

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");
}

}
```

AssistantProfessor.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());
}

}
```