

## Introduction

Our mechanics garage system will be composed of six classes. The classes are as follows:

- Main
- Employees
- Services
- Cars
- Clients
- Appointments

## Main

The main class will be the entry point for the program, with the main method calling to a menu method. This menu method will present a menu, allowing the user to navigate the program by typing the number of an action to be performed.

The main class will also handle getting the inputs from a user to create new objects, delete objects, update information about objects and read the information about objects. Saving and retrieving data from files will also be handled in the main class.

## Employees

The employee class will have a constructor which takes a string for the name and a double for the salary and saves these values to instance variables. This data will be written to a data file for later retrieval from the main class and will be saved if updated or deleted.

The employee class will also have a way to set the employees name and type as well as a method get the information from each instance variable. It will in addition have a way to return all information about a given employee, as well as all information about all employees.

## **Cars**

The cars class will possess a constructor which requires a parameter for the make of the car, which is saved into an instance variable. It will also have a subclass which will take parameters for models of the car. As well as another subclass under the model subclass for the year of the model of the car.

The cars class, as well as its subclasses will utilize methods to get information about a given car as well as methods to get the information about all instances of the car class. The data about the cars will then be saved into a data file for later retrieval, updating or deletion.

## **Clients**

The client class will have a constructor which requires parameters for the client's name and what car they have. This data will then be saved for later retrieval, updating or deletion. It will also have methods for setting client names and cars as well as methods to get info about a given client.

The client class will also have a method for getting info about all clients. It will also be able to list any previous or pending appointments and services the client has had as well as information about that appointment or service.

## **Appointments**

The appointment class will possess a constructor which takes parameters for:

- The name of the client
- The name of the employee the client is meeting with
- The date and time of the appointment

This data will then be saved in a data file for later retrieval, updating or deletion in the main class.

This class will in addition utilize methods for getting the information about the instances of this class as well as methods for setting the information. It will also be capable of listing all pending or previous appointments.

## **Services**

The services class will have a constructor which takes multiple values. The values will be:

- The employee that will be performing the service
- The client that is receiving the service
- The make and model of the vehicle being serviced
- What needs to be done to the vehicle
- The cost of the service

All these values will be saved, producing a new object of the class service. This data will then be written to a data file to be retrieved, updated, or deleted later.

The services class will additionally have methods for getting and setting the data about a service. As well as a method that will list the service history of a given client. It will also have a method for listing every service performed as well as a report of the amount of money made from all the services.