Marking Scheme

COMP40725: Introduction to Relational Databases and SQL

This document provides a brief overview of the marking scheme that will be used to grade final project and reports for the SQL & Relational Databases class.

Students, please pay attention to the scheme and design your project and write your report accordingly.

Your project/report fulfills two different course requirements, **Soft skills** (worth 20% of your overall grade) and **Hard skills** (worth 60% of your overall grade). Your weekly assignments make up the final 20% of your overall grade.

In the marking scheme to follow, both **Soft skills** and **Hard skills** components are marked out of 100; they will be scaled appropriately and turned into letter grades on the UCD grading system.

Table of Contents

5/100 for an adequate table of contents **Soft skills**

List of Figures

5/100 for an adequate table of figures **Soft skills**

1. Introduction

25/100 **Soft skills** for the quality of the student's stated vision of the project. The student should adequately describe the application domain of the project In addition, the nature and scale of the data they are working with should also be characterized here. How well does the student understand the role of a database in supporting the high-level application that will be built upon it?

It is *NOT* the task of the student to build the high-level application, but to design the underlying information architecture to support this application. In addition to tables they created and populated in class or in practical labs, they will need to define and explain additional tables too. In this section they must show that they understand this responsibility. In the next they provide their database design.

2. Database Plan: A Schematic View

20/100 **Hard skills** for the student's high-level view of the database and its design. Their design should show what they believe the principal entities to be, as well as their main attributes and the key relations that connect them. They should provide one or more E-R diagrams to illustrate their plan. They should also motivate their design – i.e., to say why *this* way and not another?

3. Database Structure: A Normalized View

20/100 **Soft skills** for a reasoned demonstration of the structural integrity of the database. The students must describe the main tables in their database and the role played by each.

20/100 **Hard skills** Students must show that their databases meet the standard definitions of 1NF, 2NF and 3NF and BCNF normal form.

4. Database Views

20/100 **Hard skills** for a description (with SQL definitions) of the views provided onto the core database tables. Evaluate each view in terms of the value it adds to the basic design. The student should explain what each view is

supposed to provide, and to whom. In each case they should motivate why the given relation is defined as an SQL view and not a table in its own right.

5. Procedural Elements

20/100 **Hard skills** for procedural elements in PL/SQL or the MySQL equivalent form. These may include database triggers. If the student's database relies on any procedural elements, the student must motivate why they are used. If it does not, they must say why they have eschewed procedural elements. If conventional procedural elements are absent, the pure SQL alternatives that are offered to ensure the integrity of the database over time will be graded instead. However, it is expected that most projects will contain some procedural elements.

6. Example Queries: Your Database In Action

20/100 **Hard skills** for the sample queries over the database that the student provides. Each is a use case of the database and should be explained as such. Each must actually work, and return actual data. The student should ensure that the database has been sufficiently populated (perhaps with dummy data) so that these queries can return real and demonstrative results. They must tell us what uses their queries provide to the high-level application, using specific tables as the basis for results. If their queries make reference to tables that were not defined in class or in a practical assignment, they must provide example rows of this table in section 3.

The student may provide screenshots here if they are useful, but they should not pad and overfill their reports with screenshots. You must feel that there is a cohesive argument expressed in the text of the report and that it is not simply a bag of diagrams and queries and screenshots. Any images must be readable (not low-resolution or murky) and must actually add to the discussion.

7. Conclusions

25/100 **Soft skills** for real conclusions, not just summaries of what has gone before. Does the student have a clear vision of how the work here might be built upon in the future?

Acknowledgements

Penalize any plagiarism (any work that is not properly acknowledged or quoted or cited in the report). A penalty of **-20/100** to **-40/100** **Soft skills** will be recorded for any plagiarism, and a note made for future disciplinary action.

References

20/100 **Soft skills** for a list of bibliographical citations here.