

JA111 Day 13 Assignment

Q1) Explain about the Marker interface?

Q2) Why multiple Inheritance is not supported in Java at the class Level?

Q3) Create an Employee class with the following protected fields:

```
employeeId: Integer  
employeeName: String  
salary: double
```

Use appropriate getter setter methods.

Write a public 2 argument constructor with arguments – employeeId, and employeeName.

Write an abstract method inside the Employee class

```
calculateSalary: void
```

Create another class PermanentEmployee as a child of the above Employee class and inside this class define one private field

```
basicPay: double
```

Define a 3 parameter constructor inside this class to take (employeeId, employeeName and basicPay).

Implement the calculateSalary method in PermanentEmployee class as

```
salary = basicPay - PF amount;
```

Set this value to the salary attribute.

Here PF Amount = basicPay * 0.12

Create another class TemporaryEmployee as a child of Employee class with the following private fields:

```
hoursWorked: Integer  
hourlyWages: Integer
```

Define a 4 argument constructor with arguments – employeeId, employeeName, hoursWorked and hourlyWages.

Implement the calculateSalary method in TemporaryEmployee class as

```
salary = hoursWorked * hourlyWages
```

Set this value to the salary attribute.

Develop a class Loan inside this Loan class define a method calculateLoanAmount as follows:

```
public double calculateLoanAmount(Employee employeeObj)
```

This method should calculate the loan amount and return that amount.

Provide the implementation for this method as mentioned below

Loan amount is calculated as follows :

- If the Employee object is of type PermanentEmployee then loan amount should be 15% of the salary.
- If the Employee object is of type TemporaryEmployee then loan amount should be 10% of the salary.

Note: Inside the Loan class make sure to have a private constructor

Define a Main class with the main method and inside the main method, get the Loan class object and call the calculateLoanAmount() method 2 times:

1. by supplying PermanentEmployee object
2. by supplying TemporaryEmployee object

and display the appropriate result.

```
class Main{
    public static void main(String[] args) {

        //Create a Loan object by name loan
        double permanentEmployeeLoan=loan.calculateLoanAmount(new
PermanentEmployee(1,"Name1",1000));
        double temporaryEmployeeLoan=loan.calculateLoanAmount(new
TemporaryEmployee(2,"Name2",20,100));

        System.out.println("Loan Amount for Permanent Employee => "+permanentEmployeeLoan);
        System.out.println("Loan Amount for Temporary Employee => "+temporaryEmployeeLoan);

    }

}
```

Sample Output ->

```
Loan Amount for Permanent Employee => 132.0
Loan Amount for Temporary Employee => 200.0
```