Ex. No. 4	Inheritance
Date of Exercise	02-02-2017

Aim:

Employee Payroll System Using Inheritance

Write a menu driven application to maintain the employee payroll details using Java to demonstrate the concept of Inheritance. Assume that a company contains Permanent Employee and Contract Employee for whom the salary calculation varies. Your application must contain the following functionalities along with the use of method overriding, and super keyword.

a. For each employee your application must have the details such as name, empid, department, designation, experience, basicPay, DA, gradePay, personalPay, iTax, professionalTax, epf

b. Get the employee details from user

c. Display the Employee Pay Slip for the month of January 2016 with all details in a proper and neat format.

d. Give personalPay Rs. 2000 for all the permanent employee and Rs. 1000 for contract employee

Note:
1) Create a class called Employee. It should have following data members name, empid, department, designation, experience, basicPay, DA, gradePay, personalPay, iTax, professionalTax, epf. It should have following methods:
a) setter methods to set values of all data members.
b) void display () - to display all received data

2) Create a class called Permanent_Employee. It should inherit Employee class. It should have following data members: net_salary. It should have following method.
a) void display ( ) - to calculate and display net salary and other employee details. [net_salary can be calculated as follows: net_salary = basicPay + DA + gradePay + personalPay - iTax-professionalTax-epf]
b) void payslip( ) - to display payslip from January 2016. It should display employee details and net_salary from January 2016.

3) Create a class called Contract_Employee. It should inherit Employee class. It should have following data members: net_salary. It should have following method.
a) void display ( ) - to calculate and display net salary and other employee details. [net_salary can be calculated as follows: net_salary = basicPay + DA + gradePay + personalPay – iTax – professionalTax - epf]

b) void payslip( ) - to display payslip from January 2016. It should display employee details and net_salary from January 2016.

Algorithm:

1) Start.
2) Create a class called Employee. It should have following data members name, empid, department, designation, experience, basicPay, DA, gradePay, personalPay, iTax, professionalTax, epf.
3) Create a setter method to set values of all data members and display function to display all received data
4) Create a class called Permanent_Employee. It should inherit Employee class. It should have following data members: net_salary. It should have following method, display function to calculate and display net salary and other employee details. [net_salary can be calculated as follows: net_salary = basicPay + DA + gradePay + personalPay - iTax-professionalTax-epf] and payslip function to display payslip from January 2016. It should display employee details and net_salary from January 2016.
5) Create a class called Contract_Employee. It should inherit Employee class. It should have following data members: net_salary. It should have following method, display function to calculate and display net salary and other employee details. [net_salary can be calculated as follows: net_salary = basicPay + DA + gradePay + personalPay – iTax – professionalTax - epf] and payslip function to display payslip from January 2016. It should display employee details and net_salary from January 2016.
6) End.

Source Code:

```
package exp4;

import java.util.Scanner;

/**

 *

 * @author JUSTIN PAUL

 */

class Employee

{

   String name;
```

```
int empid;
String department;
String designation;
int Experience;
int basicpay,da,gradepay,personalpay,itax,professtax,epf;


public void setName(String name) {
   this.name = name;
}
public void setEmpid(int empid) {
   this.empid = empid;
}
public void setDepartment(String department) {
   this.department = department;
}
public void setDesignation(String designation) {
   this.designation = designation;
}
public void setExperience(int Experience) {
   this.Experience = Experience;
}
public void setBasicpay(int basicpay) {
   this.basicpay = basicpay;
}
public void setDa(int da) {
   this.da = da;
```

```
}
public void setGradepay(int gradepay) {
    this.gradepay = gradepay;
}

public void setPersonalpay(int personalpay) {
    this.personalpay = personalpay;
}
public void setItax(int itax) {
    this.itax = itax;
}
public void setProfesstax(int professtax) {
    this.professtax = professtax;
}
public void setEpf(int epf) {
    this.epf = epf;
}
void display()
{
    System.out.println("\nName of employee: "+name);
    System.out.println("Employee Id: "+empid);
    System.out.println("Department: "+department);
    System.out.println("Designation: "+designation);
    System.out.println("Experience: "+Experience);
    System.out.println("Basic Pay: "+basicpay);
    System.out.println("DA: "+da);
```

```
        System.out.println("Grade Pay: "+gradepay);
        System.out.println("Personal Pay: "+personalpay);
        System.out.println("Income Tax: "+itax);
        System.out.println("Professional Tax: "+professtax);
        System.out.println("Employee Provident Fund: "+epf);}}
class Permanent_Employee extends Employee
{
    int netsalary;
    void display()
    {
        super.display();
        netsalary=basicpay+da+gradepay+personalpay-itax-professtax-epf;
        System.out.println("Net Salary: "+netsalary);
    }
    void payslip()
    {
        for(int i=1;i<=12;i++)
         {
            System.out.println("Month "+i+" Details: ");
            display();
         } }}
class Contract_Employee extends Employee
{
    int netsalary;
    void display()
    {
```

```
        super.display();
        netsalary=basicpay+da+gradepay+personalpay-itax-professtax-epf;
        System.out.println("Net Salary: "+netsalary);
    }
 void payslip()
    {
         for(int i=1;i<=12;i++)
         {
            System.out.println("Month "+i+" Details: ");
            display();
         }}}
public class Exp4 {
    public static void main(String[] args) {
        Scanner s=new Scanner(System.in);
        System.out.print("Enter the number of employees for which data is to be entered: ");
        int n=s.nextInt();
        Employee []e1,e2;
        e1=new Permanent_Employee[n];
        e2=new Contract_Employee[n];
        String nam,dep,desg;
        int choice,basic,da,eid,exp,gp,pp,it,pt,epf;
        label:while(true){
        System.out.println("\nChoices to do..... ");
        System.out.println("1.Create Permanenet Employee");
        System.out.println("2.Create Contract Employee");
        System.out.println("3.Display");
```

```
System.out.println("4.Exit");
System.out.print("\nEnter your choice:");
choice=s.nextInt();
switch(choice)
{
   case 1:
      for(int i=0;i<n;i++)
      {
      e1[i]=new Permanent_Employee();
      System.out.println("Add details for Employee "+(i+1)+": ");
      System.out.print("\nEnter Employee name:");
      nam=s.next();
      e1[i].setName(nam);
      System.out.print("Enter Employee ID:");
      eid=s.nextInt();
      e1[i].setEmpid(eid);
      System.out.print("Enter Department of Employee:");
      dep=s.next();
      e1[i].setDepartment(dep);
      System.out.print("Enter Designation of Employee:");
      desg=s.next();
      e1[i].setDesignation(desg);
      System.out.print("Enter Experience of Employee:");
      exp=s.nextInt();
      e1[i].setExperience(choice);
      System.out.print("Enter Basic Pay:");
```

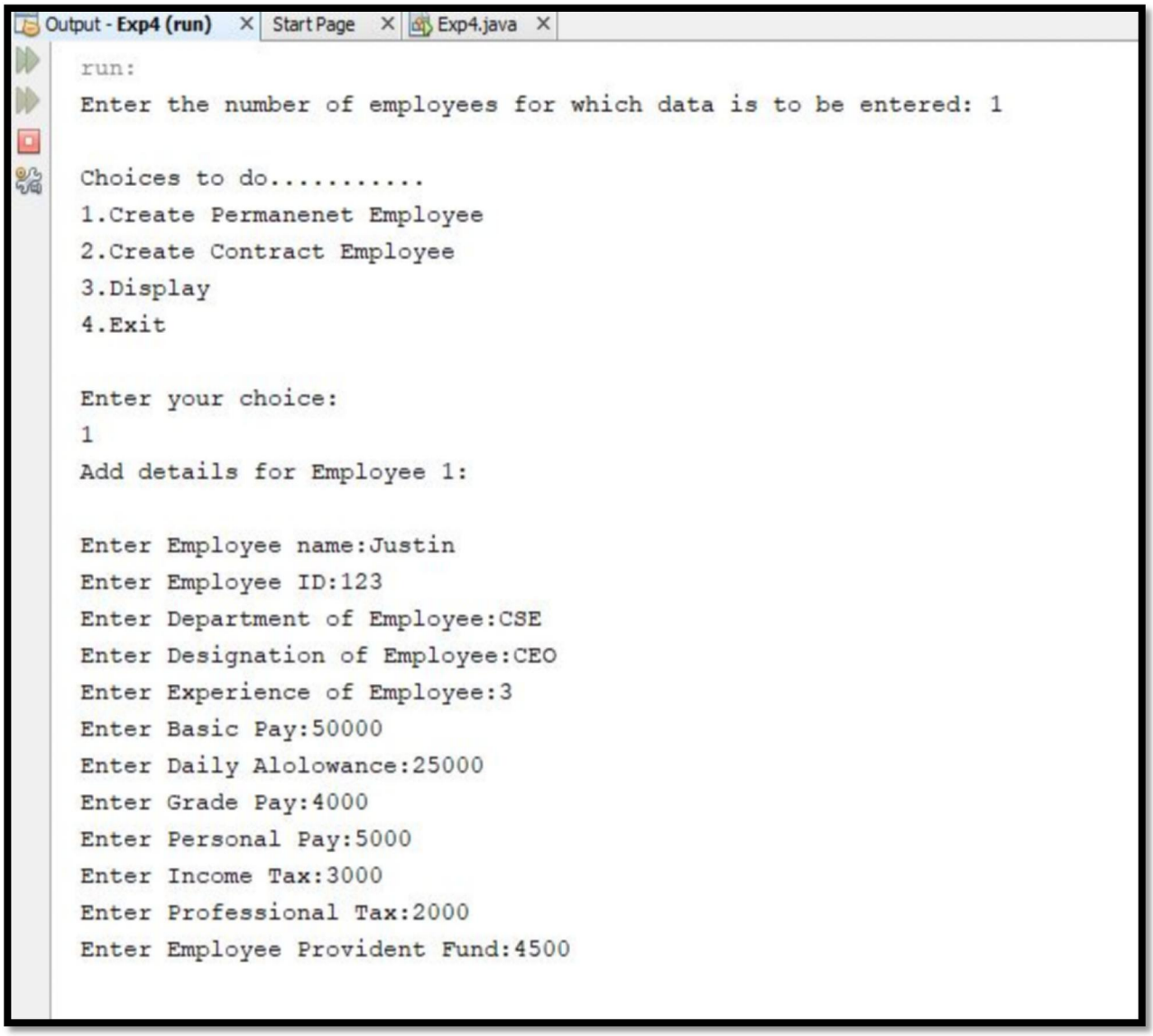
```
    basic=s.nextInt();
    e1[i].setBasicpay(basic);
    System.out.print("Enter Daily Alolowance:");
    da=s.nextInt();
    e1[i].setDa(da);
    System.out.print("Enter Grade Pay:");
    gp=s.nextInt();
    e1[i].setGradepay(gp);
    System.out.print("Enter Personal Pay:");
    pp=s.nextInt();
    e1[i].setPersonalpay(pp);
    System.out.print("Enter Income Tax:");
    it=s.nextInt();
    e1[i].setItax(it);
    System.out.print("Enter Professional Tax:");
    pt=s.nextInt();
    e1[i].setProfesstax(pt);
    System.out.print("Enter Employee Provident Fund:");
    epf=s.nextInt();
    e1[i].setEpf(epf);
    System.out.println("");
    }
    break;
  case 2:
    for(int i=0;i<n;i++)
    {
```

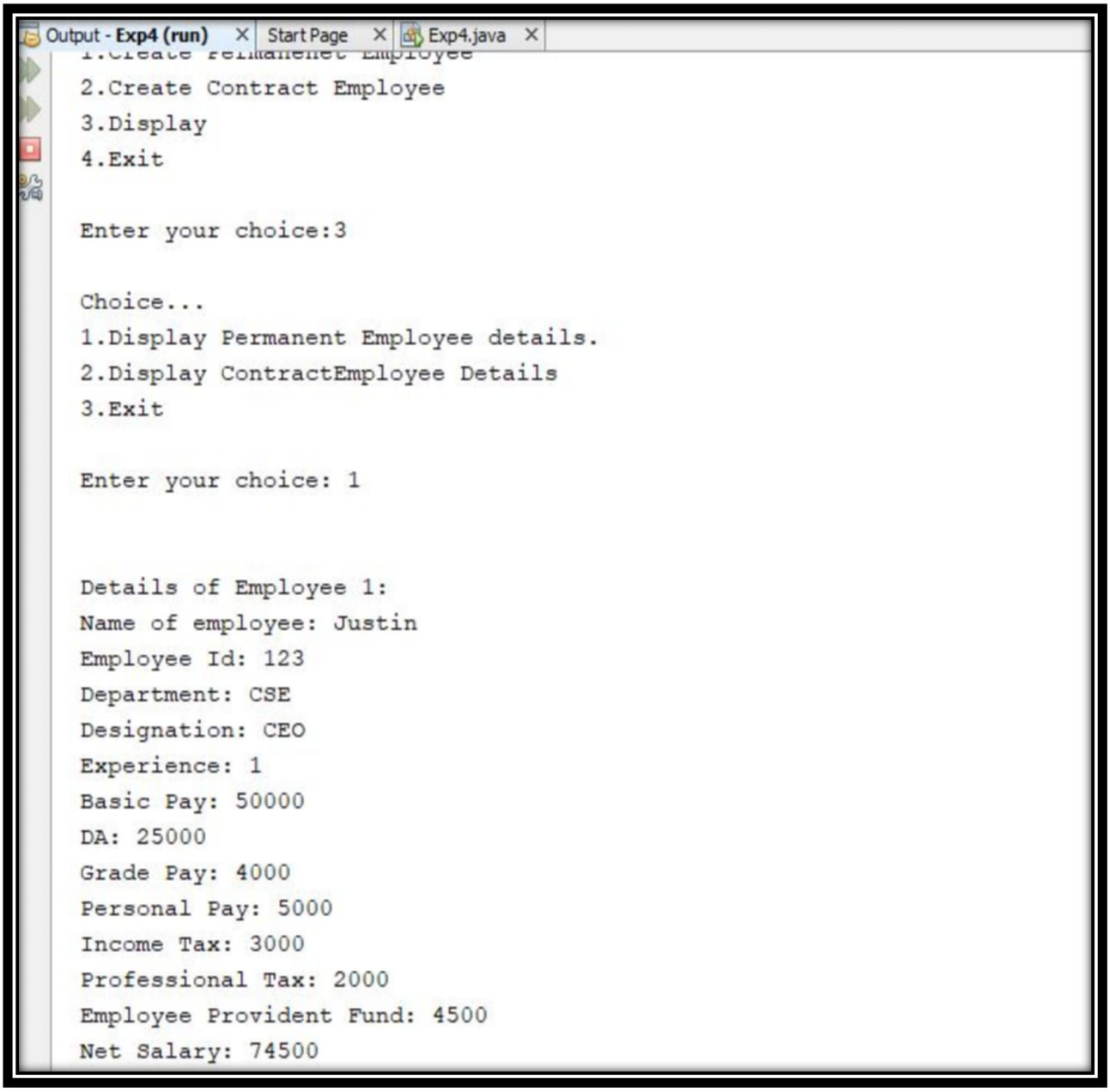
```
System.out.println("Add details for Employee "+(i+1)+": ");
e2[i]=new Contract_Employee();
System.out.print("\nEnter Employee name:");
nam=s.next();
e2[i].setName(nam);
System.out.print("Enter Employee ID:");
eid=s.nextInt();
e2[i].setEmpid(eid);
System.out.print("Enter Department of Employee:");
dep=s.next();
e2[i].setDepartment(dep);
System.out.print("Enter Designation of Employee:");
desg=s.next();
e2[i].setDesignation(desg);
System.out.print("Enter Experience of Employee:");
exp=s.nextInt();
e2[i].setExperience(choice);
System.out.print("Enter Basic Pay:");
basic=s.nextInt();
e2[i].setBasicpay(basic);
System.out.print("Enter Daily Alolowance:");
da=s.nextInt();
e2[i].setDa(da);
System.out.print("Enter Grade Pay:");
gp=s.nextInt();
e2[i].setGradepay(gp);
```

```
System.out.print("Enter Personal Pay:");
pp=s.nextInt();
e2[i].setPersonalpay(pp);
System.out.print("Enter Income Tax:");
it=s.nextInt();
e2[i].setItax(it);
System.out.print("Enter Professional Tax:");
pt=s.nextInt();
e2[i].setProfesstax(pt);
System.out.print("Enter Employee Provident Fund:");
epf=s.nextInt();
e2[i].setEpf(epf);
System.out.println("");
}
break;
case 3:
System.out.println("\nChoice...\n1.Display Permanent Employee details.\n2.Display Contract"
        + "Employee Details\n3.Exit");
System.out.print("\nEnter your choice: ");
int cho=s.nextInt();
System.out.println("");
if(cho==1)
{
for(int i=0;i<n;i++)
{
 System.out.print("\nDetails of Employee "+(i+1)+": ");
```

```
            e1[i].display();
          }
          }
          if(cho==2)
          {
             for(int i=0;i<n;i++)
          {
            System.out.print("\nDetails of Employee "+(i+1)+": ");
            e2[i].display();
          }
          }
          if(cho==3)
          {
             break label;
          }
          if(cho<=0 &&cho>3)
          {
             System.out.println("Wrong Choice!!!!!Try Again.....");
          }
          break;
       case 4:
          System.exit(0);
    }}}}
```

Input & Output:





Video URL:

https://www.youtube.com/watch?v=lxaP30kRfBs

Result:

The program to a create a menu driven java application to demonstrate the Employee Payment roll using inheritance is implemented successfully, and the output is verified.