

Topic ::DBMS Basics

1). The DBMS acts as an interface between what two components of an enterprise-class database system?

A. Database application and the database B. Data and the database

C. The user and the database application D. Database application and SQL **Answer: A**

2). Which of the following products was an early implementation of the relational model developed by E.F. Codd of IBM?

A. IDMS B. DB2 C. dBase-II D. R:base **Answer: B**

3). The following are components of a database except _____ .

A. user data B. metadata C. reports D. indexes **Answer: C**

4). An application where only one user accesses the database at a given time is an example of a(n) _____ .

A. single-user database application B. multiuser database application

C. e-commerce database application D. data mining database application **Answer: A**

5). An on-line commercial site such as Amazon.com is an example of a(n) _____ .

A. single-user database application B. Multiuser database application

C. e-commerce database application D. Data mining database application **Answer: C**

6). Which of the following products was the first to implement true relational algebra in a PC DBMS?

A.IDMS B. Oracle C.dBase-II D.R:base **Answer: D**

7). SQL stands for _____ .

A. Structured Query Language B. Sequential Query Language

C. Structured Question Language D. Sequential Question Language **Answer: A**

8). Because it contains a description of its own structure, a database is considered to be _____ .

Answer: C

A. described B. metadata compatible C. self-describing D. an application program

9). The following are functions of a DBMS except _____ .

A. creating and processing forms B. creating databases

C. processing data D. administrating databases **Answer: A**

10). Helping people keep track of things is the purpose of a(n) _____ .

A. database B. table C. instance D. relationship **Answer: A**

11). Which of the following products implemented the CODASYL DBTG model?

A. IDMS B. DB2 C. dBase-II D. R:base **Answer: A**

12). An Enterprise Resource Planning application is an example of a(n) _____ .

A. single-user database application B. multiuser database application
C. e-commerce database application D. data mining database application **Answer: B**

13). A DBMS that combines a DBMS and an application generator is ____ .**Answer: B**

A. Microsoft's SQL Server B. Microsoft's Access
C. IBM's DB2 D. Oracle Corporation's Oracle

14). You have run an SQL statement that asked the DBMS to display data in a table named USER_TABLES. The results include columns of data labeled "TableName," "NumberOfColumns" and "PrimaryKey." You are looking at _____ .

A. user data. B. metadata C. A report D. indexes **Answer: B**

15). Which of the following is not considered to be a basic element of an enterprise-class database system?

A. Users B. Database applications C. DBMS D. COBOL programs **Answer: D**

16). The DBMS that is most difficult to use is _____ .

A. Microsoft's SQL Server B. Microsoft's Access
C. IBM's DB2 D. Oracle Corporation's Oracle **Answer: D**

Topic :: The Relational Model and Normalization

1. Every time attribute A appears, it is matched with the same value of attribute B, but not the same value of attribute C. Therefore, it is **true** that:

A. $A \rightarrow B$. B. $A \rightarrow C$. C. $A \rightarrow (B,C)$. D. $(B,C) \rightarrow A$. **Answer: A**

2. The different classes of relations created by the technique for preventing modification anomalies are called:

A. normal forms. B. referential integrity constraints.
C. functional dependencies. D. None of the above is correct. **Answer: A**

3. A relation is in this form if it is in BCNF and has no multivalued dependencies:

A. second normal form B. third normal form.
C. fourth normal form. D. domain/key normal form. **Answer: C**

4. Row is synonymous with the term:

A. record. B. relation. C. column. D. field. **Answer: A**

5. The primary key is selected from the:

A. composite keys. B. determinants. C. candidate keys. D. foreign keys. **Answer: C**

6). Which of the following is a group of one or more attributes that uniquely identifies a row?

A. Key B. Determinant C. Tuple D. Relation **Answer: A**

7. When the values in one or more attributes being used as a foreign key must exist in another set of one or more attributes in another table, we have created a(n):

A. transitive dependency. B. insertion anomaly.
C. referential integrity constraint. D. normal form. **Answer: C**

8. A relation is considered a:

- A. Column. B. one-dimensional table.
C. two-dimensional table. D. three-dimensional table **Answer: C**

9. In the relational model, relationships between relations or tables are created by using:

- A. composite keys. B. determinants. C. candidate keys. D. foreign keys. **Answer: D**

10. A functional dependency is a relationship between or among:

- A. tables. B. rows. C. relations. D. attributes. **Answer: D**

11). Table is synonymous with the term:

- A. record. B. relation. C. column. D. field. **Answer: B**

12. Which of the following is not a restriction for a table to be a relation?

- A. The cells of the table must contain a single value.
B. All of the entries in any column must be of the same kind.
C. The columns must be ordered.
D. No two rows in a table may be identical. **Answer: C**

13. For some relations, changing the data can have undesirable consequences called:

- A. referential integrity constraints. B. modification anomalies.
C. normal forms. D. transitive dependencies. **Answer: B**

14. A key:

- A. must always be composed of two or more columns. B. can only be one column.
C. identifies a row. D. identifies a column. **Answer: C**

15. An attribute is a(n):

- A. column of a table. B. two dimensional table.
C. row of a table. D. key of a table. **Answer: A**

16). A relation in this form is free of all modification anomalies.

- A. First normal form B. Second normal form
C. Third normal form D. Domain/key normal form **Answer: D**

17. If attributes A and B determine attribute C, then it is also true that: **Answer: C**

- A. $A \rightarrow C$. B. $B \rightarrow C$. C. (A,B) is a composite determinant. D. C is a determinant.

18. A tuple is a(n): **Answer: C**

- A. column of a table. B. two dimensional table. C. row of a table. D. key of a table.

19. If attribute A determines both attributes B and C, then it is also true that:

- A. $A \rightarrow B$. B. $B \rightarrow A$. C. $C \rightarrow A$. D. $(B,C) \rightarrow A$. **Answer: A**

20. One solution to the multivalued dependency constraint problem is to:

- A. split the relation into two relations, each with a single theme.
B. change the theme. C. create a new theme. D. add a composite key. **Answer: A**

Topic :: Data Modeling with ER Model

1. Which of the following indicates the maximum number of entities that can be involved in a relationship?

Answer: B

- A. Minimum cardinality B. Maximum cardinality C. ERD D. Greater Entity Count (GEC)

2. Which type of entity cannot exist in the database unless another type of entity also exists in the database, but does not require that the identifier of that other entity be included as part of its own identifier?

Answer: A

- A. Weak entity B. Strong entity C. ID-dependent entity D. ID-independent entity

3. In a one-to-many relationship, the entity that is on the one side of the relationship is called a(n) _____ entity.

- A. parent B. child C. instance D. subtype **Answer: A**

4. Which type of entity represents an actual occurrence of an associated generalized entity?

- A. Supertype entity B. Subtype entity C. Archetype entity D. Instance entity **Answer: D**

5. A recursive relationship is a relationship between an entity and _____.

- A. itself B. a subtype entity C. an archetype entity D. an instance entity **Answer: A**

6. Which of the following indicates the minimum number of entities that must be involved in a relationship?

- A. Minimum cardinality B. Maximum cardinality
 C. ERD D. Greater Entity Count (GEC) **Answer: A**
7. Which of the following refers to something that can be identified in the users' work environment, something that the users want to track
 A. Entity B. Attribute C. Identifier D. Relationship **Answer: A**
8. In which of the following is a single-entity instance of one type related to many entity instances of another type?
 A. One-to-One Relationship B. One-to-Many Relationship
 C. Many-to-Many Relationship D. Composite Relationship **Answer: B**
9. Which of the following refers to an entity in which the identifier of one entity includes the identifier of another entity?
 Answer: C
 A. Weak entity B. Strong entity C. ID-dependent entity D. ID-independent entity
10. Which type of entity is related to two or more associated entities that each contain specialized attributes that apply to some but not all of the instances of the entity?
 A. Supertype entity B. Subtype entity C. Archetype entity D. Instance entity **Answer: A**
11. An attribute that names or identifies entity instances isa(n):
 A. entity. B. attribute. C. identifier. D. relationship. **Answer: C**
12. Properties that describe the characteristics of entities are called:
 A. entities. B. attributes. C. identifiers. D. relationships. **Answer: B**
13. In which of the following can many entity instances of one type be related to many entity instances of another type?
 A. One-to-One Relationship B. One-to-Many Relationship
 C. Many-to-Many Relationship D. Composite Relationship **Answer: C**
14. Entities of a given type are grouped into a(n):
 A. database. B. entity class. C. attribute. D. ERD. **Answer: B**
15. Which of the following is NOT a basic element of all versions of the E-R model?
 A. Entities B. Attributes C. Relationships D. Primary keys **Answer: D**
16. In which of the following is a single-entity instance of one type of related to a single-entity instance of another type?
 A. One-to-One Relationship B. One-to-Many Relationship
 C. Many-to-Many Relationship D. Composite Relationship **Answer: A**
17. Entities can be associated with one another in which of the following?
 A. Entities B. Attributes C. Identifiers D. Relationships **Answer: D**
18. Which type of entity has its relationship to another entity determined by an attribute in that other entity called a discriminator?
 A. Supertype entity B. Subtype entity C. Archetype entity D. Instance entity **Answer: B**
19. Which type of entity represents a logical generalization whose actual occurrence is represented by a second, associated entity?
 A. Supertype entity B. Subtype entity C. Archetype entity D. Instance entity **Answer: C**
20. In a one-to-many relationship, the entity that is on the many side of the relationship is called a(n) _____ entity.
 A. parent B. child C. instance D. subtype **Answer: B**
- Topic Name :::::SQL for Database Construction**
- 1). The SQL command to create a table is:
 Answer: D
 A. MAKE TABLE. B. ALTER TABLE. C. DEFINE TABLE. D. CREATE TABLE.
2. A _____ is a stored program that is attached to a table or a view. **Answer: C**
 A. pseudofile B. embedded SELECT statement C. trigger D. None of the above
3. The DROP TABLE statement:
 A. deletes the table structure only.
 B. deletes the table structure along with the table data.
 C. works whether or not referential integrity constraints would be violated.

D. **is** not an SQL statement.

Answer: B

4. SQL views can be used to hide:

A. columns and rows only.

B. complicated SQL syntax only.

C. both of the above can be hidden by an SQL view. D. None of the above. **Answer: C**

5. The SQL statement to create a view **is**:

A. CREATE VIEW. B. MAKE VIEW. C. SELECT VIEW. D. INSERT VIEW. **Answer: A**

6). To update an SQL view, the DBMS must be able to associate the column(s) to be updated with:

A. a particular column **in** a particular underlying table.

B. a particular column **in** a particular row.

C. a particular row **in** a particular underlying table.

D. None of the above **is** correct.

Answer: C

7. Which of the following **is** NOT a type of SQL constraint?

A. PRIMARY KEY B. FOREIGN KEY C. ALTERNATE KEY D. UNIQUE **Answer: C**

8. A _____ **is** a program that performs some common action on database data and that **is** stored **in** the database.

A. trigger B. stored procedure C. pseudofile D. None of the above **Answer: B**

9. For what purposes are views used?

Answer: D

A. To hide columns only

B. To hide rows only

C. To hide complicated SQL statements only D. All of the above are uses **for** SQL views.

10. What **is** an SQL **virtual** table that **is** constructed from other tables?

A. Just another table B. A view C. A relation D. Query results

Answer: B

11). When **using** the SQL INSERT statement:

A. rows can be modified according to criteria only.

B. rows cannot be copied **in** mass from one table to another only.

C. rows can be inserted into a table only one at a time only.

D. rows can either be inserted into a table one at a time or **in** groups.

Answer: D

12. What **is** not an advantage of stored procedures?

Answer: D

A. Greater security B. SQL can be optimized C. Code sharing D. Increased network traffic

13. A reason **focusing** an SQL view to hide columns **is**:

A. to simplify a result only.

B. to prevent the display of sensitive data only.

C. to accomplish both of the above.

D. None of the above are reasons **focusing** an SQL view.

Answer: C

14. Which of the following **is** an SQL trigger supported by Oracle?

A. BEFORE B. INSTEAD OF C. AFTER D. All of the above.

Answer: D

15. The SQL ALTER statement can be used to:

A. change the table structure. B. change the table data.

C. add rows to the table. D. delete rows from the table.

Answer: A

16). What SQL structure **is** used to limit column values of a table?

A. The LIMIT constraint B. The CHECK constraint

C. The VALUE constraint D. None of the above

Answer: B

17. Which **is** NOT one of the most common types of SQL CHECK constraints?

A. System date B. Range checks C. Lists of values

D. Comparing one column value to another within the same table

Answer: A

18. What **is** an advantage of placing computations **in** SQL views?

A. To save users from having to write an expression.

B. To ensure that the results are consistent.

C. To accomplish both of the above.

D. None of the above **is** correct - computations cannot be placed **in** a view. **Answer: C**

19. Views constructed from SQL SELECT statements that conform to the SQL-92 standard may not contain:

A. GROUP BY. B. WHERE. C. ORDER BY. D. FROM.

Answer: C

Topic name :: Physical Database Design

1. If a denormalization situation exists with a one-to-one binary relationship, which of the following is true?
 A. All fields are stored in one relation. B. All fields are stored in two relations.
 C. All fields are stored in three relations. D. All fields are stored in four relations. **Answer: A**
2. Selecting a data type involves which of the following?
 A. Maximize storage space B. Represent most values
 C. Improve data integrity D. All of the above. **Answer: C**
3. What is the best data type definition for Oracle when a field is alphanumeric and has a length that can vary?
 A. VARCHAR2 B. CHAR C. LONG D. NUMBER **Answer: A**
4. If a denormalization situation exists with a many-to-many or associative binary relationship, which of the following is true?
 A. All fields are stored in one relation. B. All fields are stored in two relations.
 C. All fields are stored in three relations. D. All fields are stored in four relations. **Answer: B**
5. Which of the following is an advantage of partitioning?
 A. Complexity B. Inconsistent access speed C. Extra space D. Security **Answer: D**
- 6). The blocking factor is:
 A. a group of fields stored in adjacent memory.
 B. the number of physical records per page.
 C. attributes grouped together by the same primary key.
 D. attributes grouped together by the same secondary key. **Answer: B**
7. Which of the following improves a query's processing time?
 A. Write complex queries. B. Combine a table with itself.
 C. Query one query within another. D. Use compatible data types. **Answer: D**
8. Which of the following are integrity controls that a DBMS may support?
 A. Assume a default value in a field unless a user enters a value for that field.
 B. Limit the set of permissible values that a field may assume.
 C. Limit the use of null values in some fields. D. All of the above. **Answer: D**
9. Which of the following is not a factor to consider when switching from small to large block size?
 A. The length of all of the fields in a table row. B. The number of columns
 C. Block contention D. Random row access speed **Answer: B**
10. What is the best data type definition for Oracle when a field is alphanumeric and has a fixed length?
 A. VARCHAR2 B. CHAR C. LONG D. NUMBER **Answer: B**
- 11). A secondary key is which of the following?
 A. Nonunique key B. Primary key
 C. Useful for denormalization decisions D. Determines the tablespace required **Answer: A**
12. The fastest read/write time and most efficient data storage of any disk array type is:
 A. RAID-0. B. RAID-1. C. RAID-2. D. RAID-3. **Answer: A**
13. A rule of thumb for choosing indexes for a relational database includes which of the following?
 A. Indexes are more useful on smaller tables.
 B. Indexes are more useful for columns that do not appear frequently in the WHERE clause in queries.
 C. Do not specify a unique index for the primary key of each table.
 D. Be careful indexing attributes that have null values. **Answer: D**
14. Sequential retrieval on a primary key for sequential file storage has which of the following features?
 A. Very fast B. Moderately fast C. Slow D. Impractical **Answer: A**
15. A multidimensional database model is used most often in which of the following models?
 A. Data warehouse B. Relational C. Hierarchical D. Network **Answer: A**

Topic name :: Introduction to SQL

- 1). You can add a row using SQL in a database with which of the following?
 A. ADD B. CREATE C. INSERT D. MAKE **Answer: C**
2. The command to remove rows from a table 'CUSTOMER' is:

- A. REMOVE FROM CUSTOMER B. DROP FROM CUSTOMER
C. DELETE FROM CUSTOMER WHERE D. UPDATE FROM CUSTOMER **Answer: C**

3. The SQL WHERE clause:

- A. limits the column data that are returned. B. limits the row data are returned.
C. Both A and B are correct. D. Neither A nor B are correct. **Answer: B**

4. Which of the following **is** the original purpose of SQL?

- A. To specify the syntax and semantics of SQL data definition language
B. To specify the syntax and semantics of SQL manipulation language
C. To define the data structures D. All of the above. **Answer: D**

5. The wildcard **in** a WHERE clause **is** useful when?

- A. An exact match **is** necessary **in** a SELECT statement.
B. An exact match **is** not possible **in** a SELECT statement.
C. An exact match **is** necessary **in** a CREATE statement.
D. An exact match **is** not possible **in** a CREATE statement. **Answer: B**

6. A view **is** which of the following?

- A. A **virtual** table that can be accessed via SQL commands
B. A **virtual** table that cannot be accessed via SQL commands
C. A **base** table that can be accessed via SQL commands
D. A **base** table that cannot be accessed via SQL commands **Answer: A**

7. The command to eliminate a table from a database **is**:

- A. REMOVE TABLE CUSTOMER; B. DROP TABLE CUSTOMER;
C. DELETE TABLE CUSTOMER; D. UPDATE TABLE CUSTOMER; **Answer: B**

8. ON UPDATE CASCADE ensures which of the following?

- A. Normalization B. Data Integrity C. Materialized Views D. All of the above. **Answer: B**

9. SQL data definition commands make up a(n) _____

- A. DDL B. DML C. HTML D. XML **Answer: A**

10. Which of the following **is** valid SQL **for** an Index?

- A. CREATE INDEX ID; B. CHANGE INDEX ID;
C. ADD INDEX ID; D. REMOVE INDEX ID; **Answer: A**

11). The SQL keyword(s) _____ **is** used with wildcards.

- A. LIKE only B. IN only C. NOT IN only D. IN and NOT IN **Answer: A**

12. Which of the following **is** the correct order of keywords **for** SQL SELECT statements?

- A. SELECT, FROM, WHERE B. FROM, WHERE, SELECT
C. WHERE, FROM, SELECT D. SELECT, WHERE, FROM **Answer: A**

13. A subquery **in** an SQL SELECT statement **is** enclosed **in**:

- A. braces -- {...}. B. CAPITAL LETTERS. C. parenthesis -- (...). D. brackets -- [...]. **Answer: C**

14). The result of a SQL SELECT statement **is** a(n) _____ .

- A. report B. form C. file D. table **Answer: D**

15. Which of the following are the five built-**in** functions provided by SQL?

- A. COUNT, SUM, AVG, MAX, MIN B. SUM, AVG, MIN, MAX, MULT
C. SUM, AVG, MULT, DIV, MIN D. SUM, AVG, MIN, MAX, NAME **Answer: A**

16). In an SQL SELECT statement querying a single table, according to the SQL-92 standard the asterisk (*) means that:

- A. all columns of the table are to be returned.
B. all records meeting the full criteria are to be returned.
C. all records with even partial criteria met are to be returned.
D. None of the above **is** correct. **Answer: A**

17. The HAVING clause does which of the following?

- A. Acts like a WHERE clause but **is** used **for** groups rather than rows.
B. Acts like a WHERE clause but **is** used **for** rows rather than columns.
C. Acts like a WHERE clause but **is** used **for** columns rather than groups.
D. Acts EXACTLY like a WHERE clause. **Answer: A**

18. The SQL -92 wildcards are ____ and ____ .
 A. asterisk (*); percent sign (%) B. percent sign (%); underscore (_)
 C. underscore(_); question mark (?) D. question mark (?); asterisk (*) **Answer: B**
19. To remove duplicate rows from the results of an SQL SELECT statement, the _____ qualifier specified must be included.
 A. ONLY B. UNIQUE C. DISTINCT D. SINGLE **Answer: C**
20. The benefits of a standard relational language include which of the following?
 A. Reduced training costs B. Increased dependence on a single vendor
 C. Applications are not needed. D. All of the above. **Answer: A**
- 21). Which of the following **do** you need to consider when you make a table **in** SQL?
 A. Data types B. Primary keys C. Default values D. All of the above. **Answer: D**
22. SQL query and modification commands make up a(n) _____.
 A. DDL B. DML C. HTML D. XML **Answer: B**
23. When three or more AND and OR conditions are combined, it **is** easier to use the SQL keyword(s):
 A. LIKE only. B. IN only. C. NOT IN only. D. Both IN and NOT IN. **Answer: D**
24. The Microsoft Access wildcards are ____ and ____ .
 A. asterisk (*); percent sign (%) B. percent sign (%); underscore (_)
 C. underscore(_); question mark (?) D. question mark (?); asterisk (*) **Answer: D**
25. Find the SQL statement below that **is** equal to the following: SELECT NAME FROM CUSTOMER WHERE STATE = 'VA';
 A. SELECT NAME IN CUSTOMER WHERE STATE IN ('VA');
 B. SELECT NAME IN CUSTOMER WHERE STATE = 'VA';
 C. SELECT NAME IN CUSTOMER WHERE STATE = 'V';
 D. SELECT NAME FROM CUSTOMER WHERE STATE IN ('VA'); **Answer: D**
- 26). Which one of the following sorts rows **in** SQL?
 A. SORT BY B. ALIGN BY C. ORDER BY D. GROUP BY **Answer: C**
27. To sort the results of a query use:
 A. SORT BY. B. GROUP BY. C. ORDER BY. D. None of the above. **Answer: C**
28. To define what columns should be displayed **in** an SQL SELECT statement: **Answer: A**
 A. use FROM to name the source table(s) and list the columns to be shown after SELECT.
 B. use USING to name the source table(s) and list the columns to be shown after SELECT.
 C. use SELECT to name the source table(s) and list the columns to be shown after USING.
 D. use USING to name the source table(s) and list the columns to be shown after WHERE.
29. SQL can be used to:
 A. create database structures only. B. query database data only.
 C. modify database data only. D. All of the above can be done by SQL **Answer: D**
30. The SQL statement that queries or reads data from a table **is** _____.
 A. SELECT B. READ C. QUERY D. None of the above **Answer: A**
- 31). The SQL keyword BETWEEN **is** used: **Answer: A**
 A. **for** ranges. B. to limit the columns displayed. C. **as** a wildcard. D. None of the above
32. A subquery **in** an SQL SELECT statement:
 A. can only be used with two tables. B. can always be duplicated by a join.
 C. has a distinct form that cannot be duplicated by a join.
 D. cannot have its results sorted **using** ORDER BY. **Answer: C**
33. _____ was adopted **as** a national standard by ANSI **in** 1992.
 A. Oracle B. SQL C. Microsoft Access D. Dbase **Answer: B**
34. SQL **is**: **Answer: C**
 A. a programming language. B. an operating system. C. a data sublanguage. D. a DBMS.
- Topic Name :: Database Design Using Normalization**
1. Needing to **using** more complicated SQL **in** database applications **is** a(n) _____ of normalization.
 A. advantage B. disadvantage

C. either an advantage or disadvantage D. neither an advantage nor disadvantage **Answer: B**

2. Eliminating modification anomalies is a(n) _____ of normalization.

A. advantage B. disadvantage

C. either an advantage or disadvantage D. neither an advantage nor disadvantage **Answer: A**

3. Multivalued dependencies should _____ be eliminated.

A. always B. commonly C. seldom D. never **Answer: A**

4. When assessing the table structure of an acquired set of tables with data, accessing the validity of possible referential integrity constraints on foreign keys is (part of) the:

A. first step. B. second step. C. third step. D. fourth step. **Answer: C**

5. Using the SQL GROUP BY phrase with a SELECT statement can help detect which of the following problems?

A. The multivalued, multicolumn problem B. The inconsistent values problem **Answer: B**

C. The missing values problem D. The general-purpose remarks column problem

6). When assessing the table structure of an acquired set of tables with data, determining foreign keys is (part of) the:

A. first step. B. second step. C. third step. D. fourth step. **Answer: B**

7. Creating a read-only database is a task that is _____ assigned to beginning database professionals.

A. always B. commonly C. seldom D. never **Answer: B**

8. Each answer below shows example data from a table. Which answer is an example of the general-purpose remarks column problem?

A. Three columns have the values 534-2435, 534-7867, and 546-2356 in the same row.

B. Three rows have the values Brown Small Chair, Small Chair Brown, and Small Brown Chair in the same column.

C. Three rows have the values Brown, NULL, and Blue in the same column.

D. One row has the value "He is interested in a Silver Porsche from the years 1978-1988" in a column.

Answer: D

9. For a number of reasons, normalizations is not often an advantage for a(n) _____ database.

Answer: A

A. read-only B. updateable C. either a read-only or an updateable D. None of the above

10. Most of the time, modification anomalies are serious enough that tables should be normalized into:

A. 1NF. B. 2NF. C. 3NF. D. BCNF. **Answer: D**

11). Each answer below shows example data from a table. Which answer is an example of the missing values problem?

A. Three columns have the values 534-2435, 534-7867, and 546-2356 in the same row.

B. Three rows have the values Brown Small Chair, Small Chair Brown, and Small Brown Chair in the same column.

C. Three rows have the values Brown, NULL, and Blue in the same column.

D. One row has the value "He is interested in a Silver Porsche from the years 1978-1988" in a column.

Answer: C

12. When assessing the table structure of an acquired set of tables with data, determining functional dependencies is (part of) the:

A. first step. B. second step. C. third step. D. fourth step. **Answer: B**

13. Each answer below shows example data from a table. Which answer is an example of the multivalued, multicolumn problem?

A. Three columns have the values 534-2435, 534-7867, and 546-2356 in the same row.

B. Three rows have the values Brown Small Chair, Small Chair Brown, and Small Brown Chair in the same column.

C. Three rows have the values Brown, NULL, and Blue in the same column.

D. One row has the value "He is interested in a Silver Porsche from the years 1978-1988" in a column.

Answer: A

14. When assessing the table structure of an acquired set of tables with data, counting the number of table rows is (part of) the:

- A. first step. B. second step. C. third step. D. fourth step. **Answer: A**
15. If a table has been normalized so that all determinants are candidate keys, then that table **is**:
 A. 1NF. B. 2NF. C. 3NF. D. BCNF. **Answer: D**
- 16). Read-only databases are _____ updated.
 A. always B. commonly C. seldom D. never **Answer: D**
17. Needing to assess the validity of assumed referential integrity constraints on foreign keys **is** a(n) _____ of normalization.
 A. advantage B. disadvantage
 C. either an advantage or disadvantage D. neither an advantage nor disadvantage **Answer: D**
18. When assessing the table structure of an acquired set of tables with data, determining primary keys **is** (part of) the:
 A. first step. B. second step. C. third step. D. fourth step. **Answer: B**
19. Normalization _____ data duplication.
 A. eliminates B. reduces C. increases D. maximizes **Answer: A**
20. Each answer below shows example data from a table. Which answer **is** an example of the inconsistent values problem?
 A. Three columns have the values 534-2435, 534-7867, and 546-2356 **in** the same row.
 B. Three rows have the values Brown Small Chair, Small Chair Brown, and Small Brown Chair **in** the same column.
 C. Three rows have the values Brown, NULL, and Blue **in** the same column.
 D. One row has the value "He is interested in a Silver Porsche from the years 1978-1988" **in** a column.
Answer: B

Topic Name ::: Data Models into Database Designs

- 1). Which of the following data constraints would be used to specify that the value of cells **in** a column must be one of a specific set of possible values?
 A. A domain constraint B. A range constraint
 C. An intrarelation constraint D. An interrelation constraint **Answer: A**
2. In a 1:N relationship, the foreign key **is** placed **in**:
 A. either table without specifying parent and child tables. B. the parent table.
 C. the child table. D. either the parent table or the child table. **Answer: C**
3. Which of the following column properties specifies whether or not cells **in** a column must contain a data value?
 A. Null status B. Data type C. Default value D. Data constraints **Answer: A**
4. A primary key should be defined **as**:
 A. NULL. B. NOT NULL. C. Either of the above can be used. D. None of the above **Answer: B**
5. Which of the following column properties would be used to specify that cells **in** a column must contain a monetary value?
 A. Null status B. Data type C. Default value D. Data constraints **Answer: B**
- 6). Which of the following situation requires the use of ID-dependent entities?
 A. Association relationships only B. Multivalued attributes only **Answer: D**
 C. Archetype/instance relationships only D. All of the above use ID dependent entities
7. A foreign key **is**:
 A. a column containing the primary key of another table. B. used to define data types.
 C. used to define **null** status. D. all of the above **Answer: A**
8. Which of the following columns **is**(are) are required **in** a table?
 A. A foreign key B. An alternate key C. A primary key D. A surrogate key. **Answer: C**
9. In a 1:1 relationship, the foreign key **is** placed **in**:
 A. either table without specifying parent and child tables. B. the parent table.
 C. the child table. D. either the parent table or the child table. **Answer: A**

10. Which of the following column properties would be used to specify that cells in a column must be immediately filled with a monetary value of \$10,000?

A. Null status B. Data type C. Default value D. Data constraints **Answer: C**

11. The identifier of an entity will become the _____ of the new table.

A. foreign key B. main attribute C. primary key D. identity key **Answer: C**

12. Which of the following data constraints would be used to specify that the value of a cell in one column must be less than the value of a cell in another column in the same row of the same table?

A. A domain constraint B. A range constraint
C. An intrarelation constraint D. An interrelation constraint **Answer: C**

13. A unique, DBMS-supplied identifier used as the primary key of a relation is called a(n):

A. primary key. B. foreign key. C. composite key. D. surrogate key. **Answer: D**

14. Which is not true about surrogate keys? **Answer: C**

A. They are short. B. They are fixed. C. They have meaning to the user. D. They are numeric.

15. For every relationship, how many possible types of actions are there when enforcing minimum cardinalities?

A. Two B. Three C. Four D. Six **Answer: D**

16). Which constraint requires that the binary relationship indicate all combinations that must appear in the ternary relationship?

A. MUST COVER B. MUST NOT C. Both of the above. D. None of the above **Answer: A**

17. Each entity is represented as a(n):

A. tuple. B. table. C. attribute. D. file. **Answer: B**

18). For every relationship, how many possible sets of minimum cardinalities are there?

A. Two B. Three C. Four D. Six **Answer: C**

19. If a relationship has a cascade updates constraint, then if _____ in the parent table is changed, then the same change will automatically be made to any corresponding foreign key value.

A. the primary key B. any alternate key C. a surrogate key D. a foreign key **Answer: A**

20. Which of the following column properties would be used to specify that cells in a column must contain a monetary value that is less than another monetary value in the same row?

A. Null status B. Data type C. Default value D. Data constraints **Answer: D**

Topic Name ::: Database Redesign

1. Which of the following SQL statements are helpful in database redesign?

A. Correlated subqueries only B. EXISTS/NOT EXISTS expressions only
C. Both of the above are helpful D. None of the above are helpful. **Answer: C**

2. What SQL command can be used to delete columns from a table?

A. MODIFY TABLE TableName DROP COLUMN ColumnName
B. MODIFY TABLE TableName DROP ColumnName
C. ALTER TABLE TableName DROP COLUMN ColumnName
D. ALTER TABLE TableName DROP ColumnName **Answer: C**

3. Database redesign is not terribly difficult if the:

A. database is structured. B. database is well-designed.
C. database has no data. D. database is relatively small. **Answer: C**

4. Which SQL-92 standard SQL command can be used to change a table name? **Answer: D**

A. RENAME TABLE B. CHANGE TABLE C. ALTER TABLE D. None of the above

5. The process of reading a database schema and producing a data model from that schema is known as:

Answer: C

A. data modeling. B. database design. C. reverse engineering. D. None of the above.

6). Before any changes to database structure are attempted one should first:

A. clearly understand the current structure and contents of the database only.
B. test any changes on a test database only.
C. create a complete backup of the operational database only.

D. All of the above should be done. **Answer: D**

7. Which of the following modifications may not succeed?

- A. Changing a column data type from **char** to date
 B. Changing a column data type from numeric to **char**
 C. Both of the above actions should succeed.
 D. Neither of the above actions will succeed. **Answer: A**
8. How can you find rows that **do** not match some specified condition? **Answer: B**
 A. EXISTS B. Double use of NOT EXISTS C. NOT EXISTS D. None of the above
9. A regular subquery can be processed: **Answer: B**
 A. from the top down. B. from the bottom up. C. by nesting. D. None of the above
10. What SQL command can be used to add columns to a table?
 A. MODIFY TABLE TableName ADD COLUMN ColumnName
 B. MODIFY TABLE TableName ADD ColumnName
 C. ALTER TABLE TableName ADD COLUMN ColumnName
 D. ALTER TABLE TableName ADD ColumnName **Answer: D**
- 11). The EXISTS keyword will be **trueif**:
 A. any row **in** the subquery meets the condition only.
 B. all rows **in** the subquery fail the condition only.
 C. both of these two conditions are met. D. neither of these two conditions **is** met. **Answer: A**
12. Changing cardinalities **in** a database **is**: **Answer: A**
 A. a common database design task. B. a rare database design task, but does occur.
 C. a database design task that never occurs.
 D. **nis** impossible to **do**, so a **new** database must be constructed and the data moved into it.
13. The NOT EXISTS keyword will be **trueif**:
 A. any row **in** the subquery meets the condition. B. all rows **in** the subquery fail the condition.
 C. both of these two conditions are met. D. neither of these two conditions **is** met. **Answer: B**
14. The data model that **is** produced from reverse engineering **is**: **Answer: D**
 A. a conceptual model. B. an **internal** model. C. a logical model. D. None of the above
15. To drop a column that **is** used **as** a foreign key, first:
 A. drop the primary key. B. drop the table containing the foreign key..
 C. drop the foreign key constraint. D. All of the above must be done. **Answer: C**
- 16). What SQL command will allow you to change the table STUDENT to add the constraint named GradeCheck that states that the values of the Grade column must be greater than 0?
 A. ALTER TABLE STUDENT ALTER CONSTRAINT GradeCheck (Grade > 0);
 B. ALTER TABLE STUDENT ADD CONSTRAINT GradeCheck (Grade > 0);
 C. ALTER TABLE STUDENT ADD CONSTRAINT GradeCheck CHECK (Grade > 0);
 D. None of the above **is** correct. **Answer: C**
17. Which **is** not **true** of a correlated subquery?
 A. EXISTS/NOT EXISTS **is** a form of a correlated subquery.
 B. The processing of the SELECT statements **is** nested.
 C. They can be used to verify functional dependencies.
 D. They are very similar to a regular subquery. **Answer: D**
18. A tool that can help designers understand the dependencies of database structures **is** a:
 A. dependency graph. B. data model. C. graphical display. D. None of the above **Answer: A**
19. How many copies of the database schema are typically used **in** the redesign process?
 A. One B. Two C. Three D. Four **Answer: C**
20. Because of the importance of making data model changes correctly, many professionals are _____ about **using** an automated process **for** database redesign.
 A. optimistic B. sceptical C. ambivalent D. None of the above **Answer: B**

Topic Name ::: Managing Databases with Oracle

- 1). What type of failure occurs when Oracle fails due to an operating system or computer hardware failure?
 A. Application failure B. Instance Failure C. Media Failure D. Rollback failure **Answer: B**
2. Which statement about sequences **is** not **true**?
 A. A sequence **is** an **object** that generates a sequential series of unique numbers.

B. Sequences are most often used to provide values for surrogate keys.

C. NextVal and CurrVal are both sequence methods.

D. Sequences guarantee valid surrogate key values.

Answer: D

3. Which prefixes are available to Oracle triggers?

A. :new only B. :old only C. Both :new and :old D. Neither :new nor :old **Answer: C**

4. In creating a procedure, you may get a message if you have compile errors. Which of the following is true?

A. The line numbers reported match the line numbers you see in your text editor.

B. SQL*Plus will automatically show the errors to you.

C. To see the errors, enter SHOW ERRORS in SQL*Plus.

D. If there are no syntax errors, you will receive the message "NO ERRORS." **Answer: C**

5. Which of the following is not true about indexes?

A. Indexes are created to enforce uniqueness on columns.

B. Indexes are created to enable fast retrieval by column values.

C. Columns that are frequently used with equal conditions in WHERE clauses are good candidates for indexes.

D. Indexes are created with the ALTER TABLE command.

Answer: D

6). Which of the following is not true of SQL views?

A. Oracle views cannot use the ORDER BY clause in view definitions.

B. Oracle views are created using the standard SQL-92 CREATE VIEW command.

C. Oracle views can be queried.

D. The SQL-92 standard does not allow the use of the ORDER BY clause in view definitions.

Answer: A

7. SQL*Plus will finish the statement and execute it when the user types in this:

A. A left slash (\) followed by [Enter]. B. A colon (:) followed by [Enter].

C. A semicolon (;) followed by [Enter]. D. A period (.) followed by [Enter]. **Answer: C**

8. Which of the following is NOT an Oracle-supported trigger?

A. BEFORE B. DURING C. AFTER D. INSTEAD OF

Answer: B

9. After a table has been created, its structure can be modified using the SQL command:

A. UPDATE TABLE [TableName]. B. MODIFY TABLE [TableName].

C. ALTER TABLE [TableName]. D. CHANGE TABLE [TableName]. **Answer: C**

10. Which of the following is not true about modifying table columns?

A. You can drop a column at any time.

B. You can add a column at any time as long as it is a NULL column.

C. You can increase the number of characters in character columns or the number of digits in numeric columns

D. You cannot increase or decrease the number of decimal places.

Answer: D

11). Of the three ways to create an Oracle database, which one is the easiest and most recommended?

A. Using the Oracle Database Configuration Assistant.

B. Using the Oracle-supplied database creation procedures.

C. Using the SQL CREATE DATABASE command.

D. None of the above is correct.

Answer: A

12. What Oracle backup and recover file contains user and system data?

A. Control file B. Datafile C. OnLineReDo file D. Offline ReDo file

Answer: B

13. When using SQL*Plus, Oracle commands, column names, table names and all other database elements:

A. are case insensitive. B. are case sensitive.

C. must always be in lower case. D. must always be in upper case.

Answer: A

14. Which SQL phrase is not supported by Oracle?

A. ON DELETE CASCADE

B. ON UPDATE CASCADE

Answer: B

C. CREATE SEQUENCE [SequenceName] D. DROP SEQUENCE [SequenceName]

15. What is the type of Oracle backup in which all uncommitted changes have been removed from the datafiles?

Answer: B

A. Full backup B. Consistent backup C. Inconsistent backup D. Differential backup

16). You have linked SQL*Plus to an external text editor. To invoke the text editor **for** use within SQL*Plus, which command **do** you use? **Answer: D**

A. Open [FileName] B. Show [FileName] C. Alter [FileName] D. Edit [FileName]

17. The **default** extension **for** an Oracle SQL*Plus file **is**:

A. .txt. B. .pls. C. .ora. D. .sql.

Answer: D

18. An Oracle System Change Number (SCN):

A. **is** a value that **is** incremented whenever a dirty read occurs.

B. **is** incremented whenever a deadlock occurs.

C. **is** a value that keeps track of **explicit** locks.

D. **is** a value that **is** incremented whenever database changes are made.

Answer: D

19. To obtain the structure of an Oracle table, the command to use **is**:

A. STRUCTURE [TableName]. B. DESCRIBE [TableName].

C. DESCRIBE STRUCTURE [TableName]. D. DESC TABLE [TableName]. **Answer: B**

20. To see the contents of the SQL*Plus buffer, type:

A. CONTENTS. B. BUFFER. C. CURRENT. D. LIST.

Answer: D

Topic Name :::Advanced SQL

1. What type of join **is** needed when you wish to include rows that **do** not have matching values?

A. Equi-join B. Natural join C. Outer join D. All of the above.

Answer: C

2. What type of join **is** needed when you wish to **return** rows that **do** have matching values?

A. Equi-join B. Natural join C. Outer join D. All of the above.

Answer: D

3. Which of the following **istrue** concerning a procedure?

Answer: C

A. You **do** not create them with SQL.

B. They **do** not need to have a unique name.

C. They include procedural and SQL statements. D. They are the same thing **as** a function.

4. A CASE SQL statement **is** which of the following?

A. A way to establish an IF-THEN-ELSE **in** SQL. B. A way to establish a loop **in** SQL.

C. A way to establish a data definition **in** SQL. D. All of the above.

Answer: A

5. Which of the following statements **istrue** concerning routines and triggers?

A. Both consist of procedural code. B. Both have to be called to operate.

C. Both run automatically. D. Both are stored **in** the database.

Answer: A

6). Which of the following **is** one of the basic approaches **for** joining tables?

A. Subqueries B. Union Join C. Natural join D. All of the above

Answer: D

7. Which of the following **istrue** concerning systems information **in** an RDBMS?

A. RDBMS store database definition information **in** system-created tables.

B. This information can be accessed **using** SQL.

C. This information often cannot be updated by a user.

D. All of the above.

Answer: D

8. The following SQL **is** which type of join: SELECT CUSTOMER_T. CUSTOMER_ID, ORDER_T. CUSTOMER_ID, NAME, ORDER_ID FROM CUSTOMER_T,ORDER_T WHERE CUSTOMER_T. CUSTOMER_ID =ORDER_T. CUSTOMER_ID

A. Equi-join B. Natural join C. Outer join D. Cartesian join

Answer: A

9. Embedded SQL **is** which of the following?

A. Hard-coded SQL statements **in** a program language such **as** Java.

B. The process of making an application capable of generating specific SQL code on the fly.

C. Hard-coded SQL statements **in** a procedure.

D. Hard-coded SQL statements **in** a trigger.

Answer: A

10. A UNION query **is** which of the following?

A. Combines the output from no more than two queries and must include the same number of columns.

B. Combines the output from no more than two queries and does not include the same number of columns.

C. Combines the output from multiple queries and must include the same number of columns.

D. Combines the output from multiple queries and does not include the same number of columns.

Answer: C

11).Which of the following statements **istrue** concerning subqueries?

- A. Involves the use of an inner and outer query.
- B. Cannot **return** the same result **as** a query that **is** not a subquery.
- C. Does not start with the word SELECT.
- D. All of the above.

Answer: A

12. Which of the following **is** a correlated subquery?

- A. Uses the result of an inner query to determine the processing of an outer query.
- B. Uses the result of an outer query to determine the processing of an inner query.
- C. Uses the result of an inner query to determine the processing of an inner query.
- D. Uses the result of an outer query to determine the processing of an outer query.

Answer: B

13. How many tables may be included with a join?

- A. One
- B. Two
- C. Three
- D. All of the above.

Answer: D

14. The following SQL **is** which type of join: SELECT CUSTOMER_T. CUSTOMER_ID, ORDER_T. CUSTOMER_ID, NAME, ORDER_ID FROM CUSTOMER_T,ORDER_T ;

- A. Equi-join
- B. Natural join
- C. Outer join
- D. Cartesian join

Answer: D

15. Which of the following **istrue** concerning triggers?

- A. You **do** not create them with SQL.
- B. They execute against only some applications that access a database.
- C. They have an **event**, condition, and action.
- D. They cannot cascade (cause another trigger to fire).

Answer: C

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