



Sir Syed CASE
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OOP Lab #8 Inheretence

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Task 1

Code:

```
#include <iostream>

using namespace std;

class staff{

    public:

        int staffID;

        staff(int x){

            staffID=x;

        }

        int getstaffID(){

            return staffID;

        }

};

class professor:public staff{

    string depName;

    int depID;

    public:

        professor(string s,int x,int y) :staff(y){

            depName=s;

            depID=x;

            staffID=y;

        }

        string getDepName(){
```

```
        return depName;
    }
    int getDepID(){
        return depID;
    }
};

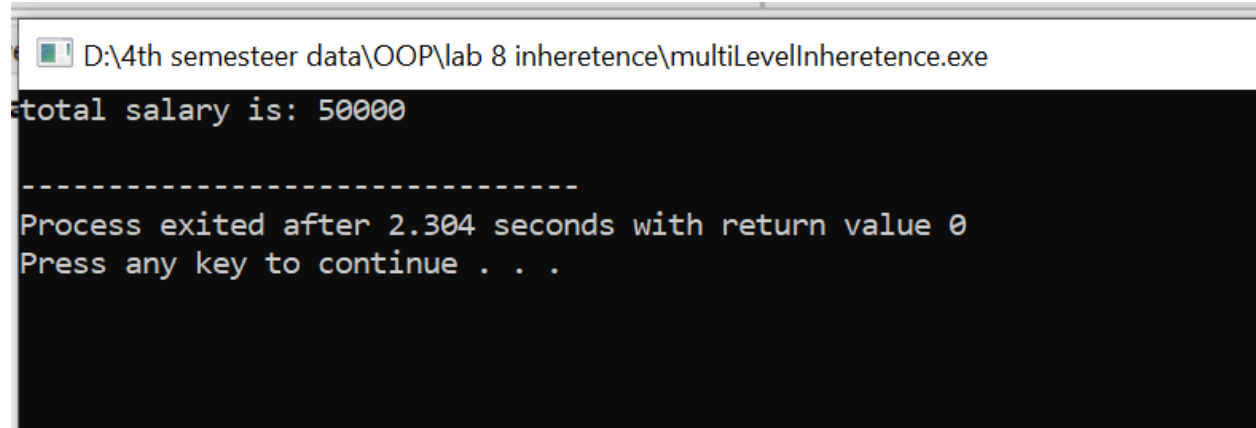
class visitingProfessor:public professor{
    int courses;
    float salary_per_course;
    float total_salary;
    public:
        visitingProfessor(int c,float s,string n,int dID,int
stffID):professor(n,dID,stffID){
            courses=c;
            salary_per_course=s;
        }

        void totalSalary(){
            total_salary=courses*salary_per_course;
        }

        void displaySalary(){
            cout<<"total salary is: "<<total_salary<<endl;
        }
};

int main(){
```

```
visitingProfessor p(5,10000.00,"ubaid",11,1210);  
p.totalSalary();  
p.displaySalary();  
return 0;  
}
```



```
D:\4th semesteeer data\OOP\lab 8 inheretence\multiLevelInheretence.exe  
total salary is: 50000  
-----  
Process exited after 2.304 seconds with return value 0  
Press any key to continue . . .
```

Task 2

CODE:

```
#include <iostream>  
using namespace std;  
class shape{  
    void calculateArea(){  
    };  
    void displayArea(){  
    };  
};
```

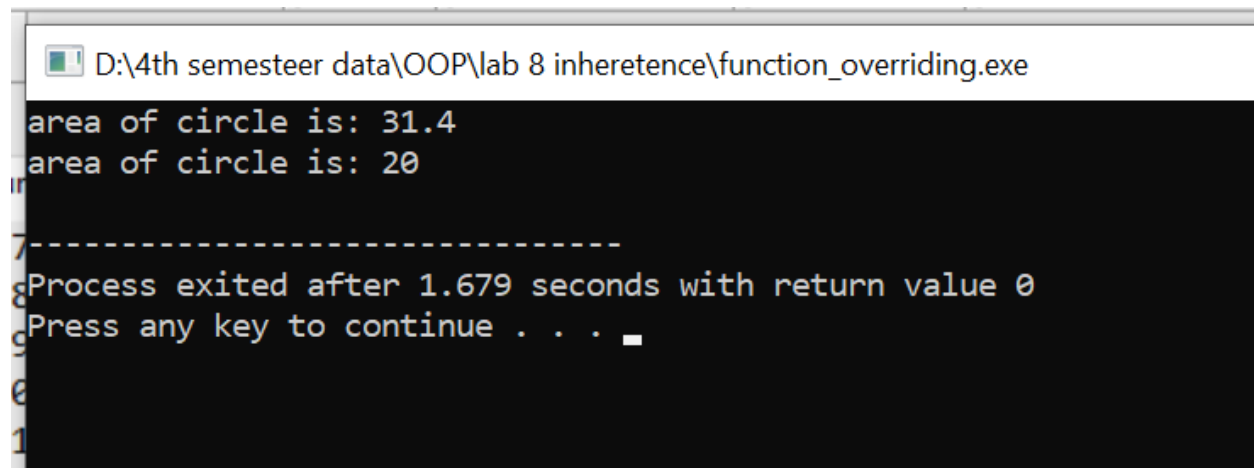
```
class circle:public shape{
    int radius;
    double area;
public:
    circle(int r){
        radius=r;
    }
    void calculateArea(){
        area=2*radius*(3.14);
    }
    void displayArea(){
        cout<<"area of circle is: "<<area<<endl;
    }
};

class rectangle:public shape{
    int length;
    int width;
    double area;
public:
    rectangle(int l,int w){
        length=l;
        width=w;
    }
    void calculateArea(){
```

```
        area=length*width;
    }
    void displayArea(){
        cout<<"area of circle is: "<<area<<endl;
    }
};

int main(){
    circle c(5); //radius=5
    rectangle r(4,5); //length=4,width=5
    c.calculateArea();
    r.calculateArea();
    c.displayArea();
    r.displayArea();

    return 0;
}
```



```
D:\4th semesteeer data\OOP\lab 8 inheretence\function_overriding.exe
1 area of circle is: 31.4
2 area of circle is: 20
3
4 -----
5 Process exited after 1.679 seconds with return value 0
6 Press any key to continue . . .
7
8
9
```

Task 3

CODE:

```
#include <iostream>

using namespace std;

class ride{
    public:
};

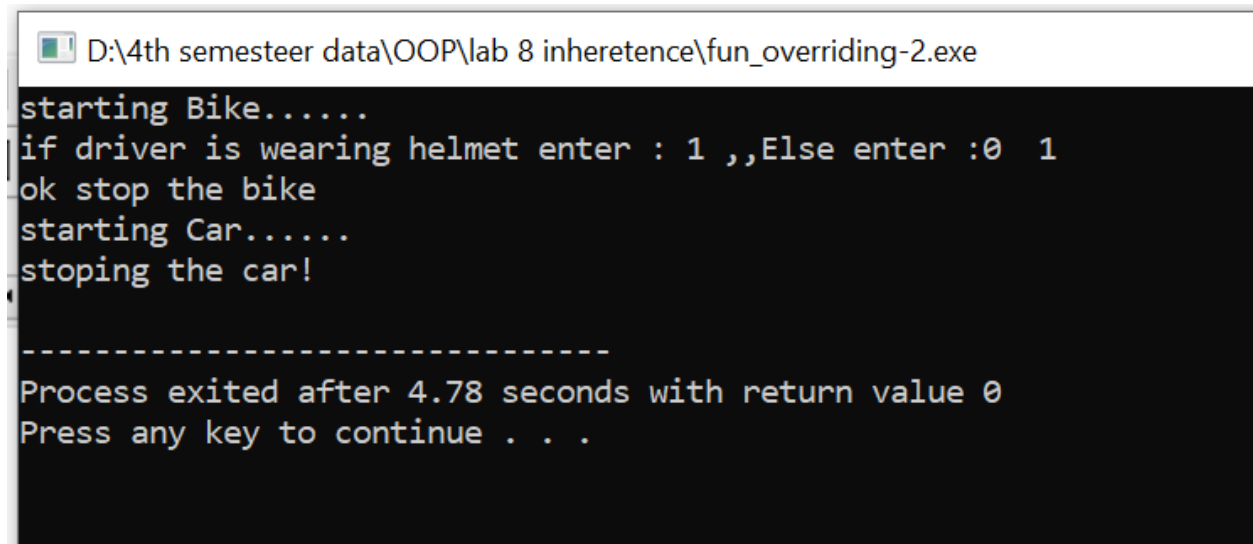
class CarRide:public ride{
    public:
        void startRide(){
            cout<<"starting Car....."<<endl;
        }
        void endRide(){
            cout<<"stoping the car!"<<endl;
        }
};

class BikeRide:public ride{
    bool helmet_verification;
    public:
        void startRide(){
            cout<<"starting Bike....."<<endl;
        }
        void checkHelmet(){
            int x;
            cout<<"if driver is wearing helmet enter : 1 ,,Else enter :0 ";
```

```
        cin>>x;
        helmet_verification=x;
    }
    void endRide(){
        if(helmet_verification){
            cout<<"ok stop the bike"<<endl;
        }
        else{
            cout<<"wait! wear helmet first"<<endl;
        }
    }
};

int main(){
    BikeRide b;
    b.startRide();
    b.checkHelmet();
    b.endRide();

    CarRide c;
    c.startRide();
    c.endRide();
    return 0;
}
```



```
D:\4th semesteer data\OOP\lab 8 inheretence\fun_overriding-2.exe
starting Bike.....
if driver is wearing helmet enter : 1 ,,Else enter :0 1
ok stop the bike
starting Car.....
stoping the car!

-----
Process exited after 4.78 seconds with return value 0
Press any key to continue . . .
```

END: