**Exercise 2: Implementing the Factory Method Pattern**

Code (Input) :

interface Plan {

void getRate();

void calculateBill(int units);

}

class DomesticPlan implements Plan {

private double rate;

public void getRate() {

rate = 3.50;

}

public void calculateBill(int units) {

System.out.println("Domestic Bill: " + (units \* rate));

}

}

class CommercialPlan implements Plan {

private double rate;

public void getRate() {

rate = 7.50;

}

public void calculateBill(int units) {

System.out.println("Commercial Bill: " + (units \* rate));

}

}

class PlanFactory {

public Plan getPlan(String planType) {

if (planType == null) return null;

if (planType.equalsIgnoreCase("DOMESTIC")) return new DomesticPlan();

if (planType.equalsIgnoreCase("COMMERCIAL")) return new CommercialPlan();

return null;

}

}

public class Main {

public static void main(String[] args) {

PlanFactory factory = new PlanFactory();

Plan p1 = factory.getPlan("DOMESTIC");

p1.getRate();

p1.calculateBill(100);

Plan p2 = factory.getPlan("COMMERCIAL");

p2.getRate();

p2.calculateBill(100);

}

}

Output :

A screenshot of a computer

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