A2

This is a preview of the published version of the quiz

Started: Feb 20 at 2:07pm

Quiz Instructions

This test has a time limit of 75mins.

This test will save and submit automatically when the time expires.

Once started, this test must be completed in one sitting. Do not leave the test before clicking Save and Submit.

Assignment 2 preview.pdf (https://fsu.instructure.com/files/1217206/download?download_frd=1)

https://www.youtube.com/watch?v=U34qT5fngKE&t (https://www.youtube.com/watch?v=U34qT5fngKE&t=159s)

(https://www.youtube.com/watch?v=U34qT5fngKE&t=159s)

premiere.sql (https://fsu.instructure.com/files/115859/download?verifier=fa0sL5GM4AigW9Sgyb1RWfRdE2vpDCURoQyB6O2j&wrap=1)
(https://fsu.instructure.com/files/115859/download?verifier=fa0sL5GM4AigW9Sgyb1RWfRdE2vpDCURoQyB6O2j&wrap=1)

Question 1 — 4 pts

What is the difference between a database and a table, and what is metadata?

- [ ] A table, a logical structure that represents an entity set.
- [ ] The database is a structure that houses one or more tables and metadata.
- [ ] A table is perceived as a two-dimensional structure composed of rows and columns.
- [ ] The metadata (contained w/in the database) are data about data.

Question 2

4 pts

What does it mean to say that a database displays both entity integrity and referential integrity?

- [ ] Entity integrity describes a condition in which all tuples (i.e., rows or records) within a table are uniquely identified by their primary key. The unique value requirement prohibits a null primary key value, because nulls are not unique.
- [ ] Entity integrity describes a condition in which a foreign key value has a match in the corresponding table, or in which the foreign key value is null.
- [ ] Referential integrity describes a condition in which a foreign key value has a match in the corresponding table, or in which the foreign key value may be null (depending upon the business rules).
- [ ] Referential integrity describes a condition in which all tuples (i.e., rows or records) within a table are uniquely identified by their primary key.

Question 3

4 pts

Why are entity integrity and referential integrity important in a database?

- [ ] Referential integrity ensures that each row is uniquely identified by the primary key.
- [ ] Referential integrity means that, if the foreign key contains a value, that value refers to an existing valid tuple (row) in another relation.
- [ ] Entity integrity means that, if the foreign key contains a value, that value refers to an existing valid tuple (row) in another relation.
- [ ] Entity integrity ensures that each row is uniquely identified by the primary key.

Question 4

3 pts

What are the requirements that two relations must satisfy in order to be considered union-compatible?

- Both must have the same number of tables and corresponding tables must have the same domains (data types).
- Both must have the same number of records (rows) and corresponding records (rows) must have the same domains (data types).
- Both must have the same number of attributes (columns) and corresponding attributes (columns) must have the same (or compatible) domains (data types).
- Both must have the same number of attributes and their names must be the same.

Question 5

3 pts

Which relational algebra operators can be applied to a pair of tables that are not union-compatible?

- Intersect and Divide
- Intersect, Join, and Divide
- Join and Difference
- Product, Join, and Divide

Question 6

4 pts

The data dictionary is sometimes called “the database designer’s database.” Which one of the following is NOT a correct description about the data dictionary?

- It records the design decisions about tables and their structures.
- Its purpose is to ensure that all members of database design and implementation teams use the same table and attribute names and characteristics.
- It should only include basic information for each table in the system without additional information like table and attribute names.

- It contains metadata such as the attribute names and characteristics for each table in the system.

Question 7

3 pts

A database user manual notes that, “The file contains two hundred records, each record containing nine fields.” Use appropriate relational database terminology to “translate” that statement.

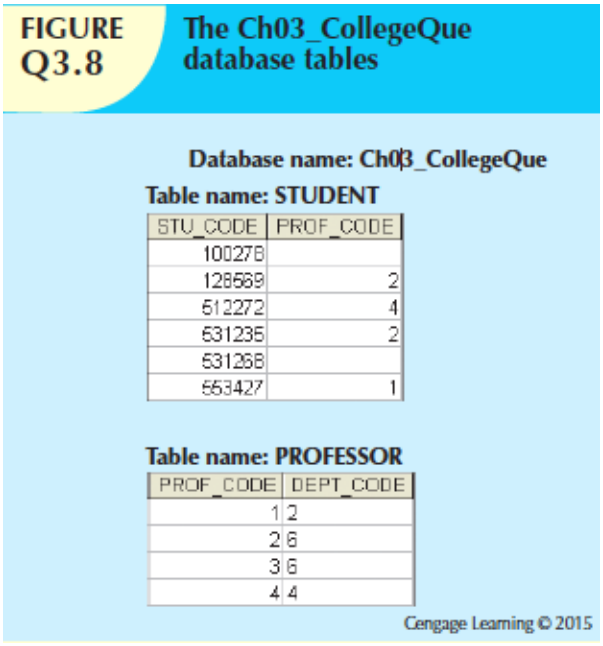
- "the table--or entity set--contains two hundred rows or, two hundred tuples, or entity occurrences. Each of these rows contains nine attributes."
- "the table--or entity set--contains two hundred rows or, two hundred tuples, or entity occurrences. Each of these rows contains nine records."
- "the table--or entity set--contains two hundred fields or, two hundred tuples, or entity occurrences. Each of these rows contains nine records."
- "the table--or entity set--contains two hundred attributes. Each of these rows contains nine tuples."

Question 8

4 pts

Using the STUDENT and PROFESSOR tables shown in Figure Q3.8 (see textbook) to illustrate the differences between a natural join, an equijoin, and an outer join. (As demonstrated in class.)

FIGURE Q3.8 The Ch03_CollegeQue database tables



Database name: Ch03_CollegeQue

Table name: STUDENT

STU_CODE	PROF_CODE
100278	
128569	2
512272	4
531235	2
531268	
553427	1

Table name: PROFESSOR

PROF_CODE	DEPT_CODE
1	2
2	6
3	6
4	4

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☐ Natural join:

STU_CODE	PROF_CODE	DEPT_CODE
128569	2	6
512272	4	4
531235	2	6
553427	1	2

☐ Equi-join:

STU_CODE	PROF_CODE	DEPT_CODE
128569	2	6
512272	4	4
531235	2	6
553427	1	2

☐

Natural join:

STU_CODE	STUDENT. PROF_CODE	PROFESSOR.PROF_CODE	DEPT_CODE
128569	2	2	6
512272	4	4	4
531235	2	2	6
553427	1	1	2

☐ Equi-join:

STU_CODE	STUDENT. PROF_CODE	PROFESSOR.PROF_CODE	DEPT_CODE
128569	2	2	6
512272	4	4	4
531235	2	2	6
553427	1	1	2

☐ Outer join:

STU_CODE	STUDENT. PROF_CODE	PROFESSOR.PROF_CODE	DEPT_CODE
128569	2	2	6
512272	4	4	4
531235	2	2	6
553427	1	1	2
100278			
531268			
		3	6

☐ Natural join:

STU_CODE	STUDENT. PROF_CODE	PROFESSOR.PROF_CODE	DEPT_CODE
128569	2	2	6
512272	4	4	4
531235	2	2	6
553427	1	1	2
100278			
531268			
		3	6

☐ Equi-join:

STU_CODE	STUDENT. PROF_CODE	PROFESSOR.PROF_CODE	DEPT_CODE
128569	2	2	6
512272	4	4	4
531235	2	2	6
553427	1	1	2
100278			
531268			
		3	6

Question 9

12 pts

Create the relational diagram **(include attributes and data records**) for the database shown in Figure Q3.8 (see textbook) as well as **illustrations**. Be sure to include attributes as per Fig. 3.28.

Please upload the whole model (.mwb file)!

FIGURE Q3.8 The Ch03_CollegeQue database tables

Database name: Ch03_CollegeQue

Table name: STUDENT

STU_CODE	PROF_CODE
100278	
128569	2
512272	4
531235	2
531268	
553427	1

Table name: PROFESSOR

PROF_CODE	DEPT_CODE
1	2
2	6
3	6
4	4

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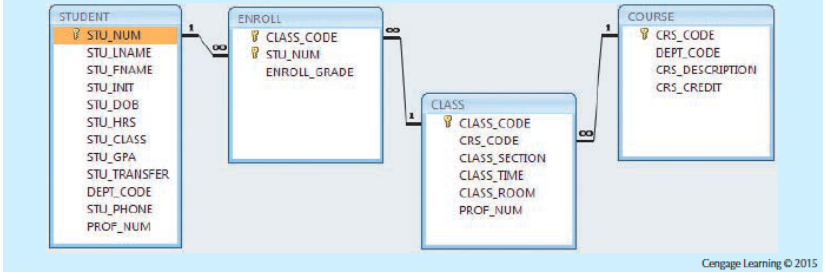
FIGURE 3.28 The relational diagram for the Ch03_TinyCollege database



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Question 10 — 4 pts

Create the table that results from applying a UNION relational operator to the tables shown in Fig Q3.11. (see textbook).

FIGURE Q3.11 The Ch03_VendingCo database tables

Database name: Ch03_VendingCo

Table name: BOOTH

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Energy Drink	2

Table name: MACHINE

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1
Energy Drink	2

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○

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Chips	1.25
Chocolate Bar	1

○

BOOTH_PRODUCT	BOOTH_PRICE
Energy Drink	2
Chocolate Bar	1

○

BOOTH_PRODUCT	BOOTH_PRICE
Energy Drink	2

○

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Energy Drink	2
Chips	1.25
Chocolate Bar	1

Question 11

4 pts

Create the table that results from applying an INTERSECT relational operator to the tables shown in Fig Q3.11. (see textbook)

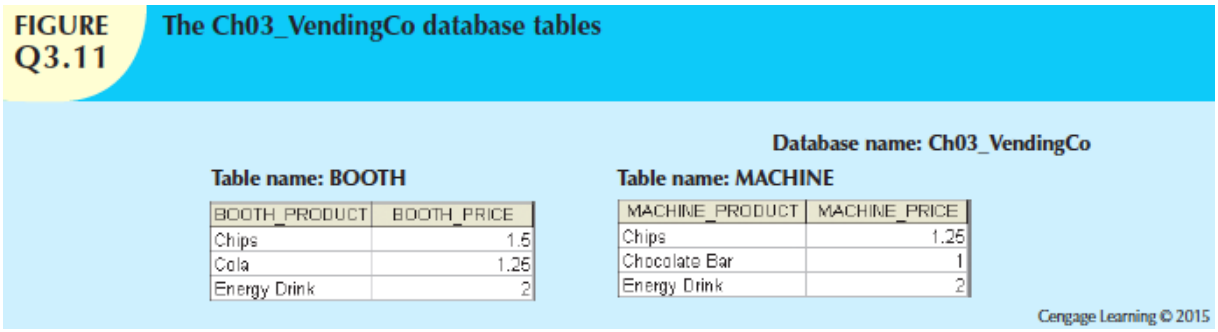

FIGURE Q3.11 The Ch03_VendingCo database tables

Database name: Ch03_VendingCo

Table name: BOOTH

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Energy Drink	2

Table name: MACHINE

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1
Energy Drink	2

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BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Energy Drink	2
Chips	1.25
Chocolate Bar	1

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Chips	1.25
Chocolate Bar	1

BOOTH_PRODUCT	BOOTH_PRICE
Energy Drink	2

BOOTH_PRODUCT	BOOTH_PRICE
Energy Drink	2
Chocolate Bar	1

Question 12

4 pts

Using the tables in Figure Q3.11, create the table that results from MACHINE DIFFERENCE BOOTH. (see textbook)

FIGURE Q3.11 The Ch03_VendingCo database tables

Database name: Ch03_VendingCo

Table name: BOOTH

BOOTH_PRODUCT	BOOTH_PRICE
Chips	1.5
Cola	1.25
Energy Drink	2

Table name: MACHINE

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1
Energy Drink	2

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MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1
Cola	1.25
Chips	1.25

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1

MACHINE_PRODUCT	MACHINE_PRICE
Chips	1.25
Chocolate Bar	1
Cola	1.25
Energy Drink	2
Chips	1.25

Question 13

5 pts

Use the database shown in Figure P3.1 to answer Problems 1-5. (see textbook)

FIGURE P3.1 The Ch03_StoreCo database tables

Table name: EMPLOYEE **Database name: Ch03_StoreCo**

EMP_CODE	EMP_TITLE	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_DOB	STORE_CODE
1	Mr.	Williamson	John	W	21-May-64	3
2	Ms.	Ratula	Nancy		09-Feb-69	2
3	Ms.	Greenboro	Lottie	R	02-Oct-61	4
4	Mrs.	Rumpersfro	Jennie	S	01-Jun-71	5
5	Mr.	Smith	Robert	L	23-Nov-59	3
6	Mr.	Renselaer	Cary	A	25-Dec-65	1
7	Mr.	Ogallo	Roberto	S	31-Jul-62	3
8	Ms.	Johnsson	Elizabeth	I	10-Sep-68	1
9	Mr.	Eindsmar	Jack	W	19-Apr-55	2
10	Mrs.	Jones	Rose	R	06-Mar-66	4
11	Mr.	Broderick	Tom		21-Oct-72	3
12	Mr.	Washington	Alan	Y	08-Sep-74	2
13	Mr.	Smith	Peter	N	25-Aug-64	3
14	Ms.	Smith	Sherry	H	25-May-66	4
15	Mr.	Olenko	Howard	U	24-May-64	5
16	Mr.	Archialo	Barry	V	03-Sep-60	5
17	Ms.	Grimaldo	Jeanine	K	12-Nov-70	4
18	Mr.	Rosenberg	Andrew	D	24-Jan-71	4
19	Mr.	Rosten	Peter	F	03-Oct-68	4
20	Mr.	Mckee	Robert	S	06-Mar-70	1
21	Ms.	Baumann	Jennifer	A	11-Dec-74	3

Table name: STORE

STORE_CODE	STORE_NAME	STORE_YTD_SALES	REGION_CODE	EMP_CODE
1	Access Junction	1003455.76	2	8
2	Database Corner	1421987.39	2	12
3	Tuple Charge	986783.22	1	7
4	Attribute Alley	944568.56	2	3
5	Primary Key Point	2930098.45	1	15

Table name: REGION

REGION_CODE	REGION_DESCRIPT
1	East
2	West

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Ch3P1: For each table, identify the primary key and the foreign key(s). If a table does not have a foreign key, write None in the space provided.

TABLE	**PRIMARY** KEY	**FOREIGN** KEY**(S)**
EMPLOYEE	EMP_CODE	STORE_CODE
STORE	STORE_CODE	NONE
REGION	REGION_CODE	NONE

TABLE	PRIMARY KEY	FOREIGN KEY(S)
EMPLOYEE	EMP_CODE	STORE_CODE
STORE	STORE_CODE	REGION_CODE, EMP_CODE
REGION	REGION_CODE	NONE

TABLE	PRIMARY KEY	FOREIGN KEY(S)
EMPLOYEE	EMP_CODE	NONE
STORE	STORE_CODE	REGION_CODE, EMP_CODE
REGION	REGION_CODE	NONE

TABLE	PRIMARY KEY	FOREIGN KEY(S)
EMPLOYEE	EMP_CODE	NONE
STORE	STORE_CODE	REGION_CODE
REGION	REGION_CODE	NONE

Question 14

5 pts

Do the tables exhibit entity integrity? Answer yes or no and then explain your answer.

TABLE	ENTITY INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each EMP_CODE value is unique and there are no nulls.
STORE	Yes	Each STORE_CODE value is unique and there are no nulls.
REGION	Yes	Each REGION_CODE value is unique and there are no nulls.

TABLE	ENTITY INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each EMP_CODE value is unique and there are no nulls.
STORE	No	Each STORE_CODE value is not unique and there are nulls.
REGION	Yes	Each REGION_CODE value is unique and there are no nulls.

TABLE	ENTITY INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each EMP_CODE value is unique and there are no nulls.
STORE	Yes	Each STORE_CODE value is unique and there are no nulls.
REGION	No	Each REGION_CODE value is not unique and there are nulls.

TABLE	ENTITY INTEGRITY	EXPLANATION
EMPLOYEE	No	Each EMP_CODE value is unique and there are nulls.
STORE	Yes	Each STORE_CODE value is unique and there are no nulls.
REGION	Yes	Each REGION_CODE value is unique and there are no nulls.

Question 15

5 pts

Do the tables exhibit referential integrity? Answer yes or no and then explain your answer. Write NA (Not Applicable) if the table does not have a foreign key.

TABLE	REFERENTIAL INTEGRITY	EXPLANATION
EMPLOYEE	No	Each STORE_CODE value in EMPLOYEE does not point to an ***existing*** STORE_CODE value in STORE.
STORE	Yes	Each REGION_CODE value in STORE points to an ***existing*** REGION_CODE value in REGION and each EMP_CODE value in STORE points to an ***existing*** EMP_CODE value in EMPLOYEE.
REGION	NA	

TABLE	REFERENTIAL INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each STORE_CODE value in EMPLOYEE points to an ***existing*** STORE_CODE value in STORE.
STORE	No	Each REGION_CODE value in STORE does not point to an ***existing*** REGION_CODE value in REGION and each EMP_CODE value in STORE points to an ***existing*** EMP_CODE value in EMPLOYEE.
REGION	NA	

TABLE	REFERENTIAL INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each STORE_CODE value in EMPLOYEE points to an ***existing*** STORE_CODE value in STORE.
STORE	Yes	Each REGION_CODE value in STORE points to an ***existing*** REGION_CODE value in REGION and each EMP_CODE value in STORE points to an ***existing*** EMP_CODE value in EMPLOYEE.
REGION	Yes	Each REGION_CODE value in STORE points to an ***existing*** REGION_CODE value in REGION and each EMP_CODE value in STORE points to an ***existing*** EMP_CODE value in EMPLOYEE.

TABLE	REFERENTIAL INTEGRITY	EXPLANATION
EMPLOYEE	Yes	Each STORE_CODE value in EMPLOYEE points to an ***existing*** STORE_CODE value in STORE.
STORE	Yes	Each REGION_CODE value in STORE points to an ***existing*** REGION_CODE value in REGION and each EMP_CODE value in STORE points to an ***existing*** EMP_CODE value in EMPLOYEE.
REGION	NA	

Question 16

3 pts

Describe the type(s) of relationship(s) between STORE and REGION.

- Because REGION_CODE values occur more than once in STORE, we may conclude that each REGION can contain many stores. But since each STORE is located in only one REGION, the relationship between STORE and REGION is M:1. (It is, of course, equally true that the relationship between REGION and STORE is 1:M.)
- Because STORE values occur more than once in REGION_CODE, we may conclude that each STORE can contain many REGIONS. But since each REGION is located in only one STORE, the relationship between STORE and REGION is 1:1. (It is, of course, equally true that the relationship between REGION and STORE is 1:1.)
- Because STORE values occur more than once in REGION_CODE, we may conclude that each STORE can contain many REGIONS. But since each STORE is located in only one REGION, the relationship between STORE and REGION is 1:1. (It is, of course, equally true that the relationship between REGION and STORE is 1:1.)
- Because STORE values occur more than once in REGION_CODE, we may conclude that each STORE can contain many regions. But since each REGION is located in only one STORE, the relationship between REGION and STORE is M:1. (It is, of course, equally true that the relationship between STORE and REGION is 1:M.)

Question 17

12 pts

Create the relational diagram (**includes attributes and data records**) to show the relationship between STORE and REGION, shown in Fig. P3.1 (see textbook).

Please upload the whole model (.mwb file)!

FIGURE P3.1 The Ch03_StoreCo database tables

Table name: EMPLOYEE **Database name: Ch03_StoreCo**

EMP_CODE	EMP_TITLE	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_DOB	STORE_CODE
1	Mr.	Williamson	John	W	21-May-64	3
2	Ms.	Ratula	Nancy		09-Feb-69	2
3	Ms.	Greenboro	Lottie	R	02-Oct-61	4
4	Mrs.	Rumpersfro	Jennie	S	01-Jun-71	5
5	Mr.	Smith	Robert	L	23-Nov-59	3
6	Mr.	Renselaer	Cary	A	25-Dec-65	1
7	Mr.	Ogallo	Roberto	S	31-Jul-62	3
8	Ms.	Johnsson	Elizabeth	I	10-Sep-68	1
9	Mr.	Eindsmar	Jack	W	19-Apr-55	2
10	Mrs.	Jones	Rose	R	06-Mar-66	4
11	Mr.	Broderick	Tom		21-Oct-72	3
12	Mr.	Washington	Alan	Y	08-Sep-74	2
13	Mr.	Smith	Peter	N	25-Aug-64	3
14	Ms.	Smith	Sherry	H	25-May-66	4
15	Mr.	Olenko	Howard	U	24-May-64	5
16	Mr.	Archiala	Barry	V	03-Sep-60	5
17	Ms.	Grimaldo	Jeanine	K	12-Nov-70	4
18	Mr.	Rosenberg	Andrew	D	24-Jan-71	4
19	Mr.	Rosten	Peter	F	03-Oct-68	4
20	Mr.	Mckee	Robert	S	06-Mar-70	1
21	Ms.	Baumann	Jennifer	A	11-Dec-74	3

Table name: STORE

STORE_CODE	STORE_NAME	STORE_YTD_SALES	REGION_CODE	EMP_CODE
1	Access Junction	1003455.76	2	8
2	Database Corner	1421987.39	2	12
3	Tuple Charge	986783.22	1	7
4	Attribute Alley	944568.56	2	3
5	Primary Key Point	2930098.45	1	15

Table name: REGION

REGION_CODE	REGION_DESCRIPT
1	East
2	West

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Question 18 3 pts

Use the Premiere database schema to answer the questions below.

List the customer number, last name, first name, and balance of every customer, sort by balance in descending order, and last name in ascending order.

HTML Editor

B I U A A

12pt Paragraph

p

Question 19

3 pts

List the last and first name of customer number 124.

HTML Editor

12pt Paragraph

p

Question 20

3 pts

Find the customer number for every customer whose last name is Adams.

HTML Editor

12pt Paragraph

p

Question 21

2 pts

Remove order number 12491:

HTML Editor

12pt Paragraph

p

Question 22

3 pts

Update the units on hand to 50, warehouse number to 2, and unit price to $329.00 for part number CB03.

HTML Editor

12pt Paragraph

p

Question 23

3 pts

Add two records to the orders table.

HTML Editor

12pt Paragraph

p

Not saved

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