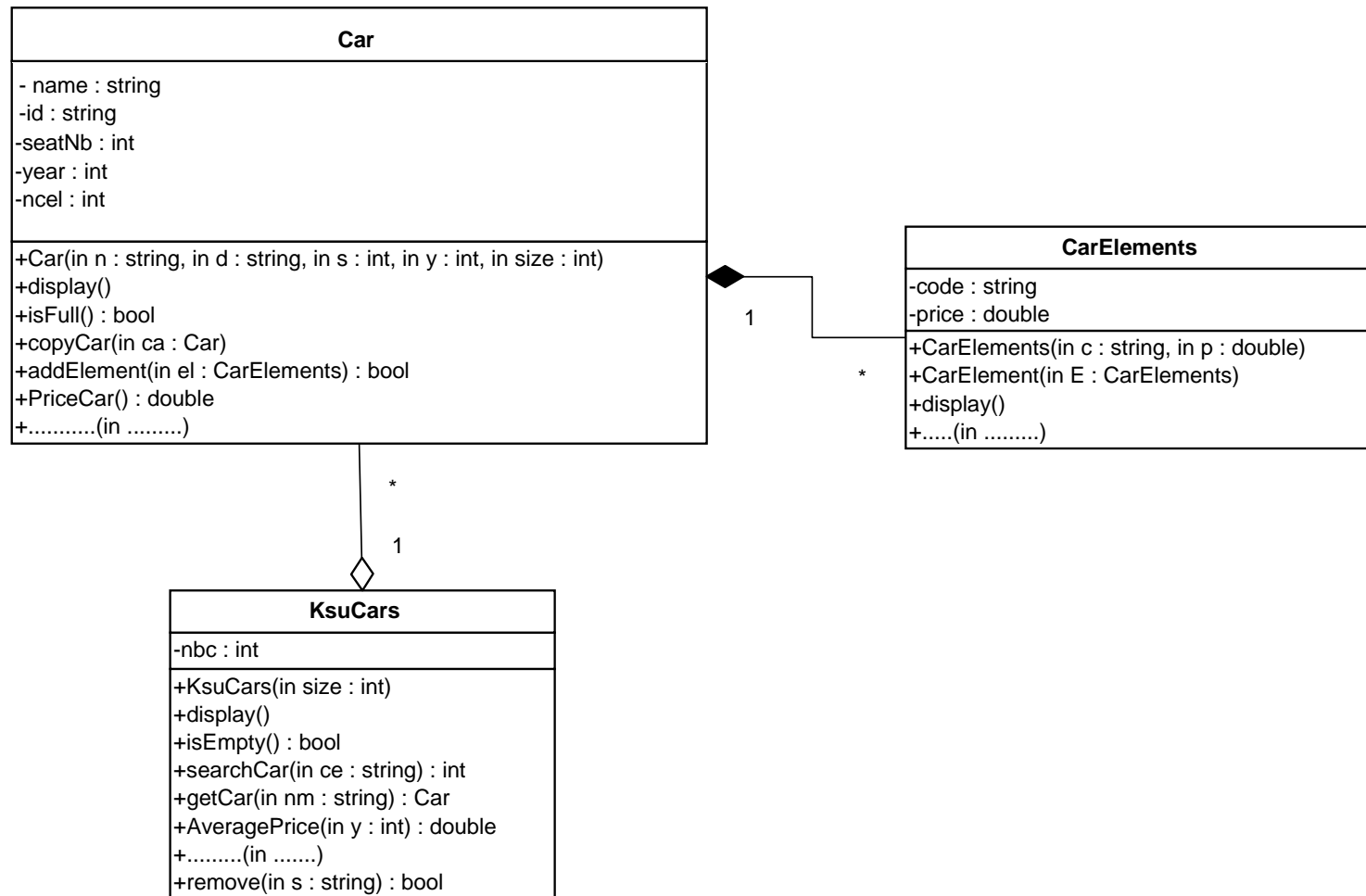


# UML Object Models: Aggregation, and Composition

## Example 3:



**Question: Implement all the classes with all their methods using the following descriptions.**

**Description of the different classes:**

**Class CarElements:**

- ✓ The method **display ()** displays the code and the price.
  - ✓ + ..... (**in .....**) : if you need an other methods in this class you can add it.
- You can't add another constructor.

**Class Car:**

- name
  - id
  - seatNb : *Number of seats*
  - year : *Production year of car*
  - ncel : *number of CarElements object currently in an object of the class Car.*
  - ***And other attribute(s) deduced from the UML diagram.***
- 
- ✓ **display ():** Displays all the attributes of an object Car.
  - ✓ **addElement (CarElements el):** This method receives a CarElements object and adds it to the Car object.
  - ✓ **priceCar():** Returns the sum of the CarElements price in an object of the class Car.
  - + ..... (**in .....**) : *if you need an other methods in this class you can add it.*

**Class KsuCars:**

- nbc : *number of Car currently in an object of the class KsuCar.*
  - ***And other attribute(s) deduced from the UML diagram.***
- 
- ✓ **display ():** Displays all the attributes of an object KsuCars.
  - ✓ **search (String ce):** This method receives a String representing the *name* of a Car object and returns the array index of the car object.
  - ✓ **getCar (String nm):** This method receives a String representing the *id* of a Car object and returns the Car object if it's exist.
  - ✓ **removeCar (String s):** Removes a Car according to its name. It will return a value *true* if the operation has been completed successfully, or *false* if not.
  - ✓ **AveragePrice(int y):** Calculates the average price of all car in an object of class KsuCars that produced after the year *y*.
  - ✓ + ..... (**in .....**) : *if you need an other methods in this class you can add it.*