

Assignment No. 3

Aim : Inheritance

Problem Statement : Design and develop inheritance for a given case study, identify objects and relationships and implement inheritance wherever applicable. Employee class with Emp_name, Emp_id, Address, Mail_id, and Mobile_no as members. Inherit the classes, Programmer, Team Lead, Assistant Project Manager and Project Manager from employee class. Add Basic Pay (BP) as the member of all the inherited classes with 97% of BP as DA, 10 % of BP as HRA, 12% of BP as PF, 0.1% of BP for staff club fund. Generate pay slips for the employees with their gross and net salary.

1.Employee.java

```
import java.util.Scanner;
```

```
public class Employee  
{
```

```
    int empid;  
    String name;  
    long mobile;  
    String address;  
    String email;
```

```
    public Employee() {  
        this.empid = 0;  
        this.name = null;  
        this.mobile = 0;  
        this.address = null;  
        this.email = null;  
    }
```

```
    public Employee(int empid, String name, long mobile, String address, String email) {  
        super();  
        this.empid = empid;  
        this.name = name;  
        this.mobile = mobile;  
        this.address = address;  
        this.email = email;  
    }
```

```

public void input() {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter Employee ID: ");
    this.empid = sc.nextInt();
    System.out.println("Enter Employee Name: ");
    this.name = sc.next();
    System.out.println("Enter Mobile: ");
    this.mobile = sc.nextLong();
    System.out.println("Enter Email ID: ");
    this.email = sc.next();
    System.out.println("Enter Address: ");
    this.address = sc.next();
}

public void Display() {
    System.out.println("Employee ID: " + empid);
    System.out.println("Employee Name: " + name);
    System.out.println("Mobile No : " + mobile);
    System.out.println("Email ID: " + email);
    System.out.println("Address: " + address);
}
}

```

2. Programmer.java

```

import java.util.Scanner;
public class Programmer extends Employee
{
    double bp,da,hra,pf,club,net,gross,deduct;
    public Programmer()
    {
        this.bp=0;
        this.da=0;
        this.hra=0;
        this.pf=0;
        this.club=0;
        this.net=0;
        this.gross=0;
        this.deduct=0;
    }
    public Programmer(double bp,double da,double hra,double pf,double club,double net,double
gross,double deduct)
    {
        this.bp=bp;

```

```

        this.da=da;
        this.hra=hra;
        this.pf=pf;
        this.club=club;
        this.net=net;
        this.gross=gross;
        this.deduct=deduct;
    }
    public double getBasicPay()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Baic Pay for Programmer: ");
        bp=sc.nextDouble();
        return bp;
    }
    public void calculateSal(Programmer p)
    {
        double bp=p.getBasicPay();
        da=0.97*bp;
        hra=0.10*bp;
        pf=0.12*bp;
        gross=bp+da+hra;
        deduct=pf+club;
        net=gross-deduct;
    }
    public void displaySalSlip()
    {
        System.out.println("\n\n****PROGRAMMER SALARY SLIP****\n\n");
        this.Display();
        System.out.println("Basic Pay: "+this.bp);
        System.out.println("DA: "+this.da);
        System.out.println("HRA: "+this.hra);
        System.out.println("PF: "+this.pf);
        System.out.println("Staff Club: "+this.club);
        System.out.println("\n Gross Salary: "+this.gross);
        System.out.println("\n Deduction in Salary: "+this.deduct);
        System.out.println("\n Net Salary: "+this.net);
    }
}

```

3. TeamLead.java

```

import java.util.Scanner;
public class TeamLead extends Employee

```

```

{
    double bp,da,hra,pf,club,net,gross,deduct;
    public TeamLead()
    {
        this.bp=0;
        this.da=0;
        this.hra=0;
        this.pf=0;
        this.club=0;
        this.net=0;
        this.gross=0;
        this.deduct=0;
    }
    public TeamLead(double bp,double da,double hra,double pf,double club,double net,double
gross,double deduct)
    {
        this.bp=bp;
        this.da=da;
        this.hra=hra;
        this.pf=pf;
        this.club=club;
        this.net=net;
        this.gross=gross;
        this.deduct=deduct;
    }
    public double getBasicPay()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Baic Pay for Programmer: ");
        bp=sc.nextDouble();
        return bp;
    }
    public void calculateSal(TeamLead team)
    {
        double bp=team.getBasicPay();
        da=0.97*bp;
        hra=0.10*bp;
        pf=0.12*bp;
        gross=bp+da+hra;
        deduct=pf+club;
        net=gross-deduct;
    }
    public void displaySalSlip()
    {

```

```

        System.out.println("\n\n****PROGRAMMER SALARY SLIP****\n\n");
        this.Display();
        System.out.println("Basic Pay: "+this.bp);
        System.out.println("DA: "+this.da);
        System.out.println("HRA: "+this.hra);
        System.out.println("PF: "+this.pf);
        System.out.println("Staff Club: "+this.club);
        System.out.println("\n Gross Salary: "+this.gross);
        System.out.println("\n Deduction in Salary: "+this.deduct);
        System.out.println("\n Net Salary: "+this.net);
    }
}

```

4.AsstProjectManager.java

```

import java.util.Scanner;
public class AsstProjectManager extends Employee
{
    double bp,da,hra,pf,club,net,gross,deduct;
    public AsstProjectManager()
    {
        this.bp=0;
        this.da=0;
        this.hra=0;
        this.pf=0;
        this.club=0;
        this.net=0;
        this.gross=0;
        this.deduct=0;
    }
    public AsstProjectManager(double bp,double da,double hra,double pf,double club,double
net,double gross,double deduct)
    {
        this.bp=bp;
        this.da=da;
        this.hra=hra;
        this.pf=pf;
        this.club=club;
        this.net=net;
        this.gross=gross;
        this.deduct=deduct;
    }
    public double getBasicPay()

```

```

{
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter Baic Pay for Programmer: ");
    bp=sc.nextDouble();
    return bp;
}
public void calculateSal(AsstProjectManager apm)
{
    double bp=apm.getBasicPay();
    da=0.97*bp;
    hra=0.10*bp;
    pf=0.12*bp;
    gross=bp+da+hra;
    deduct=pf+club;
    net=gross-deduct;
}
public void displaySalSlip()
{
    System.out.println("\n\n****PROGRAMMER SALARY SLIP****\n\n");
    this.Display();
    System.out.println("Basic Pay: "+this.bp);
    System.out.println("DA: "+this.da);
    System.out.println("HRA: "+this.hra);
    System.out.println("PF: "+this.pf);
    System.out.println("Staff Club: "+this.club);
    System.out.println("\n Gross Salary: "+this.gross);
    System.out.println("\n Deduction in Salary: "+this.deduct);
    System.out.println("\n Net Salary: "+this.net);
}
}

```

5. ProjectManager.java

```

import java.util.Scanner;
public class ProjectManager extends Employee
{
    double bp,da,hra,pf,club,net,gross,deduct;
    public ProjectManager()
    {
        this.bp=0;
        this.da=0;
        this.hra=0;
        this.pf=0;
        this.club=0;
    }
}

```

```

        this.net=0;
        this.gross=0;
        this.deduct=0;
    }
    public ProjectManager(double bp,double da,double hra,double pf,double club,double
net,double gross,double deduct)
    {
        this.bp=bp;
        this.da=da;
        this.hra=hra;
        this.pf=pf;
        this.club=club;
        this.net=net;
        this.gross=gross;
        this.deduct=deduct;
    }
    public double getBasicPay()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Baic Pay for Programmer: ");
        bp=sc.nextDouble();
        return bp;
    }
    public void calculateSal(ProjectManager pm)
    {
        double bp=pm.getBasicPay();
        da=0.97*bp;
        hra=0.10*bp;
        pf=0.12*bp;
        gross=bp+da+hra;
        deduct=pf+club;
        net=gross-deduct;
    }
    public void displaySalSlip()
    {
        System.out.println("\n\n****PROGRAMMER SALARY SLIP****\n\n");
        this.Display();
        System.out.println("Basic Pay: "+this.bp);
        System.out.println("DA: "+this.da);
        System.out.println("HRA: "+this.hra);
        System.out.println("PF: "+this.pf);
        System.out.println("Staff Club: "+this.club);
        System.out.println("\n Gross Salary: "+this.gross);
        System.out.println("\n Deduction in Salary: "+this.deduct);
    }

```

```
        System.out.println("\n Net Salary: "+this.net);
    }
}
```

6. Salary.java

```
import java.util.Scanner;
public class Salary
{
    public static void main (String args[])
    {
        int m;
        char n;
        Scanner input=new Scanner(System.in);
        do
        {
            System.out.println("\n1.Programmer \n2.Team Lead \n3.Asst.Project Manager
\n4.Project Manager \n\nEnter Your Choice Here: ");
            m=input.nextInt();
            switch(m)
            {
                case 1:
                    Programmer prog=new Programmer();
                    prog.input();
                    prog.calculateSal(prog);
                    prog.displaySalSlip();
                    break;

                case 2:
                    TeamLead team=new TeamLead();
                    team.input();
                    team.calculateSal(team);
                    team.displaySalSlip();
                    break;

                case 3:
                    AsstProjectManager apm=new AsstProjectManager();
                    apm.input();
                    apm.calculateSal(apm);
                    apm.displaySalSlip();
                    break;

                case 4:
                    ProjectManager pm=new ProjectManager();
                    pm.input();
```



```
        pm.calculateSal(pm);
        pm.displaySalSlip();
        break;

        default:
            System.out.println("Wrong Choice");
    }
    System.out.println("\nDo You Want To Continue..?y/n");
    n=input.next().charAt(0);
}
while(n=='y');
System.out.println("Program Executed Successfully..");
}
```

Output

1.Programmer
2.Team Lead
3.Asst.Project Manager
4.Project Manager

Enter Your Choice Here:

1

Enter Employee ID:

28

Enter Employee Name:

Dinesh

Enter Mobile:

7588136563

Enter Email ID:

dinesh123@gmail.com

Enter Address:

94/A, Sector 13 Prabhu Co-Operative Society Mumbai-842561

Enter Baic Pay for Programmer:

49000

****PROGRAMMER SALARY SLIP****

Employee ID: 28

Employee Name: Dinesh

Mobile No : 7588136563

Email ID: dinesh123@gmail.com

Address: 94/A,

Basic Pay: 49000.0

DA: 47530.0

HRA: 4900.0

PF: 5880.0

Staff Club: 0.0

Gross Salary: 101430.0

Deduction in Salary: 5880.0

Net Salary: 95550.0

Do You Want To Continue..?y/n

y

1.Programmer

2.Team Lead

3.Asst.Project Manager

4.Project Manager

Enter Your Choice Here:

2

Enter Employee ID:

32

Enter Employee Name:

Sakshi

Enter Mobile:

8568365377

Enter Email ID:

sakshi789@gmail.com

Enter Address:

Lodhi Colony ,Sector 3, Delhi-110085

Enter Baic Pay for Programmer:

350000

****PROGRAMMER SALARY SLIP****

Employee ID: 32

Employee Name: Sakshi

Mobile No : 8568365377

Email ID: sakshi789@gmail.com

Address: Lodhi

Basic Pay: 350000.0

DA: 339500.0

HRA: 35000.0

PF: 42000.0

Staff Club: 0.0

Gross Salary: 724500.0

Deduction in Salary: 42000.0

Net Salary: 682500.0

Do You Want To Continue..?y/n

y

1.Programmer

2.Team Lead

3.Asst.Project Manager

4.Project Manager

Enter Your Choice Here:

3

Enter Employee ID:

38

Enter Employee Name:

Rahul

Enter Mobile:

8643903528

Enter Email ID:

rahul56@gmail.com

Enter Address:

Patel Chowk, Sansad Marg Area, New Delhi-110001

Enter Baic Pay for Programmer:

52000

****PROGRAMMER SALARY SLIP****

Employee ID: 38

Employee Name: Rahul

Mobile No : 8643903528

Email ID: rahul56@gmail.com

Address: Patel

Basic Pay: 52000.0

DA: 50440.0

HRA: 5200.0

PF: 6240.0

Staff Club: 0.0

Gross Salary: 107640.0

Deduction in Salary: 6240.0

Net Salary: 101400.0

Do You Want To Continue..?y/n
y

1.Programmer

2.Team Lead

3.Asst.Project Manager

4.Project Manager

Enter Your Choice Here:

4

Enter Employee ID:

56

Enter Employee Name:

Rina

Enter Mobile:

6793289635

Enter Email ID:

rina23@gmail.com

Enter Address:

Krishi Bhavan New Delhi-110115

Enter Baic Pay for Programmer:

49000

****PROGRAMMER SALARY SLIP****

Employee ID: 56

Employee Name: Rina

Mobile No : 6793289635

Email ID: rina23@gmail.com

Address: Krishi

Basic Pay: 49000.0

DA: 47530.0

HRA: 4900.0

PF: 5880.0

Staff Club: 0.0

Gross Salary: 101430.0

Deduction in Salary: 5880.0

Net Salary: 95550.0

Do You Want To Continue..?y/n

n

Program Executed Successfully..