

Database Development 1

Database Development 1 (DADE1)	
Assignment Number	1
Assignment Name	Formative Assessment
NQF Level	5
Credits	14
Due Date	
Marks	<p>Total marks = 130</p> <p>Formative assessments through the semester contribute towards the student's module mark and are used to assess progress and identify areas for improvement. This formative assessment will contribute 25% towards final mark. Take note of the following with regards to late submissions:</p> <ul style="list-style-type: none">a. One (1) day late (-5%)b. Two (2) days late (-10%)c. Three (3) days late (-15%)
Individual / Group Assignment	Individual
Lecturer Information	
Lecturer	
Lecturer E-mail	

Learning Objective:

Formative assessment 1 will cover the following concepts:

- a. Database development
- b. Modelling entities
- c. Modelling relationships
- d. Adding detail to the diagram
- e. Unique Identifiers
- f. Resolving Many to Many Relationships
- g. Recursive Relationships
- h. Modelling More Complex Structures
- i. Normalisation
- j. Database Design
- k. Mapping Exclusive Relationships and Entities

Attributes/Competencies Assessed:

- 115365 - Apply the principles of designing computer system inputs and outputs
- 114049 - Demonstrate an understanding of Computer Database Management Systems

Scope:

The aim of relational data modeling design concepts is to provide a structured approach for designing a database schema that efficiently and accurately represents the data requirements of an organization or system.

Relational data modeling is a process of identifying entities, attributes, and relationships between them, and organizing them into tables and defining the constraints that ensure data integrity. It is used to create a blueprint for a database, which can be used as a guide for building a physical database.

Technical Aspects:

The number of pages for this formative assessment is 15 and the following font and size should be used in your report:

- Font: Arial
- Size: 12 and 14 for headings
- Font colour: Black

Save and upload the report as a .PDF (**No backgrounds**) with the following naming convention:

- Student no_StudentName_StudentSurname_ModuleCode_FA1 (**No ZIP folder uploads**)

Ensure adequate referencing is used when using information from either books or internet. Plagiarism is a serious offence and can result in 0% for the assessment when excessive work is copied without proper referencing.

Additional research required for question 2

Please complete the following and sign as requested for Portfolio of Evidence (POE)

- Pre-Assessment agreement (Save, sign and submit as PDF)
- Assessment Feedback Agreement (Save, sign and submit as PDF)

Mark allocation for report

See Mark allocation sheet below

Question 1

(70)

Unit standard	Specific outcome	Assessment criterion
115365	1	1
	1	2
	1	3
	1	4

	1	5
	2	1
	2	2
	2	3
	3	1
	3	1

Requirements

- a. Submission must include:
 - i. Initial ER diagram
 - ii. Normalisation
 - iii. Mapping to tables
 - iv. Documentation rough work (if any)
- b. Initial ER diagram
- c. Draw an ER diagram which must indicate the following:
 - i. Optionality of relationships (may or must)
 - ii. Cardinality of relationships (one or many)
 - iii. Optionality of attributes (* or o)
 - iv. Clear indication of PKs and FKs
 - v. Named relationships and entities
- d. Use normalization
 - i. Place the attributes in zero normal form.
 - ii. Normalise the attributes to third normal form. Show each of the intermediate normal forms.
 - iii. Draw an ER diagram from the third normal form.
- e. Mapping to tables
- f. Create an initial database design from the ER diagram created from 3NF and provide at least two rows of sample data.
- g. Documentation
 - i. Supply author name and surname, date, and project name.
 - ii. Describe the purpose of the project.
 - iii. Describe each attribute and its function in the system.
 - iv. Describe possible changes when mapping to an actual database.

Scenario

Project 1 Specification: Suzi's yoga studio

Suzi's family started their own yoga school and enlarged their house to accommodate four studios. Suzi has recruited you to be their database designer.

The database will store information on their members, yoga classes/sessions, and the various yoga exercises.

- People must be 16 years of age or older in order to become a member and they are welcome to assign themselves to more than one class/session per week.
- If a class is cancelled, Suzi must be able to contact members via telephone. Members who provide their email address will also be notified via email.
- Fixed yoga sessions are scheduled: for example, every Monday morning at 07:00 studio #1 is used and every Tuesday at 18:00 studio #4 is used. Each class/session record must contain sufficient information to indicate which weekday, time, and studio is reserved for it.
- Suzi references each exercise from a particular book and she would like to keep track of the book IDs and titles in case she needs to do more research on a particular exercise.
- Suzi needs to keep track of the different exercises performed at the sessions. She specifically wants to know the name, description, and the length of each exercise in terms of minutes.
- Suzi also needs to specify how many times an exercise must be performed per session/class.

ANSWER:

Question 2

(60)

<i>Unit standard</i>	<i>Specific outcome</i>	<i>Assessment criterion</i>
114049	1	1
	1	2
	2	1
	2	2
	3	1
	3	2
	4	1
	4	2
	4	3

This question requires additional research

Use "ChatGPT" to research the following topics

- a. Identify the four (4) different types of Database Management Systems (12)

ANSWER:

- b. Database Management Systems (DBMS) provide various end-user tools to interact with and manipulate the data stored in databases. These tools aim to simplify the process of accessing, querying, analyzing, and visualizing data for non-technical users. Identify six (6) commonly used DBMS end-user tools.

(6)

ANSWER:

- c. Data management issues refer to challenges or problems encountered when handling and organizing data within an organization. A Database Management System (DBMS) addresses these issues through its features and capabilities. Identify six (6) common data management issues and how DBMSs help address them.

(18)

ANSWER:

- d. Commercial Database Management Systems (DBMS) offer a wide range of features and capabilities to meet the diverse needs of organizations. Identify eight (8) commonly implemented features found in commercial DBMS. (24)

ANSWER:

Mark allocation for student			
Section	Sub-section	Maximum Mark	Learner mark
Body of the report	Question 1: Initial ER diagram	14	
	Question 1: Normalisation – 0NF	6	
	Question 1: Normalisation – 1NF	5	

	Question 1: Normalisation – 2NF	5	
	Question 1: Normalisation – 3NF	5	
	Question 1: ER diagram from 3NF	15	
	Question 1: Mapping to tables from ERD	10	
	Question 1: User documentation	10	
	Question 2.a	12	
	Question 2.b	6	
	Question 2.c	18	
	Question 2.d	24	
Deductions	1 day late	-5	
	2 days late	-10	
	3 days late	-15	
Total:		130	

PRE-ASSESSMENT AGREEMENT

Assessment Preparation: Preparing the Candidate

Student name and surname		Date	
		Time	
Assessor name and surname		Venue	
How to prepare the candidate	Document Requirements	Agree (tick)	Action Required
Explain to the candidate why you are meeting and the purpose of the assessment.	Assessment Policy Assessment process		
Discuss the assessment plan in detail.	Assessment strategy		

Explain assessment process, show assessment instruments to candidate and describe assessment conditions.	Assessment instruments		
Identify the role-players during assessment.	Assessors Moderator		
Describe the evidence required to be declared competent.	Examples of evidence		
Explain how evidence will be judged.	Mark allocation explained		
Explain to the candidate how to prepare: Give candidate assessment task description.	Assessment task description		
Confirm with the candidate what he/she should bring to the assessment.	Detailed briefing on exact requirements to be given to candidate in writing		
Ensure that candidate understands the procedures of all assessment practices.	Appeals Policy Appeals procedure Assessment Policy Assessment Procedure Moderation Policy Moderation procedure Verification Policy Verification Procedure		
Ask the candidate if he/she foresees any problems or identify any special needs.	List needs		

Agreed Assessment Plan	
Student name and surname:	
Assessor name and surname:	
Module name:	Database Development 1
Unit Standard/s:	N/A
Type of Assessment i.e. Formative assignment, Formative test, Formative Practical, Summative etc.	Formative Assessment 1
Special Assessment Requirements:	N/A

Event	Date, time and location	Resources required	Evidence to be generated
Assessments due date		Assessments	Completed documentation
Complete activity on MyAIE and upload to MyAIE			Completed Portfolio of Evidence
Submit Portfolio of Evidence			

Assessor Roles and Responsibility	
Roles	Assessor Guide Feedback Agent Reviewer
Responsibilities	Consult candidate re-assessment, assessment process and plan. Agree assessment process and plan with candidate. Forward documentation to candidate: plan, guide and assessment instruments. Assess candidate with the use of different instruments. Provide feedback on assessment findings. Support candidate through assessment process. Source feedback from candidate on assessment process. Review assessment process and outcome. Use assessment process as opportunity to transform assessment activities and outcomes.

Candidate Roles and Responsibility	
Roles	<ul style="list-style-type: none"> • Leaner • Feedback agent • Reviewer
Responsibilities	<ul style="list-style-type: none"> • Be available for assessment. • Be actively involved in the consultative process. • Learn from the assessment process. • Provide feedback to the assessor in terms of the assessment as learning activity. • Provide feedback to the assessor on the efficacy of the assessment process.

	<ul style="list-style-type: none"> Review own role and assessor role in the assessment process.
Assessment Instruments	<ul style="list-style-type: none"> Portfolio of Evidence Questionnaire Report Presentation Reflexive questions Work sample Practical's Group Activity Research activities

Assessment Process	
<ul style="list-style-type: none"> Evaluation of POE addressing Essential Embedded Knowledge in unit standards. Evaluation of Research Projects and other evidence addressing specific unit standards. Consultation: assessment plan and assessment activities and instruments. Pre-assessment moderation and interviews conducted at this stage. Observation: feedback on assessment against specific outcomes, critical outcomes in unit standards. Feedback: to candidate regarding sufficiency of evidence and possible interview to gain supplementary evidence. Feedback to candidate regarding assessment findings as well as review process. 	
Feedback	Written feedback to be given to all stakeholders at the end of the assessment process, as well as verbal feedback to the candidate during assessment activities.
Recording Process	Process and findings to be recorded and submitted for record keeping purposes as well as moderation and verification.
Review Process	The review process is the responsibility of the assessor and the candidate. Joint reviewing will take place after feedback has been given to the candidate.
Right to appeal	The candidate must be advised of the right to appeal.
Resources Required	Assignments <ul style="list-style-type: none"> POE Assessments Guides
I confirm that: <ul style="list-style-type: none"> I have been consulted on and have agreed to the training and assessment process as detailed in the assessment guide. I have been advised of my right to appeal against any assessment that is unfair, unreliable, invalid or impracticable. I have read and understood the appeal procedure. 	

- I know that assessments may be moderated or verified by an external party.
- The purpose of the assessment has been clearly explained to me.
- The criteria have been discussed with me, and I know I will be assessed against these criteria.
- I know when and where I will be assessed, and I was given fair notice.
- I know how the assessment will be done, and any other requirements related to the assessment.

Signed: _____

Date: _____

Overall Assessment Decision	Competent		Not yet competent	
Student's Signature			Date:	
Assessor's Signature			Date:	
Moderator's Signature			Date:	

ASSESSMENT FEEDBACK AGREEMENT

Assessment feedback: Feedback to learner

Qualification Name:	
Qualification SAQA Number:	
Subject Name:	Database Development 1
Subject Code:	DADE1
Assessment Name:	Formative Assessment 1
Assessment Code:	DADE1_FA1

Assessment Type:	Fomative
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Feedback report	1st Attempt		2nd Attempt	
	C	NYC	C	NYC
Unit standard Number(s)				
US115365				
SO1,AC1				
SO1,AC2				
SO1,AC3				
SO1,AC4				
SO1,AC5				
SO2,AC1				
SO2,AC2				
SO2,AC3				
SO3,AC1				
SO3,AC2				
US114049				
SO1,AC1				
SO1,AC2				
SO2,AC1				
SO2,AC2				
SO3,AC1				

SO3,AC2				
SO4,AC1				
SO4,AC2				
SO4,AC3				

General feedback to learner (Attempt 1)
Supply comprehensive feedback why learner is found NYC

Learner Number:			
Learner name and surname:		Date:	
Learner Signature:			
Lecturer name and surname:		Date:	
Lecturer Signature:			
Assessor name and surname:		Date:	
Assessor Signature:			
Moderator name and surname:		Date:	

Moderator Signature:	
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<p>Note to learner</p> <p>Review the feedback provided by your lecturer to check that you have been found competent in this assessment. If there are any areas where you have been found not yet competent, you must redo those parts of the assessment and resubmit within the stipulated time frame.</p> <p>The section below will only be completed in cases where the learner was asked to resubmit parts of the assessment where they were found not yet competent.</p>

<p>General feedback to learner (Attempt 2)</p> <p>Supply comprehensive feedback why learner is found NYC</p>

Learner Number:			
Learner name and surname:		Date:	
Learner Signature:			
Lecturer name and surname:		Date:	
Lecturer Signature:			
Assessor name and surname:		Date:	

Assessor Signature:			
Moderator name and surname:		Date:	
Moderator Signature:			