

Tutorial Letter 101/3/2017

Databases 1

INF2603

Semester 1 & 2

School of Computing

IMPORTANT INFORMATION:

This tutorial letter contains important information
about your module.

BAR CODE

CONTENTS

Page

1	INTRODUCTION	3
2	PURPOSE OF AND OUTCOMES FOR THE MODULE.....	4
2.1	Purpose	4
2.2	Outcomes	4
3	LECTURER(S) AND CONTACT DETAILS.....	4
3.1	Lecturer(s)	4
3.2	Department.....	4
3.3	University	4
4	RESOURCES.....	4
4.1	Prescribed book.....	4
4.1.1	Syllabus	5
4.2	Recommended books	5
4.3	Electronic reserves (e-reserves)	5
5	FREE COMPUTER AND INTERNET ACCESS.....	5
6	STUDENT SUPPORT SERVICES.....	5
6.1	E-tutors	5
7	STUDY PLAN.....	6
8	PRACTICAL WORK AND WORK-INTEGRATED LEARNING.....	6
9	ASSESSMENTS.....	6
9.1	Assessment plan	6
9.2	General assignment numbers	7
9.3	Submission of assignments	8
9.4	Semester 01 Assignments	9
9.5	Semester 02 Assignments	18
10	EXAMINATION.....	26
11	FREQUENTLY ASKED QUESTIONS	26
12	SOURCES CONSULTED	27

1 INTRODUCTION

Dear Student

Welcome to Databases I for semesters 1 and 2 in 2017. Please read this document in its entirety as it contains very important information about the module. It contains all the information about the module assignments. More details can be found online (myUnisa portal).

Databases I is a fully online module. This means all communication, tutorial mater, and submissions related to the module will be done through myUnisa (my.unisa.ac.za). There is no study guide for this module and the prescribed book for the module is mentioned in section 4.1.

No tutorial matter (tutorial letters) will be sent to you through post. All registered students have access to this website. Please refer to the *Study @ Unisa* brochure (www.unisa.ac.za) on how to access myUnisa and activate your myLife student account.

It is therefore compulsory that you visit myUnisa on a regular basis and check your Unisa (myLife) e-mail regularly, over the duration of your studies. We will be sending regular announcements and it is your responsibility to read them and take appropriate action afterwards.

Please refer to Tutorial Letter 301 for the lecturers' and School of Computing's contact details. Alternatively, send an e-mail to the module mailbox. The following are the approximate dates for the beginning of both semesters in 2017:

Semester 1: 23 January 2017

Semester 2: 10 July 2017

Therefore, plan your registration according and visit myUnisa to begin your studies and check all due dates for online assignments. Please note that no extensions will be granted for late submission of any assignments in this module.

We are looking forward to seeing you online in 2017.

2 PURPOSE OF AND OUTCOMES FOR THE MODULE

2.1 Purpose

This module serves as a fundamental building block in equipping students with the knowledge and competencies to understand and use databases. The module provides fundamental and required knowledge, skills and values which will support further studies in the field of Database Management design and implementation systems as required for studies in Information Systems and Computer Science.

2.2 Outcomes

- To demonstrate a well-rounded and systematic knowledge of the fundamentals of database management systems.
- To be able to apply fundamental principles and techniques relevant to database management.
- Designing databases using the notations and strategies identified.
- Demonstrate a well-rounded and systematic knowledge of the fundamentals of the Standard Query language (SQL).

3 LECTURER(S) AND CONTACT DETAILS

3.1 Lecturer(s)

Please refer to Tutorial Letter 301 for contact details of the lecturers and the School.

3.2 Department

School of Computing

3.3 University

University of South Africa

4 RESOURCES

4.1 Prescribed book

<i>Title</i>	Database Systems: Design, Implementation, and Management
<i>Authors</i>	Carlos Coronel & Stephen Morris
<i>Publisher</i>	Cengage Learning EMEA
<i>Edition</i>	12e
<i>Year of Publication</i>	2016
<i>ISBN</i>	13: 978-1-305-62748-2 / 9781305627482 10:1-305-62748-2

4.1.1 Syllabus

Chapter	Topics in CMRC	Study instructions
1	Database Systems	Study in depth
2	Data Models	Study in depth
3	The Relational Database Model	Study in depth
4	Entity Relationship (ER) Modeling	Study in depth
5	Advanced Data Modeling	Study in depth
6	Normalization of Database Tables	Study in depth
7	Introduction to Structured Query Language (SQL)	Study in depth

4.2 Recommended books

None

4.3 Electronic reserves (e-Reserves)

There is a selection of YouTube videos for relational database concepts under Learning Units “Unit 0.3 YouTube Videos” and Discussion Forum “3. YouTube Videos”. We recommend you watch the videos and discuss their content in the **Discussion Forum**.

5 STUDY PLAN

Unisa has entered into partnerships with establishments (referred to as Telecentres) in various locations across South Africa to enable you (as a Unisa student) free access to computers and the internet. This access enables you to conduct the following academic-related activities: registration; online submission of assignments; engaging in e-tutoring activities and signature courses; etc. Please note that any other activity outside of these is for your own cost e.g. printing, photocopying, etc. For more information on the Telecentre nearest to you, please visit www.unisa.ac.za/telecentres.

6 STUDENT SUPPORT SERVICES

6.1 E-tutors

This module has e-tutors. Once you have been registered, you will be allocated to a group of students with whom you will be interacting during the tuition period as well as an e-tutor who will be your tutorial facilitator. Thereafter you will receive an SMS informing you about your group, the name of your e-tutor and instructions on how to log onto myUnisa in order to receive further information on the e-tutoring process.

Additional important information appears in your *myStudies @ Unisa* brochure.

7 STUDY PLAN

Use your *Study @ Unisa* brochure for general time management and planning skills.

A module-specific **Weekly Schedule** for the module is provided on myUnisa under **Additional Resources**.

8 PRACTICAL WORK AND WORK-INTEGRATED LEARNING

None

9 ASSESSMENTS

9.1 Assessment plan

9.1.1 Formative assessments (YM):

1. Assignment 01 (MCQ) – 20%
2. Assignment 02 (WRITTEN) – 35%
3. Introduce yourself & welcome at least TWO class mates – 5% (Assignment 03)
4. Discussions contribution on each of the posted topics – 5% (Assignment 04)
5. 7 Self-assessments – 1 for each chapter (MCQ)
 - Assignment numbers 05 - 11
 - 7 x 5% each = 35%
 - All 7 SAs have stipulated due dates (see below)

9.1.2 Summative assessment:

1. Final examination: MCQ (20%) & WRITTEN (80%)

9.1.3 Assessment marks ratio:

1. Year mark: 30%
2. Exam mark: 70%

ALL assignments **MUST** be submitted electronically through myUnisa!

9.1.4 Self-assessments

The module is comprised of EIGHT (8) self-assessments (SAs), one for each of the chapters in the syllabus. Each self-assessment contributes 35% (5% each) towards the year mark. ALL self-assessments of **Semester 1** are available for submission from **10 February 2017** and they will ALL be due on **21 April 2017**; ALL self-assessments of **Semester 2** are available for submission from **28 July 2017** and they will ALL be due on **06 October 2017**. **NO EXTENSIONS** will be granted for the due dates under any circumstance. If you do not submit the SA on or before the due date you will effectively forfeit the marks. Each SA has an allocated time of **TWO (2) HOURS**, after which automatic grading will be calculated when the time has elapsed. It is your responsibility to find **TWO** hours to complete an assessment. Students have only **TWO ATTEMPTS** to complete a self-assessment during the period it is open and the

highest mark will be recorded. Make sure you attempt the SA after you have completed reading the particular chapter.

NO SPECIAL ARRANGEMENTS WILL BE MADE FOR MISSING A SUBMISSION DEADLINE IN THE ALLOCATED TWO SUBMISSIONS.

9.2 General assignment numbers

Assignments are numbered consecutively per module, starting from 01.

IMPORTANT NOTE: Examination admission is determined by submission of Assignment 01, which is compulsory. All TWELVE (11) assignments contribute to the calculation of year mark; therefore it is recommended that you submit all of them to improve your final year mark. It is also good preparation for the final examination.

9.2.1 Unique assignment numbers and due dates

First Semester				
Assignment	Type	Unique No.	Due Date 2017	Weight
1	MCQ	752963	10 Mar	20%
2	Written	786245	07 Apr	35%
3	Discussions: Introduce Yourself	758058	10 Mar	5%
4	Discussions: Topics	694859	07 Apr	5%
5	SA – Ch01	566546	21 Apr	5%
6	SA – Ch02	871401	21 Apr	5%
7	SA – Ch03	657180	21 Apr	5%
8	SA – Ch04	820565	21 Apr	5%
9	SA – Ch05	750977	21 Apr	5%
10	SA – Ch06	701540	21 Apr	5%
11	SA – Ch07	783478	21 Apr	5%
	TOTAL			100%

Second Semester				
Assignment	Type	Unique No.	Due Date 2017	Weight
1	MCQ	687295	01 Sep	20%
2	Written	756263	29 Sep	35%
3	Discussions: Introduce Yourself	845893	01 Sep	5%
4	Discussions: Topics	588061	22 Sep	5%
5	SA – Ch01	707597	06 Oct	5%
6	SA – Ch02	822731	06 Oct	5%
7	SA – Ch03	719102	06 Oct	5%
8	SA – Ch04	866424	06 Oct	5%
9	SA – Ch05	661636	06 Oct	5%
10	SA – Ch06	737573	06 Oct	5%
11	SA – Ch07	576549	06 Oct	5%
	TOTAL			100%

9.3 Submission of assignments

9.3.1 Electronic submission of Assignment 01: Multiple-choice Assignment 01

- Connect to the URL: <https://my.unisa.ac.za>.
- Register to become a user.
- Once you are a registered user, click on the code you are registered for, e.g. INF2603 - Assignment.
- Select the multiple-choice assignment you wish to submit. Proceed to fill in the electronic sheet. Submit the assignment after you have electronically made your selections.
- Retain proof of submission.

9.3.2 Electronic submission of a written Assignment 02

- Connect to the URL: <https://my.unisa.ac.za>.
- Once you are a registered user, click on the code you are registered for, e.g. INF2603 - Assignment.
- Upload your Assignment 02 document **ONLY** in PDF format.

9.3.3 Electronic submission of discussions assignments (Assignments 03 and 04)

- Connect to the URL: <https://my.unisa.ac.za>.
- Register to become a user.
- Once you are a registered user, click on the code you are registered for, e.g. INF2603.
- Click on **Discussions**.
- Click on **Introduce Yourself** for Assignment 03
- Click on **Discussions Topics** for Assignment 04

9.3.4 Electronic submission of self-assessments (Assignments 05–11)

- Connect to the URL: <https://my.unisa.ac.za>.
- Register to become a user.
- Once you are a registered user, click on the code you are registered for, e.g. INF2603.
- Click on the **Self-assessments** link and a list of all active assignments will be displayed.
- Click on the Assignment you want to submit and answer the questions, then submit for grading.

**DO NOT POST, FAX OR E-MAIL ASSIGNMENTS TO UNISA OR LECTURERS.
SUCH SUBMISSIONS WILL NOT BE MARKED!**

9.4 Semester 01 Assignments

SEMESTER 01 ASSIGNMENT 01

TOTAL MARKS: 100

Due date	Tutorial matter covered in prescribed book
10 March 2017	Chapter 1: Database Systems Chapter 2: Data Models Chapter 3: The Relational Database Model
Unique number: 752963	

Select the most appropriate option:

1. Which of the following is not an advantage of DBMS?
 1. Improved data security.
 2. Improved decision making.
 3. Decreased end-user productivity.
 4. End users have better access to more data.
2. From a database perspective, a(n) _____ is a specific request for data manipulation issued to the DBMS
 1. query
 2. report
 3. SQL command
 4. extended relational data
3. Which of the following represents a row in a table?
 1. a field
 2. a record
 3. a characteristic
 4. an attribute
4. Which function is NOT a DBMS function?
 1. data storage management
 2. data manipulation management
 3. security management
 4. data dictionary management

5. Which of the following refers to data that has already been processed to some extent?
1. structured data
 2. semi-structured data
 3. centralised data
 4. analytical data
6. In database systems _____ exist when different versions of the same data appear in different places.
1. data abnormalities
 2. data independence
 3. data inconsistency
 4. data dependence
7. Data models can facilitate interaction among a(n) _____.
1. designer, data analyst and the end-user
 2. designer, application programmer and end-user
 3. application programmer, database administrator and data analyst
 4. designer, developer and application manager
8. A business rule _____.
1. is used to define data types
 2. should be brief, precise and unambiguous
 3. require an understanding of the database
 4. is a combination of policies, procedures and principles
9. A relational table stores a collection of related_____.
1. key attributes
 2. tables
 3. entities
 4. relations
10. Which of the following statements is NOT true about OO?
1. An object is an abstraction of real world entity.
 2. Attributes describes the properties of an object.
 3. OO data models are typically depicted using UML class diagrams.
 4. Classes are organised in a traditional relational model.

11. A(n) _____ is a characteristic of an entity.

1. attribute
2. relationship
3. constraint
4. segment

12. Which model operates at the lowest level of abstraction?

1. external
2. conceptual
3. internal
4. physical

13. Which relationship is represented bellow?



1. one to one
2. one to many
3. many to one
4. many to many

14. Associative entity is referring to _____.

1. bridge tables
2. composite key
3. bridge entity
4. linking tables

15. Any attribute that is part of a key is known as a _____.

1. composite key
2. key attribute
3. primary key
4. secondary key

16. The _____ operator requires that the two operand relations must have at least one common attribute.
1. outer join
 2. theta join
 3. equijoin
 4. natural join
17. Which two joins makes it possible that some of the tuples in the joined relations do not have identical values for the common attributes?
1. outer join and natural join
 2. theta join and natural join
 3. theta join and equijoin
 4. outer join and theta join
18. Join operator is denoted by symbol _____.
1. σ
 2. \times
 3. $-$
 4. \bowtie
19. Which one of the following is irrelevant when building a query using relational algebraic expression?
1. List all the attributes we need to give the answer.
 2. Select all the relations we need, based on the list of attributes.
 3. Combine all tuples from two relations, excluding duplicate tuples.
 4. Specify the relational operators and the intermediate results that are needed.
20. If two relations are not union-compatible, then the UNION operator can be applied as results would be invalid. (True = 1 or False = 2)

SEMESTER 01**ASSIGNMENT 02****TOTAL MARKS: 100**

Due date	Tutorial matter covered in prescribed book
07 April 2017	All chapters in the syllabus
Unique number: 786245	

Questions 1 [25]

- 1.1. Define an index. (1)
- 1.2. Describe the three parts involved in any SQL-based relational database application. (6)
- 1.3. What is a key and how is it important in a relational model? (4)
- 1.4. What is a ternary relationship? Provide some business rules examples that specify the need for a ternary or higher-order relationship. (4)
- 1.5. In which two cases are composite primary keys particularly useful? (2)
- 1.6. Describe a dependency diagram and explain its purpose. (4)
- 1.7. What is a subquery? When is it used? Does the RDBMS deal with subqueries any differently from normal queries? (4)

Question 2 [25]

Create an ERD using Crow's Foot Notation that can be implemented for a medical clinic, using the following business rules:

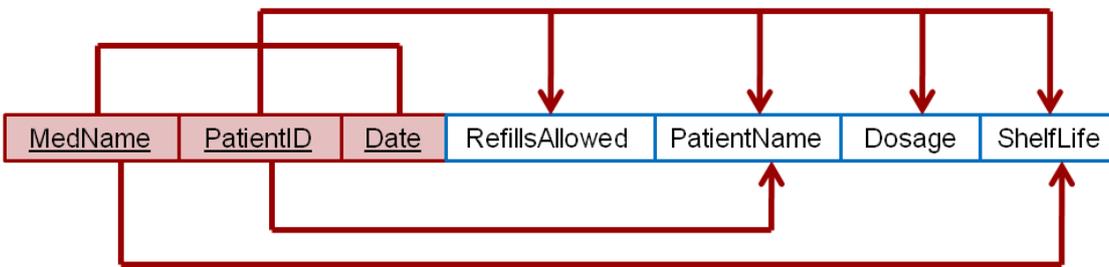
- A patient can make many appointments with one or more doctors in the clinic, and a doctor can accept appointments with many patients. However, each appointment is made with only one doctor, and each appointment references a single patient.
- Emergency cases do not require an appointment. However, for appointment management purposes, an emergency is entered in the appointment book as "unscheduled."
- If kept, an appointment yields a visit with the doctor specified in the appointment. The visit yields a diagnosis and, when appropriate, treatment.
- With each visit, the patient's records are updated to provide a medical history
- Each patient visit creates a bill. Each patient visit is billed by one doctor, and each doctor can bill many patients.

- f. Each bill must be paid. However, a bill may be paid in many instalments, and a payment may cover more than one bill.
- g. A patient may pay the bill directly, or the bill may be the basis for a claim submitted to an insurance company.
- h. If the bill is paid by an insurance company, the deductible is submitted to the patient for payment.

Question 3

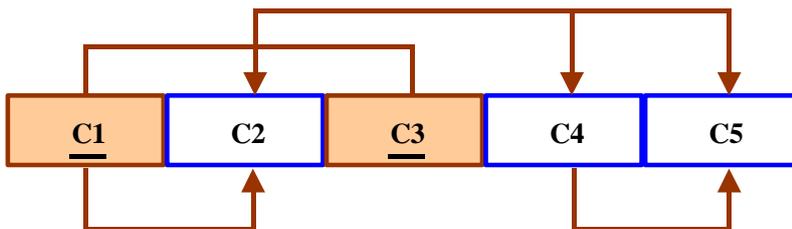
[25]

3.1. The dependency diagram below indicates that a patient can receive many prescriptions for one or more medicines over time. Based on the dependency diagram, create a database whose tables are in at least 2NF, showing the dependency diagram for each table. (9)



HINT: Create three tables.

3.2. Given the dependency diagram shown below, answer items 3.2.a-b:



- a. Identify and discuss each of the indicated dependencies. (9)
- b. Create a database whose tables are at least in 3NF, showing the dependency diagrams for each table. (7)

Question 4**[25]**

The following table form part of a database held in a relational DBMS:

The wine cellar database (file CELLAR)

BIN#	WINE	PRODUCER	YEAR	BOTTLES	READY
2	Chardonnay	Buena Vista	2015	1	2017
3	Chardonnay	Geyser Peak	2015	5	2017
6	Chardonnay	Simi	2014	4	2016
12	Joh. Riesling	Jekel	2016	1	2017
21	Fumé Blanc	Ch. St. Jean	2015	4	2017
22	Fumé Blanc	Robt. Mondavi	2014	2	2016
30	Gewürztraminer	Ch. St. Jean	2016	3	2017
43	Cab. Sauvignon	Windsor	2009	12	2018
45	Cab. Sauvignon	Geyser Peak	2012	12	2020
48	Cab. Sauvignon	Robt. Mondavi	2011	12	2022
50	Pinot Noir	Gary Farrell	2014	3	2017
51	Pinot Noir	Fetzer	2011	3	2018
52	Pinot Noir	Dehlinger	2013	2	2016
58	Merlot	Clos du Bois	2012	9	2018
64	Zinfandel	Cline	2012	9	2021
72	Zinfandel	Rafanelli	2013	2	2021

4.1. Show the results of the following SQL retrieval statements on the wine cellar database:

a. SELECT WINE, PRODUCER
 FROM CELLAR
 WHERE BIN# = 64; (2)

a. SELECT WINE, BIN#, YEAR
 FROM CELLAR
 WHERE PRODUCER = 'Robt. Modavi'
 AND BOTTLES > 6; (2)

4.2. Show the results of the following SQL update operations on the wine cellar database:

a. INSERT
 INTO CELLAR (BIN#, WINE, PRODUCER, YEAR, BOTTLES, READY)
 VALUES (80, 'Syrah', 'Meridian', 2012, 12, 2017); (3)

b. UPDATE CELLAR
 SET BOTTLES = BOTTLES + 2
 WHERE Wine=' Fumé Blanc' ; (3)

4.3. Write SQL statements to perform the following operations on the wine cellar database:(15)

NOTE: All SQL syntax must be correct, missing characters will be penalised!

- a. List all bin numbers that must be ready in 2017 or 2018. Show the columns (4)
- b. List all wines which must be ready between 2018 and 2020. (4)
- c. List all the distinct bottles in the Cellar table. Sort these bottles in bin numbers order.(4)
- d. Remove all Chardonnay wines from stock. (3)

SEMESTER 01

ASSIGNMENT 03

TOTAL MARKS: 100

Due date	Introduce Yourself Assignment
10 March 2017	<p>Instructions: You are required to first post an introduction of yourself and then welcome at least TWO classmates from the forum “1. Introduce Yourself” (Ice-Breaker Activity) (see unit 0.2 Getting Started under Learning Units) (Full instructions under section 9.3.3 above.)</p> <p>This assignment contributes 5% towards your year mark.</p>
Unique number: 758058	

SEMESTER 01

ASSIGNMENT 04

TOTAL MARKS: 100

Due date	Discussions Topics Assignment
07 April 2017	<p>Instructions: This assignment involves your participation in online Discussions Topics posted for specific module concepts. You are required to respond to ALL topics posted in the forum “2. Discussions Topics” under Discussions. (Full instructions under section 9.3.3 above.)</p> <p>This task contributes 5% towards your year mark.</p>
Unique number: 694859	

SEMESTER 01

ASSIGNMENTS 05 – 12

TOTAL MARKS EACH: 100

EIGHT (7) Self-assessments for each chapter in the syllabus				
Instructions: Logon to myUnisa and navigate to Self-Assessments (SA). Consult section 9.1.4 for information on when a self-assessment is open for submission. (Full instructions on how to access Self-Assessments are given under section 9.3.4 above.)				
Assignment	Type	Unique No.	Due Date 2017	Weight
5	SA – Ch01	566546	21 Apr	5%
6	SA – Ch02	871401	21 Apr	5%
7	SA – Ch03	657180	21 Apr	5%
8	SA – Ch04	820565	21 Apr	5%
9	SA – Ch05	750977	21 Apr	5%
10	SA – Ch06	701540	21 Apr	5%
11	SA – Ch07	783478	21 Apr	5%
	Year Mark Contribution			35%

9.5 Semester 02 Assignments

SEMESTER 02

ASSIGNMENT 01

TOTAL MARKS: 100

Due date	Tutorial matter covered in prescribed book
01 September 2017	Chapter 1: Database Systems Chapter 2: Data Models Chapter 3: The Relational Database Model
Unique number: 687295	

Select the most appropriate option:

- Which discipline focus on the proper generation, storage and retrieval of data?
 - better data integration
 - maximised data inconsistency
 - improved data sharing
 - improved data access
- Which one of the following database management systems does not support Analytical data usage?
 - MS Access
 - MySQL
 - SAP HANA
 - IBM DB2
- A(n) _____ is a collection of programs that manages the database structure and controls access to the data stored in the database.
 - general-purpose database
 - analytical database
 - desktop database
 - database management system

4. Which of the following refers to a character or group of characters that has a specific meaning?
 1. data
 2. record
 3. file
 4. field
5. A file system exhibit _____ when access to a file is dependent on its structure.
 1. structural dependence
 2. structural independence
 3. data dependence
 4. data independence
6. Which of the following refers to the activities that focus on the design of the database structure that will be used to store and manage end-user data?
 1. data quality
 2. data warehouse
 3. data management
 4. data design
7. Which of the following is not a data anomaly?
 1. addition
 2. deletion
 3. insertion
 4. update
8. A(n) _____ describes an association among entities.
 1. attribute
 2. relationship
 3. constraint
 4. association

9. A relational model is implemented through a sophisticated _____.

1. RDBMS
2. DBMS
3. DML
4. UML

10. In ERD, modellers use the term _____ to label the types of relationships.

1. occurrence
2. inheritance
3. connectivity
4. relationship

11. Which OO component is a collection of similar objects with shared structure and behaviour?

1. attribute
2. model
3. method
4. class

12. A _____ refers to the amount of data being stored.

1. big data
2. volume
3. velocity
4. variety

13. Which one of the following notations is represented by the bellow figure?



1. Chen
2. Crow's foot
3. UML Class diagram
4. Microsoft

14. Which type of key is an attribute that uniquely identifies any given row?

1. composite key
2. public key
3. primary key
4. candidate key

15. Which concept is commonly used in database tables to indicate that if you know the value of A you can look up the value of B?

1. dependence
2. look-up
3. determination
4. relationship

16. When is it ideal to use a secondary key?

1. when we want to uniquely identify each row
2. when we want to eliminate redundancies in a table
3. to match the primary key values in the related table
4. when we want to retrieve data from a table

17. Which statement is NOT true about data dictionary?

1. It is used to avoid nulls in a database.
2. Data dictionary contains metadata.
3. It contains all of the attribute names and characteristics for each table in the system.
4. It is called the database designer's database.

18. It is best to use SELECT operator when we _____ .

1. return all values for selected attributes
2. list all the row values or only those that match a specified criterion
3. combine all tuples from two relations, excluding duplicate tuples
4. return only the tuples that appear in both relations

19. PROJECT is denoted by the symbol _____ .

- 1. π
- 2. U
- 3. σ
- 4. ρ

20. Which two joins makes it possible that some of the tuples in the joined relations do not have identical values for the common attributes?

- 1. outer join and natural join
- 2. theta join and equijoin.
- 3. outer join and theta join
- 4. theta join and natural join

SEMESTER 02

ASSIGNMENT 02

TOTAL MARKS: 100

Due date	Tutorial matter covered in prescribed book
29 September 2017	All chapters in the syllabus
Unique number: 756263	

Questions 1

[25]

- 1.1. Describe what metadata are and what value they provide to the database system. (3)
- 1.2. What do business rules require to be effective? (2)
- 1.3. Describe the use of null values in a database. (2)
- 1.4. Define entity integrity. What are the two requirements to ensure entity integrity? (4)
- 1.5. Explain mandatory participation in an entity relationship. (2)
- 1.6. Differentiate between specialisation and generalisation. (4)
- 1.7. Explain the Boyce-Codd normal form (BCNF). How is it related to other normal forms? (4)
- 1.8. What is a schema? How many schemas can be used in one database? (4)

Question 2**[25]**

Create an ERD using Crow's Foot Notation that can be implemented for a medical clinic, using the following business rules:

- An INVOICE is written by a SALESREP. Each sales representative can write many invoices, but each invoice is written by a single sales representative.
- The INVOICE is written for a single CUSTOMER. However, each customer can have many invoices.
- An INVOICE can include many detail lines (LINE), which describe the products bought by the customer.
- The product information is stored in a PRODUCT entity.
- The product's vendor information is found in a VENDOR entity.

Question 3**[25]**

To keep track of office furniture, computers, printers, and other office equipment, the FOUNDIT company uses the table structure shown below:

Sample ITEM Records

Attribute Name	Sample Value	Sample Value	Sample Value
ITEM_ID	231134-678	342245-225	254668-449
ITEM_LABEL	HP DeskJet 895Cse	HP Toner	DT Scanner
ROOM_NUMBER	325	325	123
BLDG_CODE	NTC	NTC	CSF
BLDG_NAME	Nottooclear	Nottooclear	Canseefar
BLDG_MANAGER	I. B. Rightonit	I. B. Rightonit	May B. Next

- In light of the information above, write the relational schema and draw the dependency diagram. Make sure that you label the transitive and/or partial dependencies. (12)
- Write the relational schema and create a set of dependency diagrams that meet 3NF requirements. Rename attributes to meet the naming conventions, and create new entities and attributes as necessary. (13)

b. UPDATE CELLAR

SET BOTTLES = BOTTLES - 2

WHERE BIN# = 43 ; (2)

4.3. Write SQL statements to perform the following operations on the wine cellar database:(17)

NOTE: All SQL syntax must be correct, missing characters will be penalized!

- a. Get bin number, name of wine, and number of bottles for all Geyser Peak wines. Remove all Chardonnay wines from stock. (3)
- b. List all wines that must be ready by 2020 and 2022. Show the columns. (3)
- c. Delete the row for the wine Pinot Noir, which is produced by Gary Farrell and must be ready in 2017. (*Hint: Use logical operators to include all of the information given in this problem. Remember, if you are using MySQL, you will have to first disable "safe mode".*) (4)
- d. Add an entry for a new case (12 bottles) of Merlot wine, produced by Gary Farrell , bin number 55, year 2015, and it must be ready by year 2023. (2)
- e. Save the changes made to cellular table. (1)
- f. Change the producer name to Mikel for the wine that bin number is 12. After you have completed the test , examine the results and then reset the producer to the original producer. (4)

SEMESTER 02

ASSIGNMENT 03

TOTAL MARKS: 100

Due date	Introduce Yourself Assignment
01 Sep 2017	Instructions: You are required to first post an introduction of yourself and then Welcome at least TWO classmates from the forum "1. Introduce Yourself" (Ice-Breaker Activity) (see unit 0.2 Getting Started under Learning Units) (Full instructions under section 9.3.3 above.). This assignment contributes 5% towards your year mark.
Unique number: 845893	

Due date	Discussions Topics Assignment
22 Sep 2017	<p>Instructions: This assignment involves your participation in online Discussions Topics posted for specific module concepts. You are required to respond to ALL topics posted in the forum “2. Discussions Topics” under Discussions. (Full instructions under section 9.3.3 above.)</p> <p>This task contributes 5% towards your year mark.</p>
Unique number: 588061	

EIGHT (7) Self-assessments for each chapter in the syllabus				
Instructions: Logon to myUnisa and navigate to Self-Assessments (SA). Refer to section 9.1.4 for information on when a self-assessment is open for submission. (Full instructions on how to access self-assessments are given under section 9.3.4 above.)				
Assignment	Type	Unique No.	Due Date 2017	Weight
5	SA – Ch01	707597	06 Oct	5%
6	SA – Ch02	822731	06 Oct	5%
7	SA – Ch03	719102	06 Oct	5%
8	SA – Ch04	866424	06 Oct	5%
9	SA – Ch05	661636	06 Oct	5%
10	SA – Ch06	737573	06 Oct	5%
11	SA – Ch07	576549	06 Oct	5%
	Year Mark Contribution			35%

10 EXAMINATION

Use your *Study @ Unisa* brochure for general examination guidelines and examination preparation guidelines.

Module-specific examination guidelines will be posted through *myUnisa*.

11 FREQUENTLY ASKED QUESTIONS

The *Study @ Unisa* brochure contains an A-Z guide of the most relevant study information.

12 SOURCES CONSULTED

Carlos Coronel and Stephen Morris, *Database Systems: Design, Implementation, and Management*, Cengage Learning EMEA, 12 Edition, 2016, 13: 978-1-305-62748-2 / 9781305627482 10:1-305-62748-2

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