CIS016-1 - Principles of Programming / CIS096-1 – Principles of Programming and Data Structures / PAT001-1 – Principles of Programming - 2019/2020
Exercise Sheet 4

This exercise sheet is related to the Week 3 lecture, so please consult the lecture notes when attempting the exercises (in particular the part about the Scanner class and objects/classes). Please also download the example code. All can be found on BREO under "Guided Learning → Week 3". And don't forget to read Chapter 2 (and 4) of the Savitch book!

Exercise 1 The interactive Car class

Revisit the **Car** class. It can be found in the Week 3 example code on BREO.

1. Use the **Scanner** class to input the details (model, colour) of your new car object to create. Model and colour should be input in the **main** method.
   Hint: You will need to modify the most recent version of the **Car** class (discussed in the lecture and downloadable from the Week 3 Java site on BREO), where two **String** variables need to be passed for creating a car object. Both strings are to be provided while you are running the program.
2. Revise the constructor method of the **Car** class so that it can pass values for all 4 variables (model, colour, amount of gas and number of passengers) to initialise with. Do you still need the **initialise** method?
3. Revise the **main** method to let you input sufficient data (model, colour, amount of gas and number of passengers) to use for creating a new object considering the changes done in Exercise 1.2.

Exercise 2 The Student class

Create a class Student to describe a student with the following attributes: student ID, name and level, with appropriate data types. This information should be provided when an object is created. The program should be able to provide each piece of information when requested. Please also write a method to input a fixed number (for instance 5) of grades (using the **Scanner** class) and to calculate and print their average.

A main method to run the program should be devised so that all required information are input via the keyboard.