# Programming & Data Science for the Professions: Project instructions

This project will count for 50% of your final grade in Programming.

The project is a group activity, and one copy of the submission should be submitted per group. The various groups have different starting data and it is important that you only use the data for your group. Each group has a project area on Moodle where you will find the files that you need that are unique to your project. There is also a common area where files used by all groups can be found. Different groups will get different answers, so do not worry if your results are not the same!

This project is intended to take a number of weeks, and you should not be surprised if certain parts prove to be quite challenging. The project comes in four parts, and parts 1, 3, and 4 can be completed independently of the others. For the more complicated steps I have included detailed instructions and you should follow these carefully. It is possible to get a very good grade even if not all parts of the project are successfully completed.

With electronic submissions of code, there can be the temptation to copy another group's work. This is very easy to detect, and both groups will be investigated for Academic Misconduct in such cases.

Details of the tasks that you need to complete can be found in the Group Project Specification, together with details of what you need to submit at the end.

After the project is marked, the individual student grades will be adjusted using a process of peer review. Details of this will be provided separately. You should keep a record of your individual contribution to the project.

There will be a separate individual submission of a brief recorded presentation on your results, after the group component has been submitted. Details of this will be provided later in the term.

## Mark scheme

You will receive marks for each part of your code, so that even if you are not able to correctly complete all of the parts, you will still gain credit for those parts which are correct. You will also get partial marks for routines which are partially successful.

The detailed mark scheme is given below. Note that the first 10 marks are available even

for code that does not work at all, provided it is clearly presented and explained. However, these marks will only be available for code that at least attempts to carry out the given tasks.

For each step, the mark given will depend on the extent to which the code has the correct logical structure and the correct syntax. Code with a small number of minor errors in a given step will still get the majority of the marks for that step even if it does not run or gives the wrong answer.

General: There are **10 marks** for suitable commenting. There should be enough comments that someone else reading your code would be able to understand the main features. You should use comments to describe what each subroutine does, and what the main variables represent.

Part 1: There are **15 marks** for step 1 and **10 marks** for step 2.

Part 2: There are **20 marks** for step 3.

Part 3: There are **15 marks** for steps 4 and 5 combined.

Part 4: There are **5 marks** for step 6, **15 marks** for step 7, and **10 marks** for step 8.

Once the final group mark has been determined, peer review will be used to adjust this mark to reflect the contribution of each student. Details of how this will work will be provided shortly.