

# Lab 17 - Classes and Inheritance

## Submission:

This lab has to be demoed on week 13, together with all other labs published between weeks 8 and 13. You will have to explain your code, so make sure it is well documented and you understand it.

## Objective:

To practice, understand, and design classes with inheritance relationships.

## Questions:

1. There are websites such as <https://www.carsireland.ie/> that provide information about secondhand vehicles. Design a base class for vehicles with fields such as model year, total mileage, Vehicle Identification Number (VIN), engine, transmission, options, and etc. Design subclasses for car, truck, SUV, and minivan. Think about the specific fields and methods required for the subclasses. Instantiate your classes with examples so you can test your code.
2. Design a class to represent a Gym. A gym should have members and equipments. Think of what attributes each class should have, and which kind of relationship a member and an equipment would have with the gym. Instantiate all your classes and implement a gym with a few equipments and members.
3. Given the bankAccount class from Lab 15, question 3, create a subclass MinimumBalanceAccount that inherits bankAccount. MinimumBalanceAccount should have a minimum balance value and overwrite the method withdraw so the new balance is not below the minimum balance after withdrawing.