

Ex 3 :

OOPS LAB

Code :

Employee.java :

```
package employee;

import java.io.*;

public class Employee{

    String Emp_name;

    int Emp_id;

    String Address;

    String Mail_id;

    int Mobile_no;


    public Employee(String Emp_name, int Emp_id, String Address, String Mail_id, int
Mobile_no) {

        this.Emp_name = Emp_name;

        this.Emp_id = Emp_id;

        this.Address = Address;

        this.Mail_id = Mail_id;

        this.Mobile_no = Mobile_no;

    }


    public void display(FileWriter log) throws IOException{

        System.out.println("Employee ID: " + Emp_id);

        log.write("Employee ID: " + Emp_id + "\n");

    }

}
```

```
System.out.println("Name    : " + Emp_name);
```

```
log.write("Name    : " + Emp_name + "\n");
```

```
System.out.println("Address  : " + Address);
```

```
log.write("Address  : " + Address + "\n");
```

```
System.out.println("Email    : " + Mail_id);
```

```
log.write("Email    : " + Mail_id + "\n");
```

```
System.out.println("Mobile No. : " + Mobile_no);
```

```
log.write("Mobile No. : " + Mobile_no + "\n");
```

```
}
```

```
public void paySlip(FileWriter log) throws IOException{
```

```
    System.out.println("no data");
```

```
}
```

```
}
```

Professor.java :

```
package employee;
```

```
import java.io.FileWriter;
```

```
import java.io.IOException;
```

```
public class Professor extends Employee {
```

```
    private double bpay;
```

```
    private String des;
```

```
public Professor(String name, int id, String address, String mail, int phone, double
bPay) {

    super(name, id, address, mail, phone);

    this.bpay = bPay;

    this.des = "Professor";

}
```

@Override

```
public void paySlip(FileWriter log) throws IOException{
```

```
    double da = 0.97 * bpay;
```

```
    double hra = 0.10 * bpay;
```

```
    double pf = 0.12 * bpay;
```

```
    double club = 0.001 * bpay;
```

```
    double gross = bpay + da + hra;
```

```
    double net = gross - pf - club;
```

```
    System.out.println("Designation : " + des);
```

```
    log.write("Designation : " + des + "\n");
```

```
    System.out.println("Basic Pay : " + bpay);
```

```
    log.write("Basic Pay : " + bpay + "\n");
```

```
    System.out.println("Gross Pay : " + gross);
```

```
    log.write("Gross Pay : " + gross + "\n");
```

```
    System.out.println("Net Pay : " + net);
```

```
    log.write("Net Pay : " + net + "\n");
```

```
}  
}
```

Programmer.java :

```
package employee;
```

```
import java.io.FileWriter;
```

```
import java.io.IOException;
```

```
public class Programmer extends Employee{
```

```
    double bpay;
```

```
    String des;
```

```
    public Programmer(String name, int id, String address, String mail, int phone, double  
bpay) {
```

```
        super(name, id, address, mail, phone);
```

```
        this.bpay = bpay;
```

```
        this.des = "Programmer";
```

```
    }
```

```
    @Override
```

```
    public void paySlip(FileWriter log) throws IOException{
```

```
        double da = 0.97 * bpay;
```

```
        double hra = 0.10 * bpay;
```

```
        double pf = 0.12 * bpay;
```

```
        double club = 0.001 * bpay;
```

```
        double gross = bpay + da + hra;
```

```
        double net = gross - pf - club;
```

```
        System.out.println("Designation : " + des);
```

```

        log.write("Designation : " + des + "\n");

        System.out.println("Basic Pay : " + bpay);
        log.write("Basic Pay : " + bpay + "\n");

        System.out.println("Gross Pay : " + gross);
        log.write("Gross Pay : " + gross + "\n");

        System.out.println("Net Pay : " + net);
        log.write("Net Pay : " + net + "\n");
    }
}

```

AssistanceProfessor.java:

```

package employee;

import java.io.FileWriter;
import java.io.IOException;

public class AssistantProfessor extends Employee {

    double bpay;

    String des;

    public AssistantProfessor(String name, int id, String address, String mail, int phone,
double bPay) {

        super(name, id, address, mail, phone);

        this.bpay = bPay;

        this.des = "Assistant Professor";
    }
}

```

```
}
```

```
@Override
```

```
public void paySlip(FileWriter log) throws IOException{
```

```
    double da = 0.97 * bpay;
```

```
    double hra = 0.10 * bpay;
```

```
    double pf = 0.12 * bpay;
```

```
    double club = 0.001 * bpay;
```

```
    double gross = bpay + da + hra;
```

```
    double net = gross - pf - club;
```

```
    System.out.println("Designation : " + des);
```

```
    log.write("Designation : " + des + "\n");
```

```
    System.out.println("Basic Pay  : " + bpay);
```

```
    log.write("Basic Pay  : " + bpay + "\n");
```

```
    System.out.println("Gross Pay  : " + gross);
```

```
    log.write("Gross Pay  : " + gross + "\n");
```

```
    System.out.println("Net Pay   : " + net);
```

```
    log.write("Net Pay   : " + net + "\n");
```

```
}
```

```
}
```

AssociateProfessor.java :

```
package employee;
```

```
import java.io.FileWriter;
```

```
import java.io.IOException;
```

```
public class AssociateProfessor extends Employee {
```

```
    double bpay;
```

```
    String des;
```

```
    public AssociateProfessor(String name, int id, String address, String mail, int phone,  
double bPay) {
```

```
        super(name, id, address, mail, phone);
```

```
        this.bpay = bPay;
```

```
        this.des = "Associate Professor";
```

```
    }
```

```
@Override
```

```
public void paySlip(FileWriter log) throws IOException{
```

```
    double da = 0.97 * bpay;
```

```
    double hra = 0.10 * bpay;
```

```
    double pf = 0.12 * bpay;
```

```
    double club = 0.001 * bpay;
```

```
    double gross = bpay + da + hra;
```

```
    double net = gross - pf - club;
```

```
    System.out.println("Designation : " + des);
```

```
    log.write("Designation : " + des + "\n");
```

```
    System.out.println("Basic Pay : " + bpay);
```

```
    log.write("Basic Pay : " + bpay + "\n");
```

```

        System.out.println("Gross Pay : " + gross);
        log.write("Gross Pay : " + gross + "\n");

        System.out.println("Net Pay : " + net);
        log.write("Net Pay : " + net + "\n");
    }
}

```

Ex3.java :

```

import employee.*;
import java.io.*;
import java.util.*;

public class ex3 {
    public static void main(String[] args) {
        try {
            FileWriter log = new FileWriter("log3.txt", true);

            Scanner sc = new Scanner(System.in);

            ArrayList<Employee> empList = new ArrayList<>();

            System.out.println("Enter number of employees:");
            log.write("Enter number of employees:\n");

            int n = Integer.parseInt(sc.nextLine());
            log.write(n + "\n");

            for (int i = 0; i < n; i++) {

```

```
System.out.println("\nEnter Employee Type (1: Programmer, 2: Assistant Prof, 3: Associate Prof, 4: Professor):");
```

```
log.write("\nEnter Employee Type (1: Programmer, 2: Assistant Prof, 3: Associate Prof, 4: Professor):\n");
```

```
int type = Integer.parseInt(sc.nextLine());
```

```
log.write(type + "\n");
```

```
System.out.println("Enter Name:");
```

```
log.write("Enter Name:\n");
```

```
String name = sc.nextLine();
```

```
log.write(name + "\n");
```

```
System.out.println("Enter ID:");
```

```
log.write("Enter ID:\n");
```

```
int id = Integer.parseInt(sc.nextLine());
```

```
log.write(id + "\n");
```

```
System.out.println("Enter Address:");
```

```
log.write("Enter Address:\n");
```

```
String address = sc.nextLine();
```

```
log.write(address + "\n");
```

```
System.out.println("Enter Mail ID:");
```

```
log.write("Enter Mail ID:\n");
```

```
String mail = sc.nextLine();
```

```
log.write(mail + "\n");
```

```
System.out.println("Enter Mobile No:");
```

```
log.write("Enter Mobile No:\n");
```

```
int phone = Integer.parseInt(sc.nextLine());
```

```
log.write(phone + "\n");
```

```
System.out.println("Enter Basic Pay:");
```

```
log.write("Enter Basic Pay:\n");
```

```
double bpay = Double.parseDouble(sc.nextLine());
```

```
log.write(bpay + "\n");
```

```
switch (type) {
```

```
    case 1:
```

```
        empList.add(new Programmer(name, id, address, mail, phone, bpay));
```

```
        break;
```

```
    case 2:
```

```
        empList.add(new AssistantProfessor(name, id, address, mail, phone,  
bpay));
```

```
        break;
```

```
    case 3:
```

```
        empList.add(new AssociateProfessor(name, id, address, mail, phone,  
bpay));
```

```
        break;
```

```
    case 4:
```

```
        empList.add(new Professor(name, id, address, mail, phone, bpay));
```

```
        break;
    default:
        System.out.println("Invalid Employee Type");
        log.write("Invalid Employee Type\n");
        break;
    }
}

for (Employee emp : empList) {
    emp.display(log);
    emp.paySlip(log);
}

log.close();
sc.close();
} catch (IOException | NumberFormatException e) {
    System.err.println("Error: " + e.getMessage());
}
}
}
```