

### Lab 3 :

Develop a class Emp which includes data fields namely name, salary and a member function called setdata() to pass the parameters name and salary from main to class and print name and salary through the function dispdata() and Include a non-parameterized constructor to initialize the name to "" and salary to zero.

Develop a derived class SkilledAsst to extend the attributes and functionalities of base class Emp. Build a constructor in the SkilledAsst to include first the constructor which was included in the base class Emp and include the data field allowance. Include a member function called setdata() to pass the parameters name,salary and allowance from main to class and print name , salary and allowance through the function dispdata()

Develop a derived class Manager to extend the attributes and functionalities of base class SkilledAsst. Build a constructor in the Manager to include first the constructor which was included in the base class SkilledAsst and include the data field bonus. Include a member function called setdata() to pass the parameters name,salary , allowance and bonus from main to class and print name , salary allowance and bonus through the function dispdata()

Develop a main Class EmpTest to create objects of Emp, SkilledAsst and Manager to pass the data fields and print them on the console.

#### Emp.java

```
package basic;
```

```
public class Emp {
```

```
    private String name;  
    private int salary;
```

```
    Emp()  
    {  
        name=" ";  
        salary=0;  
    }
```

```
    public void setdata(String name, int salary)  
    {  
        this.name=name;  
        this.salary=salary;  
    }
```

```

    public void dispdata()
    {
        System.out.println("Employee name : "+name);
        System.out.println("Employee salary : "+salary);
    }
}

```

SkilledAsst.java

**package** basic;

**public class** SkilledAsst **extends** Emp{  
     **private int** allowance;

```

    SkilledAsst()
    {
        super();
        allowance=0;
    }

```

```

    public void setdata(String name, int salary, int allowance)
    {
        super.setdata(name,salary);
        this.allowance=allowance;
    }

```

```

    public void dispdata()
    {
        super.dispdata();
        System.out.println("Employee's allowance : "+allowance);
    }
}

```

Manager.java

**package** basic;

**public class** Manager **extends** SkilledAsst {

```

    private int bonus;
    Manager ()
    {
        super();
        bonus=0;
    }

```

```

    }
    public void setdata(String name, int salary, int allowance, int bonus)
    {
        super.getdata(name,salary,allowance);
        this.bonus=bonus;
    }

    public void dispdata()
    {
        super.dispdata();
        System.out.println("Employee's bonus : "+bonus);
    }
}

```

EmpTest.java

```

package basic;

import java.io.*;
public class EmpTest {
    public static void main(String args[]){

        Emp e = new Emp();
        SkilledAsst s = new SkilledAsst();
        Manager m= new Manager();

        System.out.println("Details immediately after declaring objects : ");

        e.dispdata();
        s.dispdata();
        m.dispdata();

        System.out.println("Details after setting the data : ");
        e.setdata("Ram",1200);
        s.setdata("Ravi",1400,1000);
        m.setdata("Raja",1800,1500,2000);

        System.out.println("~~~~~Employee's details~~~~~");
        e.dispdata();
        System.out.println("~~~~~SkilledAsst's details ~~~~~");
        s.dispdata();
        System.out.println("~~~~~Manager's details~~~~~");
        m.dispdata();
    }
}

```

}

**o/p**

Details immediately after declaring objects :

Employee name :

Employee salary : 0

Employee name :

Employee salary : 0

Employee's allowance : 0

Employee name :

Employee salary : 0

Employee's allowance : 0

Employee's bonus : 0

Details after setting the data :

~~~~~Employee's details~~~~~

Employee name : Ram

Employee salary : 1200

~~~~~SkilledAsst's details ~~~~~

Employee name : Ravi

Employee salary : 1400

Employee's allowance : 1000

~~~~~Manager's details~~~~~

Employee name : Raja

Employee salary : 1800

Employee's allowance : 1500

Employee's bonus : 2000

}

**o/p**

Details immediately after declaring objects :

Employee name :

Employee salary : 0

Employee name :

Employee salary : 0

Employee's allowance : 0

Employee name :

Employee salary : 0

Employee's allowance : 0

Employee's bonus : 0

Details after setting the data :

~~~~~Employee's details~~~~~

Employee name : Ram

Employee salary : 1200

~~~~~SkilledAsst's details ~~~~~

Employee name : Ravi

Employee salary : 1400

Employee's allowance : 1000

~~~~~Manager's details~~~~~

Employee name : Raja

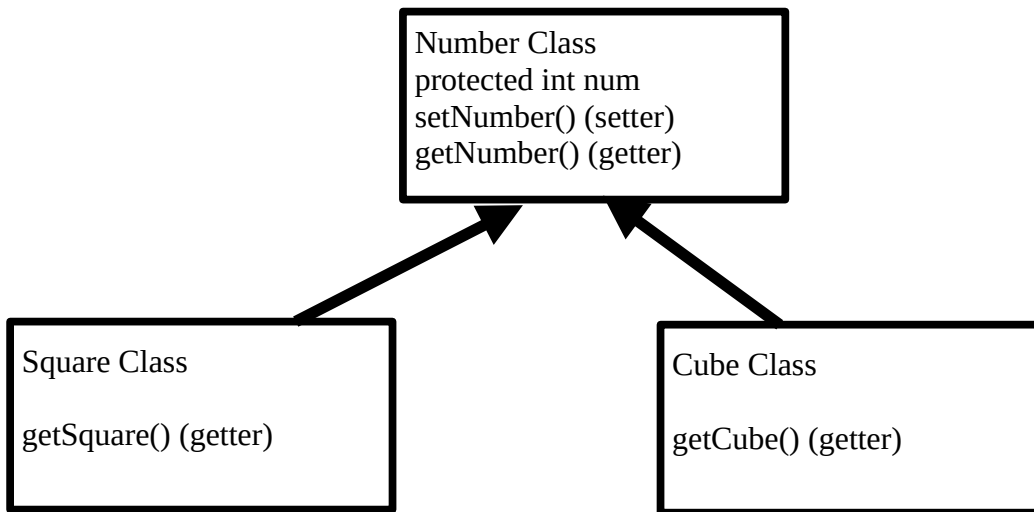
Employee salary : 1800

Employee's allowance : 1500

Employee's bonus : 2000

### Exercise 3

Java program to demonstrate example of **hierarchical inheritance** to get square and cube of a number as follows



#### Procedure :

First create the class Number with protected data member num ( scope must be protected) and member functions setNumber() and getNumber() to set data and return the values to main class.

Create a classes Square with getSquare() to return the result of square of the number and Cube with getCube() to return the result of the Cube

Create a main class Main\_Class to create objects for the classes Number, Square, Cube to set data member from main class to the class Number through setNumber() to get an input through key board and getNumber() to return the calculated results through getSquare() and getCube() from Square and Cube classes to main

#### Input and Output

Enter an integer number: 3

The square of the number 3 is 9

The cube of the number 3 is 27