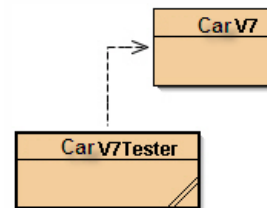# 08.07 Assignment Instructions

Instructions: Modify the CarV5 class to instantiate multiple objects.

1. If the 8.07 Assignments project has not yet been created in the Mod08 Assignments folder, please do so now.
2. Be sure a copy of these instructions is saved to the Mod08 Documents folder.
3. Print a copy for your notebook.
4. Read the instructions carefully before you attempt the assignment.
5. First, create a new class called **CarV7** in the 8.07 Assignments project.
6. Copy the **CarV5** class and paste it into the **CarV7** shell you just created. Change any statements that mention **CarV5** to **CarV7**. Test the program to make sure it still works.
7. Next, create a **CarV7Tester** class in the project. Copy the **main()** method from the **CarV7** class and paste it into the **CarV7Tester** class. Delete all of the **main()** method from the **CarV7** class. You should now have two classes.
8. Compile the project to make sure no errors were introduced and run the program to verify that it still works. Fix any errors that show up before moving on to the next step.
9. Research the fuel efficiency of two other cars; one vehicle should get at least 10% better gas mileage than your personal or family car, the other should get at least 10% less mileage. You may want to use the same fill up data for the two new vehicles for a better comparison of the miles per gallon and gallons per mile among all three vehicles. And, if you kept records for more than one car, you may include that information in an additional object.
10. Instantiate objects for each of the new vehicles and calculate the same values for the original vehicle.
11. Print the results in a user-friendly format to one decimal place (e.g. 22.1).

Expected Output: When the program runs correctly, the output will resemble the following screen shot. This student collected data for two cars. Your output will shown results for at least three cars. Remember that the other two vehicles should have MPG ratings at least 10% higher and 10% lower than your personal or family car.

```
                         Gas Mileage Calculations
   Type of Car    Start Miles  End Miles  Distance   Gallons   Price    Cost   Miles/Gal   Gal/Mile
  ===============================================================================================
  06 Saturn Vue      14373       14731      358        16.2     2.98    48.28     22.1       0.045
  03 Ford Escort    125567      125809      242        12.3     3.03    37.27     19.7       0.051
```

Grading: Your assignment will be graded according to the following rubric.

Grading Rubric	Pts
Comments include name, date, and purpose of program	1
Project consists of two separate classes.	2
Constructor written correctly.	1
Private instance variables declared.	1
Private instance variables initialized.	1
Multiple objectes constructed.	2
Comments used appropriately for documentation.	1
Method headers written correctly.	1
Individual methods invoked on an object from **main()** method.	1
All calculations correct.	1
Output formatted with **printf()**.	1
No compiler or runtime errors	1
Thoughtful PMR included	1
Total	15

Submission: Submit the CarV7.java and CarV7Tester.java files as Assignment 08.07 for a grade.