1.Create a class called Car.

Create 2 parameters called: color and yearProduction.

Create constructor with all elements.

Create method called fuelConsumption to calculate amount of fuel used per unit distance (1 liter =70 denars , car consume 5 liter at 100 km).

Create another class called Audi which will inherit from a class Car.

In this class create a parameter called numDoors.

Create constructor that will have numDoors as a parameter additionally to the ones inherited from Car class.

In the main class, under the main method write a code using polymorphism(parent class to refers the object of child class), when you execute it, to print out car’s: color,year of production, number of doors and amount of fuel used per unit distance.

Class CAR

public class Car {  
 public String color;  
 public int yearOfProduction;  
  
 public Car(String colorValue, int yearOfProductionValue) {  
 color = colorValue;  
 yearOfProduction = yearOfProductionValue;  
 }  
  
  
  
 public double fuelConsumption(double x, double y, double z) {  
 return ((x / y) \* z);  
 }  
  
 public void print() {  
  
 System.*out*.println("The color of the car is " + color);  
 System.*out*.println("The year of production is " + yearOfProduction);  
 System.*out*.println("The fuel consumption is " + fuelConsumption(5, 100, 70) + " denars");  
  
 }  
 }

Class AUDI

public class Audi extends Car {  
  
 public int numDoors;  
  
 public Audi(String colorValue, int yearOfProductionValue, int numDoorsValue) {  
 super(colorValue, yearOfProductionValue);  
 numDoors = numDoorsValue;  
  
 }  
  
 public void print() {  
  
 super.print();  
 System.*out*.println("The number of doors is " + numDoors);  
  
 }  
}

Class MAIN

public class Main {  
  
 public static void main(String[] args) {  
 // write your code here  
  
 Car newAudi = new Audi("Black", 2019, '5');  
  
 newAudi.print();  
  
 }  
}

2. Method overriding.

Bank is a class that provides a method to get the rate of interest.

The rate of interest may differ according to banks. For example, NLB, Sparkasse, and Halk banks are providing 8.4%, 7.3%, and 9.7% rate of interest.

Create classes : Bank ,NLB, Sparkasse, and Halk. NLB, Sparkasse, and Halk classes extends Bank class and overrides its method. In the main class, call the getRateInterest method by the reference variable of Bank (parent) class. Refers to the subclass object, subclass method to overrides the Bank class method (parent class).

In the main class, print out interest rate of each bank.

Class Bank

public class Bank {  
  
 public String rateOfInterest() {  
 return "Not specified";  
  
 }  
}

Class NLB

public class NLB extends Bank {  
  
 public String rateOfInterest() {  
 return "8,4 %";  
 }  
}

Class Sparkasse

public class Sparkasse extends Bank {  
  
 public String rateOfInterest() {  
 return "7,3 %";  
 }  
}

Class Halk

public class Halk extends Bank {  
  
 public String rateOfInterest() {  
 return "9,7 %";  
 }  
}

Class Main

public class Main {  
  
 public static void main(String[] args) {  
 // write your code here  
  
 Bank nlbBank = new NLB();  
 Bank sparkasseBank = new Sparkasse();  
 Bank halkBank = new Halk();  
  
 System.*out*.println(nlbBank.rateOfInterest());  
 System.*out*.println(sparkasseBank.rateOfInterest());  
 System.*out*.println(halkBank.rateOfInterest());  
  
  
  
 }  
}