**Question 3:**

**a.** Create a super class called Vehicle. The Vehicle class has the following fields and methods.

◦int speed; ◦double regularPrice; ◦String color; ◦double getSalePrice();

**b.** Create a sub class of Vehicle class and name it as Truck. The Truck class has the following fields and methods.

◦int weight;

-Now override the double getSalePrice() method from its super class and apply the following logic-

If weight>2000,10% discount. Otherwise no discount on regularPrice.

-Now in main method of Truck class, create an instance of Truck class and initialize all the fields with appropriate values. Use super(...) method in the constructor for initializing the fields of the superclass and call the getSalePrice() method to display the sale price of that Truck.

**Solution:**

**//Vehicle class**

public class Vehicle {

private int speed;

private double regularPrice;

private String color;

public Vehicle (int Speed,double regularPrice,String color) {

this.speed = Speed;

this.regularPrice = regularPrice;

this.color = color;

}

public double getSalePrice() {

return regularPrice;

}

}

**// Truck class, subclass of Vehicle**

public class Truck extends Vehicle {

private int weight;

public Truck (int speed, double regularPrice, String color, int weight) {

super(speed,regularPrice,color);

this.weight = weight;

}

@Override

public double getSalePrice() {

if (weight > 2000){

return super.getSalePrice() - (0.1 \* super.getSalePrice());

}

else {

return super.getSalePrice();

}

}

public static void main(String[] args) {

Truck truck = new Truck(160, 20000, "Red", 2500);

System.out.println("Truck Sale Price is "+ truck.getSalePrice());

}

}