LEARNING SUMMARY REPORT
INF10025–Data Management and Analytics

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Self-Assessment Details

The following checklists provide an overview of my self-assessment for this unit.

	Pass (P)	Credit (C)	Distinction (D)	High Distinction (HD)
Self-Assessment (please tick)			✓	

Self-assessment Statement

Minimum Pass Checklist	Included (please tick)
Learning Summary Report _ Part 1 Completed	✓
Test 1 and Test 2 are Completed (at least 10/20)	✓
At least 4 Pass Tasks are Completed	✓

Minimum Credit Checklist	Included (please tick)
Learning Summary Report _ Part 1 Completed	✓
Test 1 and Test 2 are Completed (at least 10/20)	✓
At least 8 Tasks (including 4 Pass Tasks) Completed	✓

Minimum Distinction Checklist	Included (please tick)
Learning Summary Parts 1 and 2	✓
11 Tasks are Complete	✓
Test 1 and Test 2 are Complete (at least 10/20 on first attempt)	✓
Test 3 is Complete (at least 2.5 / 5)	✓

Minimum High Distinction Checklist	Included (please tick)
Learning Summary Parts 1, 2 & 3 Completed	
12 Tasks are Complete	
Test 1 and Test 2 are Complete (at least 10/20 on first attempt)	✓
Test 3 is Complete (at least 2.5 / 5)	✓

Comments

I believe that my work meets the relevant grade requirements through consistent engagement and active participation in class. I have attended all classes and submit all my tasks on time. This demonstrates my dedication and understanding of the course content.

I have completed eleven tasks, each demonstrating my ability to apply design, development, and evaluation techniques. My performance in the tests on the first attempt shows my understanding of the unit content.

Declaration

I declare that this portfolio is my individual work. I have not copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part of this submission been written for me by another person.

Signature: MarcoG

If the following section does not contain reflection on your learning, **you will not get more than 50** for this unit, regardless of other submissions and achievements.

PART 1 – All students to Complete

Introduction

This report summarises what I learnt in INF10002 Database Analysis and Design. It includes a self-assessment against the criteria described in the unit outline, a justification of the pieces included, details of the coverage of the unit's intended learning outcomes, and a reflection on my learning.

Coverage of the Intended Learning Outcomes

This section outlines how the pieces I have included demonstrate the depth of my understanding in relation to each of the unit's intended learning outcomes.

Reflections on Access and PowerBI

ILO 1:

Define and explain fundamental data and database concepts including tables, relations, keys, queries, transactions, and structured, semi-structured, unstructured data

The following pieces demonstrate my ability in relation to this ILO:

- Task 1a: Understanding queries and filters.
- Task 1b: Creating and executing queries in Microsoft Access.
- Task 5d: Explaining normalization.

ILO 2:

Create, store, retrieve, exploit, and visualise data using modern database tools, functions, and techniques

- Task 2a: Importing data into MS Access.
- Task 2h: Creating table visualizations in Power BI.
- Task 5c: Writing DDL statements for table creation.
- Task 2i: Creating donut chart visualizations in Power BI.

ILO 3:

Understand and apply conventional data modelling techniques to solve practical database design problems.…

- Task 1f: Creating relationships among tables.
- Task 1g: Complex queries involving multiple tables and conditions.
- Task 2k: Creating map visualizations to display data geographically.
- Task 5e: Transforming data into normalized forms.

Reflections on SQL and ERDs

ILO 1:

Define and explain fundamental data and database concepts including tables, relations, keys, queries, transactions, and structured, semi-structured, unstructured data

The following pieces demonstrate my ability in relation to this ILO:

- Task 3a: Implementing SQL scripts to create and manipulate databases.
- Task 3d: Writing SQL queries to filter and sort data based on multiple criteria.
- Task 4b: Creating tables with appropriate keys.
- Task 4e: Ensuring data integrity by testing primary key and foreign key constraints.

ILO 2:

Create, store, retrieve, exploit, and visualise data using modern database tools, functions, and techniques

- Task 3c: Executing SQL queries to retrieve specific data based on complex conditions.
- Task 3f: Using SQL to find specific patterns in data (e.g., passwords containing specific strings)
- Task 4d: Inserting and querying data.
- Task 4f: Creating complex SQL queries to join and aggregate data from multiple tables.

ILO 3:

Understand and apply conventional data modelling techniques to solve practical database design problems.…

- Task 3g: Joining tables and creating complex SQL queries.
- Task 3h: Combining data from multiple tables using joins to provide comprehensive results.
- Task 4f: Creating complex SQL queries to join and aggregate data.

Normalisations, Transactions, JSON

ILO 4:

Explain the impact of big data and modern data analytics tools in the design, use, and management of database systems. …

- Task 5d: Explaining normalization and its importance in database design.
- Task 5e: Transforming data into normalized forms
- Task 5f: Writing SQL statements to handle transactions, including committing and rolling back transactions to maintain data consistency.
- Task 4k: Designing ERDs and converting them to relational schemas to understand the practical application of data modelling and normalization.

Reflection

The most important things I learnt:

- The importance of database normalization to reduce redundancy and improve data integrity.
- How to create and manage complex SQL queries for data retrieval and manipulation.
- The use of modern tools like Power BI for data visualization and how it enhances data analysis

I found the following topics particularly challenging:

- Understanding and applying normalization techniques correctly across different datasets.
- Creating complex SQL queries that involve multiple tables and conditions.

I found the following topics particularly interesting:

- Data visualization with Power BI, as it provided a visual insight into the data which was very engaging.
- The normalization process, as it highlighted the importance of data organization.

I feel I learnt these topics, concepts, and/or tools really well:

- SQL querying and data manipulation.
- Creating and managing databases in Microsoft Access.
- Visualizing data with Power BI.

I still need to work on the following areas:

- Advanced normalization techniques and their application in large datasets.
- More complex SQL queries and optimization techniques.

The things that helped me most were:

- Practical tasks that required applying theoretical knowledge.
- Weekly questions being asked in labs.

This unit will help me in the future:

- The skills learned in SQL, data normalization, and data visualization will be crucial in any data-centric roles.
- Understanding data management and analytics will aid in making informed decisions based on data insights.

If I did this unit again, I would do the following things differently:

- Spend more time practicing normalization techniques early in the course.
- Engage more with online forums and study groups to discuss challenging topics.

Other…:

No feedback required. Rob is an outstanding teacher. He has the ability to teach complex concepts in an understandable way, making students feel comfortable and involved in the learning process. His teaching style not only keeps us interested but also has a positive attitude and very supportive in class. Rob's dedication to his students' success is evident in every lesson, and his approach makes his unit a truly enjoyable and amazing experience. Thanks Rob!

PART 2 – Distinction Students to Complete

Reflect on your learning and development of the Distinction Task. You can use the reflection points from Part 1 or you may want to organize your discussion in some other way.

In your reflections include the following points

- Performance in Test 3:

  In the beginning I thought I failed the test just because the questions being asked was more complex. I also didn't prepare that much for the exam, since I forgot there was a test. I studied only the night before the test. When I opened the test page, I looked over to my friend and we both shook our head thinking we won't be able to do it. In the end, I used everything I remembered from the past tasks and everything Rob taught us and somehow got a pretty good score.

- Elaborate on aspects that your found challenging/inspiring/interesting or different to your expectations. Explain why?

  To be honest most of the questions are like the sample practice questions. Only thing that made it a bit confusing was the way the story was worded, and the way Rob likes to ask us trick questions on day-to-day basis made me overthink when doing the test. While doing the test, I was thinking, would this be a trick question? Or am I just overthinking it. But overall, it was a fun time.

- Discuss the approach that you used to solve problems and how the concepts learnt in this unit helped.

  As I mentioned above, I just did the test the same how I would do the weekly tasks. By remembering the weekly tasks and reading the sample practice questions helped a lot.

- Include discussion of how ideas/techniques/principles from this unit can be used in your further learning inside and outside university

  I think by giving students a weekly question to ask in-class would be a great idea. This encourages students to read the topic and understand what's happening that week. The teaching method is also a big factor in students' interest in learning. Can't ask for a better teacher!