Assignment 2

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Written for

BBM 104 – Introduction to Programming_Laboratory_II

At Hacettepe University

Software Design

1- Definition of Problem / Purpose of Program

      In this assignment, we were asked to write a program that sells second hand vehicles. In this program, the input file containing the type, model, age, price, number of doors, tonnage, capacity, battery capacity and gasoline capacity of the vehicle and the output file that we will process and print these data will be entered as arguments in the comment line.

2- Solution of Problem / Solution Design

Explaning of Main Data Structures:

```
DATA STRUCTURES IN Main CLASS;
vehicle          //Array for storing vehicle we get from input file
sold_vehicle     //ArrayList for storing vehicles that are sold
totalMoney       //Double for storing and calculating price of vehicles are sold
input_file       //File for reading we get from input file in commend line
counter          //variable for calculating of number of vehicle are sold

DATA STRUCTURES IN Bus CLASS;
type             //type of vehicle
model            //model of bus
age              //age of bus
capacity         //capacity of bus
price            //price of bus
tax_rate         // tax rate of bus

DATA STRUCTURES IN Truck CLASS;
type             //type of vehicle
model            //model of truck
age              //age of truck
tonnage          //tonnage of truck
price            // price of truck
tax_rate         // tax rate of bus

DATA STRUCTURES IN Car CLASS;
type             //type of vehicle
model            //model of car
age              //age of car
price            // price of car
number of doors  // number of doors of car

DATA STRUCTURES IN ElectricCar CLASS;
battery_capacity   //model battery capacity of electric car

DATA STRUCTURES IN PetrolCar CLASS;
fuel_capacity      //model fuel capacity of petrol car
```
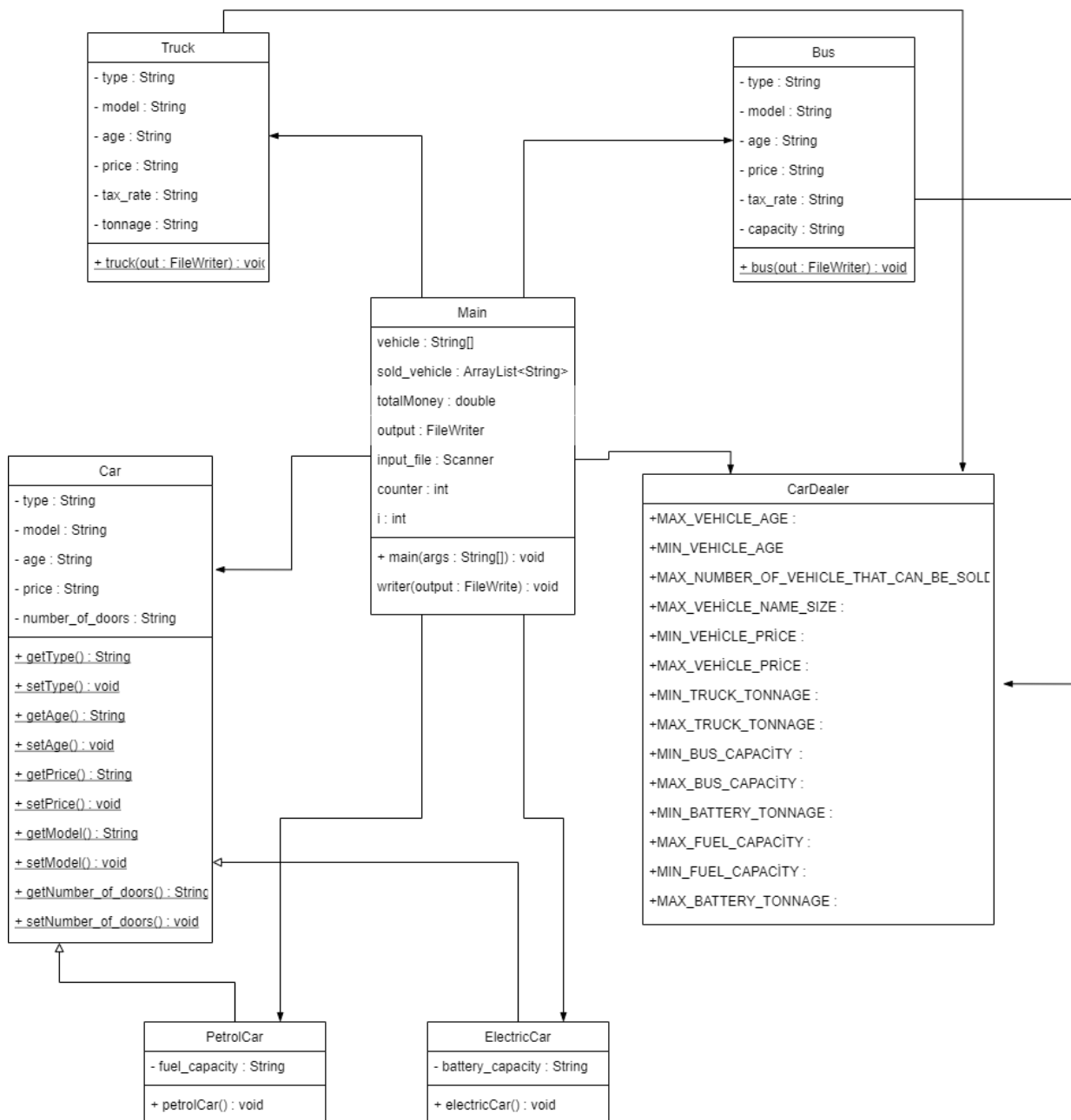
      Input file entered from the comment line were received. Separate classes were created for reading and processing the data of received input file.

The input file data from the comment line is read line by line in the main class. The read data is assigned to the vehicle string in the while loop and the necessary classes and methods are called to process the data. For example, the bus class is called to process the data of the bus type vehicle. Then the sold vehicles are assigned to the sold_vehicle arrayList. While doing these, the maximum and minimum limits were checked. Necessary action has been taken. The vehicles sold were calculated and summed up. When print is encountered in the input file, the number of vehicles sold, the data read, such as the type, model, age, tonnage, capacity of the vehicle, and the total price are printed. After the writing is finished, the output file is closed and the program is terminated.

3- Testing Result

The problems and the demands of the programmer are explained in the assignment.pdf in a detailed and explanatory way. So I didn't have any problems understanding the assignment. However, I had to proceed very slowly and researching because there were things that needed to be used and learned in homework.

4- Referances

- Slayts of BBM101 Introduction of Programming Language 2
- Java Tutorial of W3Schools Online Web Tutorials
- Stack Overflow Webside