COMP 1409

Intro to Software Development 1

Java

Assignment 3

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The purpose of this assignment is to exercise your knowledge around ArrayLists, Iterators and Loops.

Vehicle.java

Use the `Vehicle` class from the solution for Assignment 1.

Customer.java

Use the `Customer` class from the solution for Assignment 2.

PurchaseDate.java

Use the `PurchaseDate` class from the solution for Assignment 2.

Inventory.java

The `Inventory` class will be used to manage the vehicles currently in inventory. It will have only one instance variable

- `private static ArrayList<Vehicle> vehicles;`

The default constructor will initialize the `vehicles` ArrayList, nothing else.

Provide both accessor and mutator methods for the `vehicles` ArrayList. Both these methods will have to be static.

Methods

The following methods will be defined for the `Inventory` class.

public void addVehicle(Vehicle vehicle)

Adds a Vehicle to the inventory making sure the Vehicle is not null.

public void searchByModel(String model)

Searches the inventory for the Vehicle model specified. Creates an ArrayList of results and forwards them to a method for display.

public void searchByYear(int year)

Searches the inventory for Vehicles of the specified year. Creates an ArrayList of results and forwards them to a method for display.

public void searchByPrice(double minPrice, double maxPrice)

Searches the inventory for Vehicles that are priced from the minPrice to the maxPrice. Creates an ArrayList of results and forwards them to a method for display.

public void displaySearchResults(ArrayList<Vehicle> results)

Displays the Vehicles compiled by the above searches.

public static void removeVehicle(String stockCode)

Removes a Vehicle from the inventory. You must use Itereator here. The method is static because you will need to call it later without an Inventory Object being available. Because this method is static the vehicles ArrayList field above must also be static.

public String inventoryCount()

Returns a message String that includes the number

of Vehicles currently in inventory.

public String inventoryValue()

Returns the formatted String that is the current total dollar value of all the Vehicles in inventory.

public void displayInventory()

Displays all the details for each Vehicle in inventory. Must use the appropriate loop.

VehiclePurchase.java

Update the `VehiclePurchase` class from the solution for Assignment 2.

An addition to the `VehiclePurchase.displayDetails()` method is required.

When this method is called we are going to assume the Vehicle sale has become final. Therefore, this method must also remove the `purchasedVehicle` from inventory. This is why we have made the `Inventory.removeVehicle(String stockCode)` static, so it can be called without the availability of an Inventory reference.

Be sure to comment your code with appropriate JavaDoc.

Be sure to use proper camelCasing or PascalCasing.

Be sure to use reasonable data types/reference types.

Submission

Compress and submit your source code to the Dropbox in D2L.