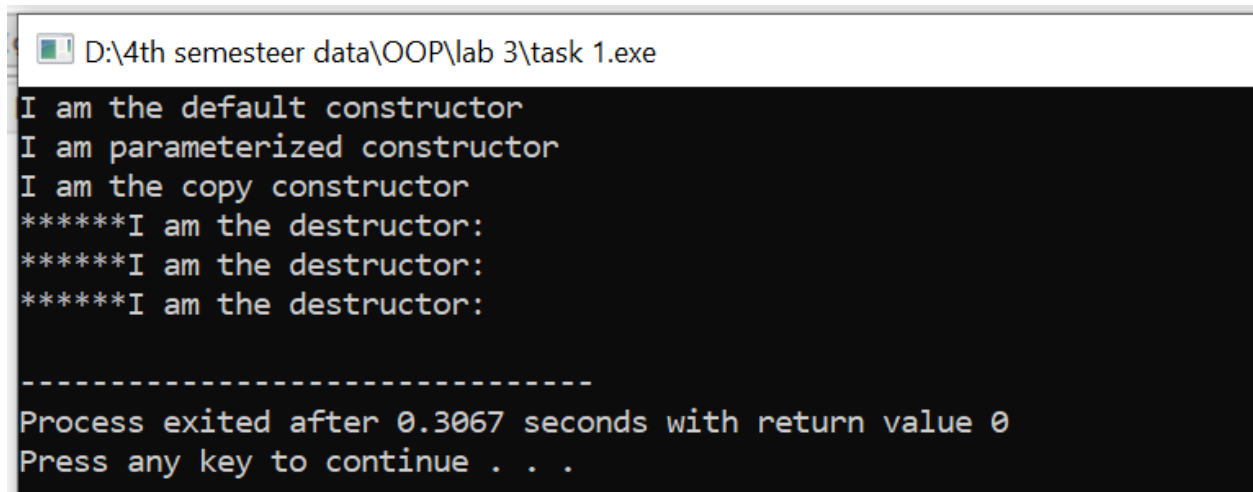
D:\4th semesteer data\OOP\lab 3\task 1.exe

```
I am the default constructor
I am parameterized constructor
I am the copy constructor
******I am the destructor:
******I am the destructor:
******I am the destructor:

--------------------------------
Process exited after 0.3067 seconds with return value 0
Press any key to continue . . .
```

Task 2

Code:

```
#include <iostream>

using namespace std;
class Book{
```

```cpp
private:
string title;
string Author;
int price;
int BookId;
int pages;
public:
Book(string t,string a,int pa,int p,int id){
    title=t;
    Author=a;
    pages=pa;
    price=p;
    BookId=id;

}

void display(){
    cout<<"  title is: "<<title<<endl;
    cout<<"  Author is: "<<Author<<endl;
    cout<<"  pages are: "<<pages<<endl;
    cout<<"  price is: "<<price<<endl;
    cout<<"  BookId is: "<<BookId<<endl;
    cout<<"\n"<<endl;
}
};
int main(){

Book s[10]={
```

```cpp
            Book("OOp","Ubaid",500,1000,1111),
            Book("Pf","Ubaid",500,1000,1112),
            Book("Calculus","Ubaid",500,1000,1113),
            Book("math","Ubaid",500,1000,1114),
            Book("english","Ubaid",500,1000,1115),
            Book("urdu","Ubaid",500,1000,1116),
            Book("Pak study","Ubaid",500,1000,1117),
            Book("islamyat","Ubaid",500,1000,1118),
            Book("Ethics","Ubaid",500,1000,1119),
            Book("OS","abc",500,1000,1110),
            };
            for(int i=0;i<10;i++){
                cout<<"*****************************Book : "<<i+1<<endl;
                s[i].display();

            }
    }
```

```
D:\4th semesteer data\OOP\lab 3\task2.exe                          —    □    >

*****************************Book : 1
  title is: OOp
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1111

*****************************Book : 2
  title is: Pf
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1112

*****************************Book : 3
  title is: Calculus
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1113

*****************************Book : 4
  title is: math
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1114
```

```
D:\4th semesteer data\OOP\lab 3\task2.exe                          —    □    X

  title is: islamyat
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1118

*****************************Book : 9
  title is: Ethics
  Author is: Ubaid
  pages are: 500
  price is: 1000
  BookId is: 1119

*****************************Book : 10
  title is: OS
  Author is: abc
  pages are: 500
  price is: 1000
  BookId is: 1110


--------------------------------
Process exited after 0.3821 seconds with return value 0
Press any key to continue . . . _
```

Task 3

Code:

#include <iostream>

```cpp
using namespace std;

class Car {
private:
    string brand;
    int price;
public:
    Car(string b, int p) {
        brand = b;
        price = p;
    }

    Car(const Car &c){
        brand = c.brand;
        price = c.price;
    }

    void displayCar(Car c)
                            {

        cout << "Brand: " << c.brand << ", Price: " << c.price << endl;
    }
};

int main() {
    Car c1("Ferrari", 2000);
    c1.displayCar(c1);
```
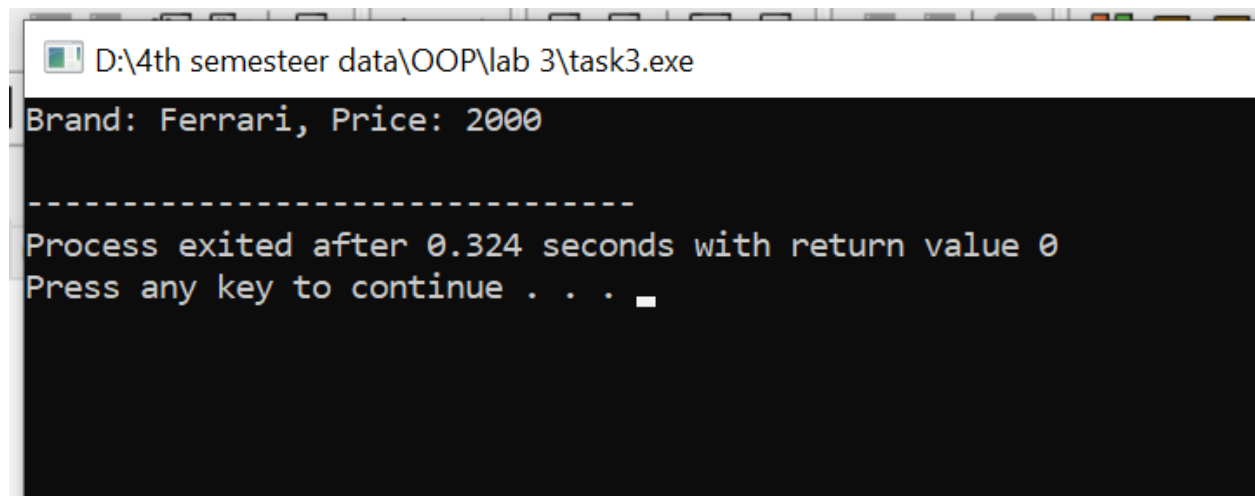
}
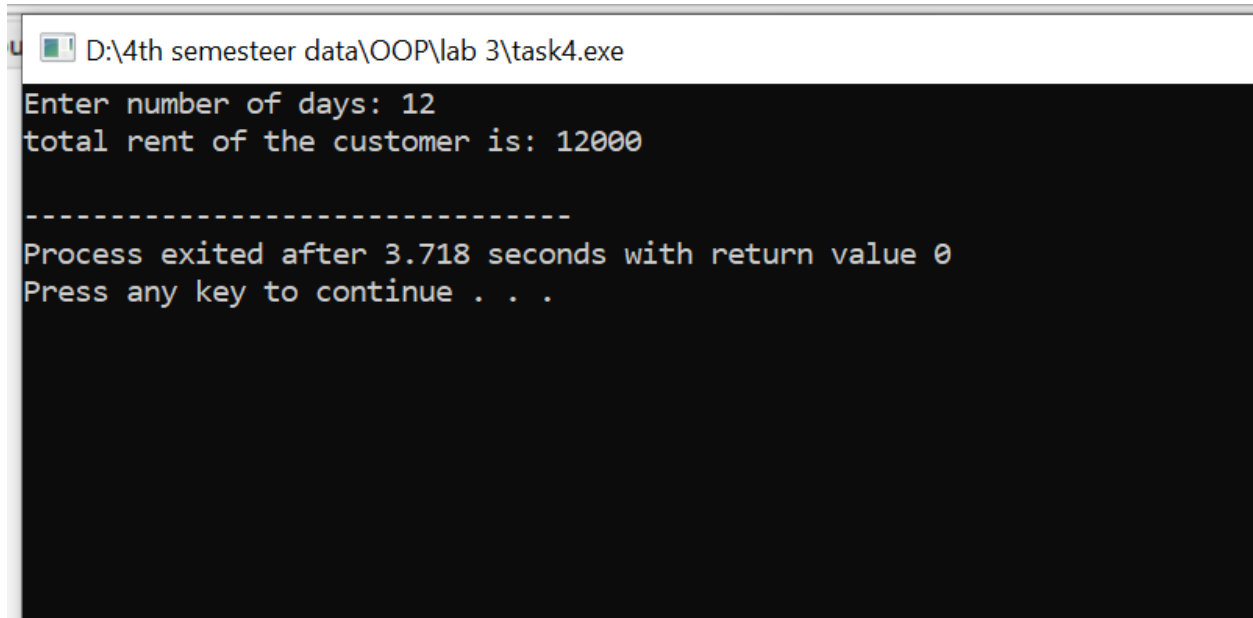
D:\4th semesteer data\OOP\lab 3\task3.exe

```
Brand: Ferrari, Price: 2000

--------------------------------
Process exited after 0.324 seconds with return value 0
Press any key to continue . . .
```

Task 4

Code:

```cpp
#include <iostream>
using namespace std;
class Car{
                string model;


                public:
                int     rentPerDay;
                Car(string m,int rent){
                 model=m;
                 rentPerDay=rent;
                }
```

```cpp
};
class Customer{


                                public:
                                 int days;
//                              Customer(int d){
//                                      days=d;
//                                       }
                                int  Rent(Car &c){
                                 int rent=days*c.rentPerDay;
                                 return rent;
                                }
                                v
};

int main(){
                                Car c("ferrari",1000);
                                Customer person;
                                cout<<"Enter number of days: ";
                                cin>>person.days;


                                int rent=person.Rent(c);
                                cout<<"total rent of the customer is:
"<<rent<<endl;
                                return 0;
}
```

Task 5

Code:

```cpp
#include <iostream>
using namespace std;
class student{
                    int age;
                    //changed int to long long int for cnic
                    long long int cnic;
                    //changed int to string for semester
                    string semester;
                    //change char to string for name
                    string name;
                    public:
                    //changed the setall method to a parameterized
constructor
                    student(int a,long long int c,string sem,string n){
```

```cpp
                age=a;
                cnic=c;
                semester=sem;
                name=n;

            }
            //created a seperate method for updating the age
value;
            void setage(){
                cout<<"\nenter age of the student: ";
                cin>>age;
                cout<<endl;
            }

            void displayAll(){
                cout<<"Age is: "<<age<<endl;
                cout<<"cnic is: "<<cnic<<endl;
                cout<<"semester is: "<<semester<<endl;
                cout<<"name is: "<<name<<endl;
            }
};
int main(){
                student s(23,1510403882349,"4th","ubaid");
                s.displayAll();
                s.setage();
                s.displayAll();
}
```
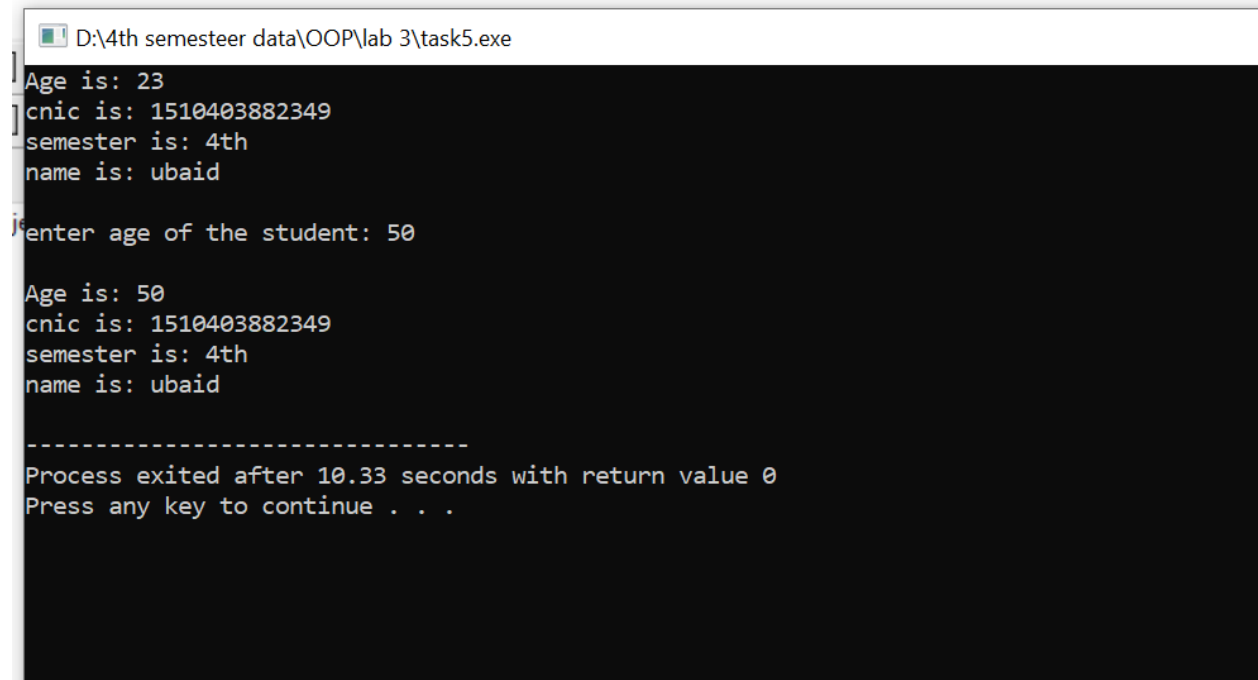
D:\4th semesteer data\OOP\lab 3\task5.exe

```
Age is: 23
cnic is: 1510403882349
semester is: 4th
name is: ubaid

enter age of the student: 50

Age is: 50
cnic is: 1510403882349
semester is: 4th
name is: ubaid

---------------------------------
Process exited after 10.33 seconds with return value 0
Press any key to continue . . .
```

END,,,