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public class CarElements {

    private String name;
    private double price;

    public CarElements(String nn, double pp)
    {
        name = nn;
        price = pp;
    }

    public CarElements(CarElements CE)
    {
        this.name = CE.name;
        this.price = CE.price;
    }

    public void display()
    {
        System.out.println("The name is : " + name);
        System.out.println("The price is: " + price);
    }

    public String getName() {
        return name;
    }

    public double getPrice() {
        return price;
    }

}

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public class Car {

    private String name;
    private String Id;

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private int nbseats;
private int year;
private CarElements [] ArrEl;
private int nbe;

public Car(String nn, String ii, int nbs, int yy,int size)
{
    name = nn;
    Id = ii;
    nbseats = nbs;
    year = yy;

    ArrEl = new CarElements[size];
    nbe =0;

}

public boolean isFull()
{
    return(nbe == ArrEl.length);
}

public boolean addCarElement(CarElements CE )
{
    if(isFull())
        return false;
    else
    {
        ArrEl[nbe++] = new CarElements(CE);
        return true;
    }
}

public void display()
{
    System.out.println("The name is : " + name);
    System.out.println("The Id is : " + Id);
    System.out.println("The nb of seats is : " + nbseats);
    System.out.println("The year is : " + year);

    for(int i = 0; i< nbe; i++)
        ArrEl[i].display();
}

public double priceCar()
{

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        double sum =0;
        for(int i = 0; i< nbe; i++)
            sum = sum + ArrEl[i].getPrice();

        return sum;
    }

    public String getName() {
        return name;
    }

    public String getId() {
        return Id;
    }

    public int getYear() {
        return year;
    }

}

```

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public class KSUCars {

    private Car [] ArrCars;
    private int nbc;

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

    public boolean addCar(Car CC)
    {
        if(nbc < ArrCars.length)
        {
            ArrCars[nbc++] = CC;
            return true;
        }
    }
}

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        else
            return false;
    }
    public void display()
    {
        for(int i = 0; i<nbc; i++)
        {
            ArrCars[i].display();
        }
    }

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

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

        return null;
    }

    public double averagePrice(int yy)
    {
        double sum =0;
        int count =0;
        for(int i = 0; i<nbc; i++)
        {
            if(ArrCars[i].getYear() > yy)
            {
                count++;
                sum+= ArrCars[i].priceCar();
            }
        }
    }

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        if(count != 0)
            return sum/count;
        else
            return 0.0;
    }

    public boolean deleteCar(String nn)
    {
        int pos = searchCar(nn);
        if(pos!= -1)
        {
            ArrCars[pos] = ArrCars[--nbc];
            ArrCars[nbc] = null;
            return true;
        }
        return false;
    }
}

```

```

public class Test_KSU {

    public static void main(String[] args) {

        Car cc1 = new Car("Toyota", "1111", 5, 2020, 3);
        CarElements ce1 = new CarElements("gear", 7000);
        CarElements ce2 = new CarElements("door", 2500);
        CarElements ce3 = new CarElements("Tyre", 300);
        cc1.addCarElement(ce1);
        cc1.addCarElement(ce2);
        cc1.addCarElement(ce3);

        cc1.display();

        System.out.println("=====");

        Car cc2 = new Car("Nissan", "2222", 2, 2022, 2);
        CarElements ce11 = new CarElements("wheel", 500);
        CarElements ce22 = new CarElements("bougie", 170);
    }
}

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        cc2.addCarElement(ce11);
        cc2.addCarElement(ce22);

        cc2.display();

System.out.println("=====
=");

        Car cc3 = new Car("Ford", "3333", 4, 2021, 3);

        CarElements ce111 = new CarElements("motor", 9000);
        CarElements ce222 = new CarElements("window", 900);
        CarElements ce333 = new CarElements("break", 400);

        cc3.addCarElement(ce111);
        cc3.addCarElement(ce222);
        cc3.addCarElement(ce333);

        cc3.display();

System.out.println("=====
=");

        KSUCars KS = new KSUCars(3);

        KS.addCar(cc1);
        KS.addCar(cc2);
        KS.addCar(cc3);

        System.out.println("=====The cars of KSU are
=====");

        KS.display();

System.out.println("=====
=");

        System.out.println("The average price is : " +
KS.averagePrice(2020));

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        System.out.println("=====Get Car
=====");

        KS.getCar("2222").display();

        System.out.println("=====
=");

        System.out.println("The position of ford is: "
+KS.searchCar("Ford"));

        System.out.println("=====
=");

        KS.deleteCar("Nissan");

        KS.display();

    }

}

```