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

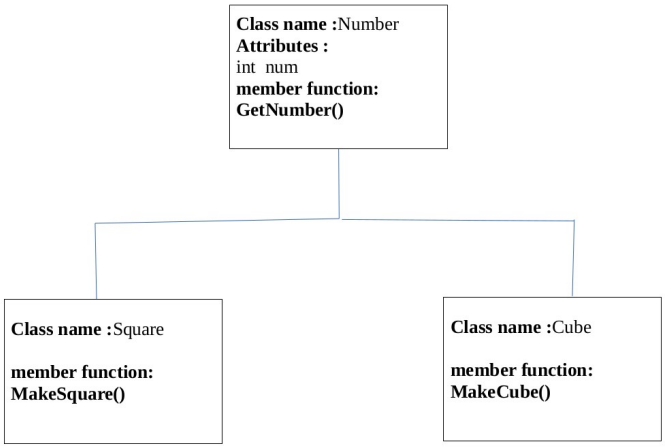
```
Details immediately after declaring objects :
Employee name :
Employee salary : 0
Employee name :
Employee salary : 0
Employee's allowance : 0
Employee name :
Employee salary : 0
Employee's allowance : 0
Employee's bonus : 0
Details  after setting the data :
~~~~~~~~~~~~Employee's details~~~~~~~~~~~~
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 inheritanc**e to get square and cube of a number as follows



Create objects for Square and Cube and call the functions MakeSquare() and MakeCube in maininput and output

Enter an integer number: 3
The square of the number is 9
Enter an integer number: 5
The cube of the number is 125