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public class Vehicle {
protected String name;
protected String id;
public Vehicle (String name, String id){
    this.name=name;
    this.id=id;
}

/*public void set (String name, String id){
    this.name=name;
    this.id=id;
}*/

public void setName(String name) {
    this.name = name;
}

public void setId(String id) {
    this.id = id;
}

public void display(){
    System.out.println("Name :" + name);
    System.out.println("Id :"+ id);
}

}

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public class CarElement {
private String code;
private double price;
public CarElement (String code, double price){
    this.code=code;
    this.price=price;
}
public CarElement (CarElement c){
    this.code=c.code;
    this.price=c.price;
}
public void display(){

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        System.out.println("Code: "+code);
        System.out.println("price: "+ price);
    }
    public double getprice(){
        return price;
    }
}
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public class Car extends Vehicle {
    private int seatNb;
    private int year;
    private int ncel;
    private CarElement e[];
    public Car(String name, String id, int seatNb, int year, int
size){
        super(name,id);
        this.seatNb =seatNb;
        this.year =year;
        ncel=0;
        e= new CarElement[size];

    }
    public void display(){
        System.out.println("car information");
        super.display();
        System.out.println("year :"+year);
        System.out.println("seat nnumber : " +seatNb);
        for (int i=0; i< ncel;i++)
            e[i].display();
        System.out.println("-----");
    }
    public boolean isFull(){
        return ncel==e.length;
    }
    public void copyCar (Car c){
        this.name =c.name ;
        this.year =c.year ;
        this.id = c.id ;
        this.seatNb = c.seatNb ;
        this.ncel = c.ncel ;
        this.e =new CarElement [c.e.length ];
        for(int i=0; i<this.ncel ;i++)
            this.e[i]=new CarElement (c.e[i]);
    }
}

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    }
    public boolean addElement (CarElement ee){
        if (isFull())
            return false;
        else {
            e[ncel++]= new CarElement (ee);
            return true;
        }
    }

    public double priceCar(){
        double price =0;
        for(int i =0; i<ncel;i++)
            price += e[i].getprice();
        return price;
    }

    public String getName(){
        return name;
    }

    public String getId(){
        return id;
    }

    public int getYear(){
        return year;
    }
}

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public class KSUCars {
    private int nbc;
    private Car c[];
    public KSUCars (int size){
        c=new Car [size];
        nbc=0;
    }

    public void display(){
        System.out.println("=====");
        for(int i=0; i< nbc; i++)
            c[i].display();
    }
}

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public boolean isEmpty(){
    return nbc ==0;
}

public int searchCar (String Name){
    for(int i=0;i<nbc;i++){
        if (c[i].getName().equals(Name))
            return i;
    }
    return -1;
}

public Car getCar(String Id){
    for(int i =0;i<nbc;i++){
        if(c[i].getId().equals(Id))
            return c[i];
    }
    return null;
}

public Car removeCar (String Name){
    int loc = searchCar (Name);
    if (loc ==-1)
        return null;
    else{
        Car temp = c[loc];
        for(int i= loc; i< nbc-1;i++)
            c[i] = c[i+1];
        c[nbc-1]=null;
        nbc--;
        return temp;
    }
}

public double averagePice (int Year){
    int count =0;
    double total=0;
    for(int i=0; i<nbc;i++)
    {
        if (c[i].getYear()> Year)
        {count++;
        total +=c[i].priceCar();

        }
    }
    if(count==0)
        return 0;
}

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    else return total/count;  
}
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