

## 2 SQL Exercises

If you are using your own laptop/ machine, you can skip the **Installation** step.

### 2.1 Installation

Download [DB Browser for SQLite](#) if using your own machine, also available as a Windows installer file on the Canvas page.

### 2.2 Running SQLite

Search in the Windows menu for *DB Browser for SQLite* and open it. Within the program, use the ‘Open Database’ button to load the database provided on Canvas (student\_grades.db). Spend some time with the different tables under the ‘Browse Data’ tab. Here, you can try different filters on columns and manually look through each record. When you feel comfortable with the shape of the data, move to the ‘Execute SQL’ tab. In this tab, we will perform some practice queries using what we learnt from the ‘SQL Notes’ pdf.

1. Here, we will explore the table of student names:
  - (a) Put the Names table into alphabetical order and display the first 100 students.
  - (b) How many people called Amanda are there?
2. Let’s see how attendance relates to the final mark for a student:
  - (a) Connect the Attendance table with the OverallGrade table and display the first 100 students.
  - (b) From the whole table, how many students had an attendance from 60 to 80 % (inclusive)?
  - (c) Of these students, what was their average final grade?
  - (d) How much larger is this average grade than the students who attended between 20 to 40 %?
3. How do the different assignments a student provided correlate?
  - (a) Create a list of students with over 70 % in the first assignment.
  - (b) Get the average grade for every assignment from this population.
  - (c) From the whole table, what was the lowest grade in assignment 1 for students who got over 90 % overall?
  - (d) Modify the previous query such that only one row and column is returned, with the same answer.