Lab: Testing Software

In this lab we will unit test some provided python code. The lab has two parts. In part one you will fix existing python code based on failing unit tests and in part two you will write your own unit test.

To start, navigate to the *02_unit_testing_lab* folder in the git repository you cloned in the last lab.

1. Run the test (test_car.py) by running
   $ py test_car.py
2. Have a look at the source code (in models.py). What could be the problem for the tests failing? Fix the errors. You are not allowed to modify the code of the test case itself

Next, create your own test case by creating a new test function. What you want to test is up to you.

Advanced tasks
- Modify the source code such that a ValueError is thrown when the gear box is not either "auto" or "manual". Write a test case to check that these exceptions are correctly thrown
- Write a method for the car that allows serialization in both xml and json. Use a factory pattern to avoid long conditionals. Write a test case that checks your factory pattern by serializing a car into json and into xml. Bonus points for making the serialization class-based and plug-able. Note: your serialization needs its own test class.