Lab Assignment-08

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QUES 1: Define two packages as – General and Marketing. In General package define a class employee with data members as empid(protected), ename(private) and a public method as earnings() which calculate total earnings as earnings = basic + DA (80% of basic) + HRA (15% of basic). In Marketing package define a class ‚sales" which is extending from ‚employee class and has a method tallowance() which calculates Travelling Allowance as 5% of total earning. Write the programs to find out total earning of a sales person for the given basic salary amount and print along with the emp id.

SOLUTION:

Employee.java

```java
package General;
public class Employee {
    protected int empid;
    private String ename;
    private double basic, DA, HRA;
    public Employee(String n, int id, double b) {
        ename = n;
        basic = b;
        empid = id;
        DA = b * 0.8;
        HRA = b * 0.5;
    }
    public double earnings() {
        return basic + DA + HRA;
    }
    public void printName() {
        System.out.println("Name: " + ename);
    }
}
```
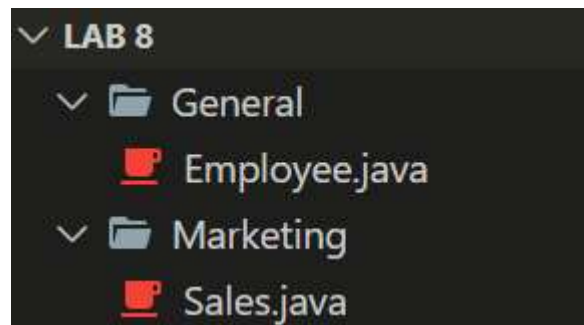
Sales.java

```java
package Marketing;
import java.util.*;
import General.*;
class Saless {
    public static double tallowance(double e) {
        return e * 0.05;
    }
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Name: ");
        String name = sc.nextLine();
        System.out.println("Enter Employee ID: ");
        int id = sc.nextInt();
        System.out.println("Enter Basic salary: ");
```

```java
            double sal = sc.nextDouble();
            Employee obj1 = new Employee(name, id, sal);
            obj1.printName();
            double e = obj1.earnings();
            System.out.println("Earnings: " + e);
            System.out.println("Travel Allowance: " + tallowance(e));
            System.out.println("Employee ID: " + id);
            sc.close();
    }
}
```

Package Creation:

OUTPUT:

```
Enter Name:
Sahil
Enter Employee ID:
2005535
Enter Basic salary:
120000
Name: Sahil
Earnings: 276000.0
Travel Allowance: 13800.0
Employee ID: 2005535
```

QUES 2: Define an interface Motor with a data member –capacity and two methods such as run() and consume(). Define a Java class Washing machine which implements this interface and write the code to check the value of the interface data member thru an object of the class.

SOLUTION:

```java
import java.util.Scanner;
interface motor {
    void run();
    int c = 10;
    void consume();
}
class WM implements motor {
    Scanner input = new Scanner(System.in);
    int lt;
```

```java
    public void consume() {
        System.out.println("Enter the litres of water available: ");
        lt = input.nextInt();
    }
    public void run() {
        if (lt > c) {
            System.out.println("Error, cannot run");
        } else {
            System.out.println("Okay, can run");
        }
    }
}
class Lab8Q2 {
    public static void main(String[] args) {
        motor a = new WM();
        a.consume();
        a.run();
    }
}
```

OUTPUT:

```
Enter the litres of water available:
4
Okay, can run
------------------------------------------------------------------------------
```