Assessment 1 Information

Subject Code:	TEC104
Subject Name:	Database Design and Management
Assessment Title:	Case Study
Assessment Type:	Individual
Word Count:	1,000 Words (+/-10%)
Weighting:	20 %
Total Marks:	20
Submission:	MyKBS
Due Date:	Week 5

Your Task

This assessment is to be completed individually. In this assessment, you will design a relational database for a fictional small business, incorporating the following entities: customers, products, orders, and payments.

Assessment Description

You have been hired as a database designer by a small business that sells products online. The business wants to create a relational database to store information about their customers, products, orders, and payments. They want to be able to view sales data, customer information, and inventory levels.

Case Study:

ABC Pty Ltd is a small business that sells products online. The company is expanding and is looking to improve their data management systems. They currently have a system that stores customer information, product information, and order information in separate files, which has become difficult to manage as the business grows. They want to create a relational database to store all of their data in one place, making it easier to manage and report on.

This assessment aims to achieve the following subject learning outcomes:

LO1	Explain Relational Database Management Systems and their application within organisations.

Assessment Instructions

- You are required to complete the following tasks:
    1. Design an entity-relationship model (ERM) for the database, including all necessary tables, columns, and relationships.
    2. Normalise the tables to 3rd normal form (3NF) using appropriate data normalisation techniques.
    3. Populate the database with sample data.
    4. Write SQL queries to retrieve specific information from the database, such as customer details and sales data.
    5. Create a report outlining your database design and data normalisation decisions, as well as your SQL queries and the results of your data retrievals.
- Your report should be submitted in Word Document or PDF format and include the following sections:
    1. Introduction: A brief overview of the business and the purpose of the database.
    2. Entity-Relationship Model: A diagram and explanation of the ERM, including all tables, columns, and relationships.
    3. Normalisation: An explanation of the normalisation techniques used and how the tables were normalised to 3NF.
    4. Data Population: Sample data for each table in the database.
    5. SQL Queries: At least three SQL queries demonstrating your ability to retrieve specific information from the database.
    6. Conclusion: A summary of your design decisions and any limitations of your database design.
- Please refer to the assessment marking guide to assist you in completing all the assessment criteria.

Important Study Information

Academic Integrity Policy

KBS values **academic integrity**. All students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Academic Integrity and Conduct Policy.

What is academic integrity and misconduct?
What are the penalties for academic misconduct?
What are the late penalties?
How can I appeal my grade?

Click here for answers to these questions:
http://www.kbs.edu.au/current-students/student-policies/.

Word Limits for Written Assessments

Submissions that exceed the word limit by more than 10% will cease to be marked from the point at which that limit is exceeded.

Study Assistance

Students may seek study assistance from their local Academic Learning Advisor or refer to the resources on the MyKBS Academic Success Centre page. Click here for this information.

Assessment Marking Guide

Marking Criteria _____| 20 marks	F (Fail) 0 – 49%	P (Pass) 50 – 64%	C (Credit) 65 – 74%	D (Distinction) 75 – 84%	HD (High Distinction) 85 – 100%
Explanation of RDBMS **_____| 2 marks**	Explanation is incorrect or incomplete, lacks key details, or contains significant errors	Explanation is generally correct but lacks detail or contains some inaccuracies	Explanation is accurate and detailed, demonstrates an understanding of RDBMS concepts and terminology	Explanation is accurate, detailed, and insightful, shows a deep understanding of RDBMS concepts and their application in organisations	Explanation is sophisticated, nuanced, and highly insightful, shows a comprehensive understanding of RDBMS concepts and their application in complex organisational contexts
Description of ERM Design and Data Normalisation **_____| 3 marks**	Description is incorrect or incomplete, lacks key details, or contains significant errors	Description is generally correct but lacks detail or contains some inaccuracies	Description is accurate and detailed, demonstrates an understanding of ERM design and data normalisation techniques	Description is accurate, detailed, and insightful, shows a deep understanding of ERM design and data normalisation techniques and their application in database design	Description is sophisticated, nuanced, and highly insightful, shows a comprehensive understanding of ERM design and data normalisation techniques and their application in complex database design contexts

Correctness of ERM Design **_____| 3 marks**	ERM is incorrect or incomplete, contains significant errors or omissions, or does not accurately represent the entities and their relationships	ERM is generally correct but contains some errors, omissions, or ambiguities that could impact the functionality of the database	ERM is accurate, complete, and clearly represents the entities and their relationships, meets basic database requirements	ERM is accurate, complete, and demonstrates a good understanding of the business requirements and their translation to database design	ERM is accurate, complete, and demonstrates exceptional understanding and insight into the business requirements and their translation to a sophisticated database design
Accuracy and Completeness of Data Normalisation **_____| 3 marks**	Data normalisation is incorrect or incomplete, lacks key details, or contains significant errors that could impact the functionality or integrity of the database	Data normalisation is generally correct but lacks detail or contains some inaccuracies that could impact the functionality or integrity of the database	Data normalisation is accurate, detailed, and complete, meets basic data normalisation requirements	Data normalisation is accurate, detailed, and demonstrates a good understanding of data normalisation techniques and their application to the business requirements	Data normalisation is accurate, detailed, and demonstrates exceptional understanding and insight into data normalisation techniques and their application to complex business requirements
Accuracy and Completeness of Data Population **_____| 3 marks**	Data population is incorrect or incomplete, lacks key details, or contains significant errors that prevent the database from being fully functional	Data population is generally correct but lacks detail or contains some inaccuracies that could impact the functionality or integrity of the database	Data population is accurate, complete, and meets basic data population requirements	Data population is accurate, complete, and demonstrates a good understanding of the business requirements and their translation to data population	Data population is accurate, complete, and demonstrates exceptional understanding and insight into the business requirements and their translation to sophisticated data population
Accuracy and Completeness of SQL Queries	SQL queries are incorrect or incomplete, lack key details, or contain significant	SQL queries are generally correct but lack detail or contain some inaccuracies that	SQL queries are accurate, complete, and meet basic query requirements	SQL queries are accurate, complete, and demonstrate a good understanding of	SQL queries are accurate, complete, and demonstrate exceptional

_____| 4 marks	errors that prevent the retrieval of information from the database	could impact the retrieval of information from the database		the business requirements and their translation to SQL queries that retrieve specific information from the database	understanding and insight into the business requirements and their translation to sophisticated SQL queries that retrieve complex and meaningful information from the database
Quality of Report **_____| 2 marks**	Report is incomplete or lacks key sections, contains significant errors or omissions, or does not meet basic report requirements	Report is generally complete but lacks detail or contains some inaccuracies, is poorly structured, or does not effectively communicate the database design and data normalisation decisions	Report is accurate, detailed, and well-structured, communicates the database design and data normalisation decisions effectively	Report is accurate, detailed, and insightful, shows a deep understanding of the database design and data normalisation decisions and their impact on the business requirements, and is well-structured and effectively communicates the information	Report is sophisticated, nuanced, and highly insightful, shows a comprehensive understanding of the database design and data normalisation decisions and their impact on complex business requirements, and is exceptionally well-structured and effectively communicates the information
Feedback and grades will be released via MyKBS					