Rajshahi University of Engineering and Technology
Department of Computer Science and Engineering

Course No: CSE.1204

Course Title: Sessional based on CSE.1203 (Object Oriented Programming)

Lab Report No: 08

Lab Report On: Inheritance in Java.

Submitted By

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Section: A
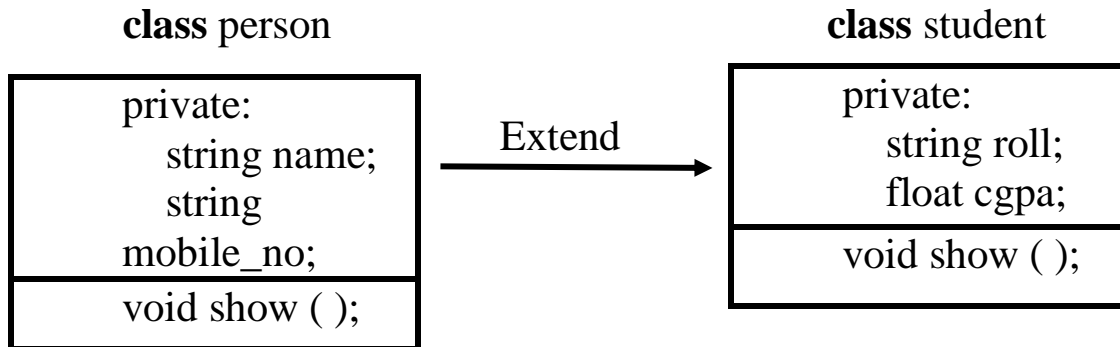
Department: CSE

Submitted To

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Problem No: 01

Problem Statement: Implementation of **Inheritance** in the following classes in Java.

class person   class student

private:
string name;
string mobile_no;
void show ( );

Extend →

private:
string roll;
float cgpa;
void show ( );

Theory

In Java when we write a code the code must be in a **package** named as the java file name. The syntax of package is **package java_file_name ;**

The syntax of class in java is given below:

> **class class_name**
> **{**
>   **// Body of class**
> **}**

The capability of a class to derive properties and characteristics from another class is called **Inheritance**. Inheritance is one of the most important feature of Object Oriented Programming. In inheritance there are two types of classes:

1. Sub Class: The class that inherits properties from another class is called Sub class or Derived Class.

2. Super Class: The class whose properties are inherited by sub class is called Base Class or Super class.

The syntax for creating a sub-class inherited from a base-class **in Java** is given below:

class subclass_name extends base_class_name
{
    //body of subclass
}

While overriding a function or to pass arguments in super class from sub class in Java we just have to use a keyword **super.**
To pass arguments: **super (arguments);**
To override a function: **super.function_name ();**

In Java functions are by default **private**. The **main** function in Java must be in a public class named as the java file name. The syntax is given below:

public class java_file_name {
    public static void main (String[] args) {
        // Body of main function
    }
}

Source Code

1. **File_name.java :**

```java
package Lab8;

class person {
    private String name;
    private String mobile_no;
    public person ()
    {
        name=null;
        mobile_no=null;
    }
    public person (String name,String mobile_no)
    {
        this.name = name;
        this.mobile_no = mobile_no;
    }
    public void show ()
    {
        System.out.println("Name: "+ name + "\nMobile No: " + mobile_no);
    }
}

class student extends person {
    private String roll;
    private double cgpa;
    public student ()
    {
        super ();
        roll = null;
        cgpa = 0;
    }
    public student (String name,String mobile_no,String roll,double cgpa)
    {
        super (name,mobile_no);
        this.roll = roll;
        this.cgpa = cgpa;
    }
```

```java
    public void show ()
    {
        super.show ();
        System.out.println("Roll: "+ roll + "\nCGPA: " + cgpa);
    }
}

public class Lab8 {

    public static void main (String[] args) {
        int a;
        student ob = new student("JOY","01710158323","1803046",3.33);
        ob.show();
        System.out.println("\nEnd of Program\n\n");

    }

}
```
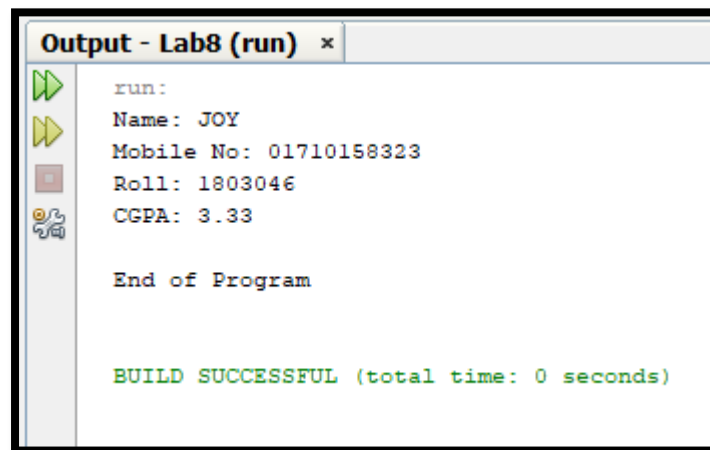
Output

Conclusion : By our Course Teachers help and my knowledge about Java, I completed the program.But still **I have some problem** working with **float type data**.

The End