Question 1

Match the following terms and definitions

Match	Question Items	Answer Items
A. -	A. A collection of interrelated ata logically stored together to facilitate integration and sharing.	A. Database
B. -	B. A popular business intelligence (BI) approach to analyze data.	B. OLAP
C. -	C. Database Software	C. DBMS
D. -	D. This is a reference repository containing *metadata*.	D. Data Dictionary
E. -	E. A subject oriented, integrated, nonvolatile and time variant collection of data in support of management decisions.	E. Data Warehouse
F. -	F. Each foreign key in a table maps to a primary key in another table and ensures that a reference to an item in a table is actually in that table.	F. Referential integrity

Question 2

Database processing offers several advantages over traditional file processing. One advantage is:

Databases usually store small amounts of specific information
Databases totally eliminate data redundancy
Databases provide for data independence
Each database application has its own unique data file, data is not shared
Databases store information only on PCs, making data more accessible

Question 3

General database term that refers to the organization of data as a conceptual framework; how a database is constructed. It is the complete logical view of a database.

Dataset
Database schema
Relational table
SQL
DBMS

Question 4

_____ is/are raw facts.

A DBMS
Data
Metadata
Information

Constraints

Question 5

The relational data model represents data in the form of:

Tables
Entity instances
Nodes and branches
Programs
Unstructured data

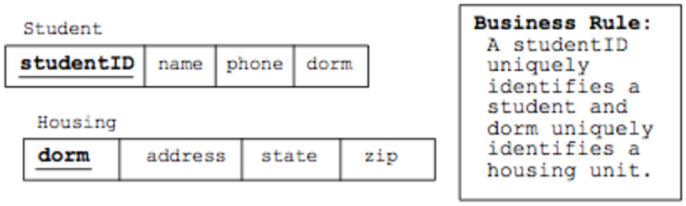
Question 6

Which relational term is synonymous to the word 'column'?

Program
Domain
Relation
Tuple
Attribute

Question 7

Given the tables and business rule shown, what is the column dorm considered in the Housing table?



A foreign key

A secondary key

A composite key

A primary key

Question 8

Given the tables and business rule shown, what is the column dorm considered in the Student table?

A foreign key
A secondary key
A composite key
A primary key

Question 9

A distinguishing feature of the relational data model is that:

Primary keys exist
There is no redundant data
All tables include composite keys
Application programs cannot be written to access data – only interactive SQL is used
Relationships are inherent within the data – there are no explicit linkages between tables

Question 10

_____ occur when all changes in redundant data are not made correctly.

Data anomalies
Domains
Metadata
Tuples
Attributes

Question 11

Draw a third normal form solution for the following data. Identify all keys. Submit using the Attach File button

A small charter plane business keeps data on its planes and pilots. The following data is kept:

Data	Description
Pilot license number	- a number that uniquely identifies a pilot;
Pilot last name	- the last name of a pilot
Pilot first name	- the first name of a pilot
Plane type	- type of plane (for example, chestnut, Lear jet, etc.)
Plane identification number	- a number that uniquely identifies a plane
Plane Seating capacity	- the number of passengers that can be seated on a plane

A pilot can own many planes, but each plane has only one pilot as an owner.

Question 12

Draw a relational model in 3rd normal form for the data below. Identify all keys. Submit via the Attach File button.

A college keeps track of students and the courses they take. The following data is kept for each student:

Data	Description
Student number	- a number that uniquely identifies a student
Student last name	- the last name of a student
Student first name	- the first name of a student
Student email	- the email address of a student
Course name	- the name of a course; a student may take many courses and a course may have many students enrolled in it
Course index number	- a number that uniquely identifies a course
Course credit	- the number of credits a course is worth

Question 13

Which SQL statement corrrectly uses a function to display the total salary of all employees?

display total salary() of employees;
list count(salary);
select count(salary) from employees;
display add(salary) from employees;
select sum(salary) from employees;

Question 14

In SQL, the _____ operator is another method of using OR logic.

IN

OUT

BETWEEN

LIKE

XOR

Question 15

In SQL, to place a new instance (record) into a relation (table), the statement used is:

insert
update

add
place
put

Question 16

This keyword is used in SQL expressions to select partial values. It is used with wildcard characters (% -), which represent unknown characters in a pattern.

within
from
like
update
from

Question 17

Creating an ERD (Entity Relationship Diagram) is an example of:

SQL
Normalization
Creating a data model to represent user requirements
Designing a physical database model
Object-Oriented Programming

Question 18

In an ERD, these are attributes that name, or distinguish, entity instances.

Relations or tables
Cardinality constraints
Raw attributes
Primary keys or identifiers
“crows-feet”

Question 19

Given the statement: create new table client(clientID integer primary key, firstName varchar(20), lastName varchar(20));

select the incorrect syntax/error from the list below:

create
new

primary key
varchar(30)
table

Question 20

In the box below, write an SQL query statement that shows all of the data in a table called bank.

Question 21

Given a table called inventory that contains an integer field called inStock, write an SQL query statement in the box below that shows all of the data contained in the table for which the inStock record value is greater than 100.

Question 22

Given a table called account that contains a varchar field called accountType and a numeric field called accountLimit, write an SQL query statement that shows the data for just these two fields for all of the records in the table with an account type of savings and that have a limit greater than $100,000.

Question 23

Given a table called movie that contains a field called movieName, write an SQL query statement that shows all of the data contained in the table sorted by movieName (in default ascending order).

Question 24

Given a table called ***bank*** that has a 1:N relationship with a table called ***customer***, write an SQL query statement in the box below that shows a customer's last name and their associated bank name.
Note: The ***bank*** table contains the fields: *bankName* (a varchar field) and *bankID* (a numeric field that is a primary key). Thecustomer table contains the fields: *customerLastName* (a varchar field), *customerID* (a numeric field that is a primary key), and*bankID* (a numeric field that is a foreign key).

Question 25

In an ERD, this specifies the number of instances of one entity that are associated with another.

Primary key
Weak entity
Attribute
Foreign key
Cardinality constraint

Question 26

In an ERD, a _____ describes an association among entities.

join
Object
data anomaly
cascade
Relationship

Question 27

A _____ is a precise description of a policy, procedure, or principle within a specific organization. It is a statement that defines or constrains some aspect of the business.

business model
database table
business rule
Dimension

Denormalized relation

Question 28

Draw an ERD for the business scenario as described below. The type of relationship must be drawn for all relationships, but you do not need to show the minimum cardinalities.

Our business is show business. We put on two dozen plays a year and:

- Each play is uniquely identified by a play number.
- Data we keep on a play includes its name, type (e.g., drama, comedy, etc.) and its duration.
- Each play can have numerous actors; and actors will act in numerous plays.
- Data we keep on an actor include their first name, last name, and cell phone number.
- An actor is uniquely identify by their actor's guild card number.
- Each actor has an agent.
- Data we keep on an agent include their first name, last name, and cell phone number.
- An agent is uniquely identified by their cell phone number.
- An agent may represent many different actors, but an actor only has one agent.

Question 29

Draw an ERD that illustrates the data described below. Specify all primary and foreign keys.

The ERD contains three entities:

- The first entity is called STUDENT and contains studentID, studentLastName, and studentEmail as attributes.
- The studentID attribute is the primary key for the STUDENT entity.
- The second entity is called CLASS and contains classID, className, and classCredit as attributes.
- The classID attribute is the primary key for the CLASS entity.
- The third entity is called DORM and contains dormID, dormName, and dormAddress as attributes.
- The dormID attribute is the primary key for the DORM entity.
- The STUDENT entity has a many-to-many relationship with the CLASS entity.
- The STUDENT entity has a many-to-one relationship with the DORM entity (a dorm may have many students, but a student is assigned to only one dorm).

Question 30

This is a standard means for defining the structure of documents and for transmitting documents from one computer to another. It is important for database processing because it provides a standardized means of submitting data to a database.

HTML
XML
JavaFK
DDL
Vertical fragmentation

Question 31

In data administration, one remedy for the inconsistencies caused by concurrent processing is to prevent multiple applications from obtaining copies of the same rows or tables when those rows or tables are about to be changed. This remedy is called:

Encryption
The deadly embrace
Resource locking
Referential integrity
Legal strategies

Question 32

Database administration includes database security – the process of protecting the database. The goal of database security is to ensure that only authorized users can perform authorized activities at authorized times. This goal is usually broken down into two parts:

Authentication and authorization
Legal strategies and encryption
Resource locking and the deadly embrace
Data validation and data consistency
Locking granularity and authorized legal actions

Question 33

Which SQL command is used to undo changes made by a transaction to the database?

quit
undo
cancel
rollback
close

Question 34

A modeling technique used to represent the multi-dimensional data stored in a data warehouse:

Data dictionary
Data mine
SQL constraints

Denormalization
Star schema

Question 35

Data warehousing is a paradigm specifically intended to:

Provide vital strategic information
Support processing of business transactions
Reduce the size of a database
provide for easy updates to data in the database
Avoid the use of SQL

Question 36

Edgar F. Codd is regarded as the "father" of relational database theory. Although he spent the majority of his working years in the U.S. as an employee of IBM, what English speaking European country was he born in? (Hint: it's part of the UK, but not Scotland, Wales, or Northern Ireland.)