Project - Phase 1 Car Rental System

# Introduction

This phase of the project examines the problem of managing records for a fleet of motor vehicles. The code for this phase of application has been provided to you. The application has the following features:

• Records kilometres travelled and fuel costs

• Indicates the number of services the vehicle should have had (assume every 100km)

• Displays fuel economy and average fuel cost statistics

# Requirements

The application implements the three classes:

A **Vehicle** class:

• A constructor that allows each attribute of the **Vehicle** class to be initialised. By using default parameters, this constructor should also be able to act as a default constructor;

• A copy constructor;

• An addition operator method that accepts an object of type **Journey** as a parameter;

• An addition operator method that accepts an object of type **FuelPurchase** as a parameter;

• A method *Print()* that displays the manufacturer, model, year of manufacture, total

kilometers travelled, total fuel costs, total number of services, and fuel economy (litres per

100 kilometres); and

• Any necessary attributes and methods required to support the program functionality.

A **Journey** class:

• A constructor that allows each attribute of the **Journey** class to be initialised; and

• Any necessary attributes and methods required to support the program functionality.

A **FuelPurchase** class:

• A constructor that allows each attribute of the **FuelPurchase** class to be initialised; and

• Any necessary attributes and methods required to support the program functionality.

## Hints

* Integer variables can be used for all numeric data, except for fuel economy which should have one decimal place and average fuel cost which should have two decimal places.
* Assume that all new vehicles begin with zero kilometres travelled and zero fuel.
* Calculate fuel economy on recorded kilometres and fuel purchases, don’t try to allow for unused fuel.

# Output

The sample output you can generate by running the given code is as follows:

Manufacturer: Ford

Model: T812

Make Year: 2014

Total Kilometers Travelled: 294.0

Total Services: 2

# Provided code

Code for this application has been provided to you in a repository on GitHub. Download the code and run the application. Examine the code carefully and try to understand the logic of the program.