MCQ QUESTION WITH ANSWER AND EXPLANATION

Oracle SQL Questions and Answers – Structured Query Language

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "Structured Query Language".

1. What is the full form of SQL?
a) Structured Query Language
b) Structured Query List
c) Simple Query Language
d) None of the Mentioned
View Answer

Answer: a
Explanation: SQL (Structured Query Language) is a special-purpose programming language designed for managing data held in a relational database management system.Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language and a data manipulation language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control.
2. Which is the subset of SQL commands used to manipulate Oracle Database structures, including tables?
a) Data Definition Language(DDL)
b) Data Manipulation Language(DML)
c) DDL and DML
d) None of the Mentioned
View Answer

Answer: a
Explanation: The Data Definition Language is used to manage table and index structure.CREATE, ALTER, RENAME, DROP and TRUNCATE statements are the names of few data definition elements.
3. In SQL, which command is used to SELECT only one copy of each set of duplicable rows
a) SELECT DISTINCT
b) SELECT UNIQUE
c) SELECT DIFFERENT
d) All of the Mentioned
View Answer

Answer: a
Explanation: The keyword allows us to grab all information from a column (or columns) on a table. This, of course, necessarily means that there will be redundancies. What if we only want to select each distinct element? This is easy way to accomplish in SQL. All we need to do is that to add after The syntax is:SELECT DISTINCT column_name FROM table_name;.
4. A command that lets you change one or more fields in a record is
a) Insert
b) Modify
c) Look-up
d) All of the Mentioned
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Answer: b

Explanation: Sometimes we need to change the data type of a column. To do this, we use the ALTER TABLE Modify Column ALTER TABLE table_name, MODIFY column_name "New Data Type".

5. Which of the SQL statements is correct?

a) SELECT Username AND Password FROM Users

b) SELECT Username, Password FROM Users

c) SELECT Username, Password WHERE Username = 'user1'

d) None of the Mentioned

View Answer

Answer: b

Explanation: Correct order of SELECT, FROM and WHERE clause is as follow:

SELECT column_name1, column_name2 FROM table_name WHERE condition So, only SELECT Username, Password FROM Users follows the above syntax.

6. The SQL statement

SELECT SUBSTR('123456789', INSTR('abcabcabc', 'b'), 4) FROM DUAL;

a) 6789

b) 2345

c) 1234

d) 456789

View Answer

Answer: b

Explanation: INSTR function in SQL is used to find the starting location of a pattern in a string. The syntax for the INSTR function is as follows:INSTR(str,pattern):Find the starting location of pattern in string str and SUBSTR Function:- The Substring function in SQL is used to grab a portion of the stored data.

7. Table Employee has 10 records. It has a non-NULL SALARY column which is also UNIQUE.

The SQL statement

```
SELECT COUNT(*) FROM Employee WHERE  SALARY > ANY (SELECT SALARY FROM EMPLOYEE);
```

prints

a) 10

b) 9

c) 5

d) 0

View Answer

Answer: b

Explanation: Any compares a value with each of the values in a list or results from a query and evaluates to true if the result of an inner query contains at least one row. ANY must be preceded by comparison operators(=, >, <, <=, >=, <>).Employee table has 10 records and each value in non-NULL SALARY column is unique i.e different. So, in that 10 records one of the record will be minimum which cannot be greater than any nine value of the salary column. Hence the condition WHERE SALARY > ANY (SELECT SALARY FROM employee) will be true nine times. So, the COUNT(*) outputs 9.

8. Find the temperature in increasing order of all cities

a) SELECT city FROM weather ORDER BY temperature;

b) SELECT city, temperature FROM weather;

c) SELECT city, temperature FROM weather ORDER BY temperature;

d) SELECT city, temperature FROM weather ORDER BY city;

View Answer

Answer: c
Explanation:
```
SELECT column_name, aggregate_function(column_name)
       FROM table_name
       WHERE column_name operator value
       GROUP BY column_name
       HAVING aggregate_function(column_name) operator value
       ORDER BY ;
```
So base on [SELECT city, temperature FROM weather ORDER BY temperature;] this will be the correct answer.

9. Which of the following is illegal?
a) SELECT SYSDATE – SYSDATE FROM DUAL;
b) SELECT SYSDATE – (SYSDATE – 2) FROM DUAL;
c) SELECT SYSDATE – (SYSDATE + 2) FROM DUAL;
d) None of the Mentioned
View Answer

Answer: d
Explanation: SELECT SYSDATE – SYSDATE FROM DUAL; outputs 0 SELECT SYSDATE – (SYSDATE – 2) FROM DUAL; outputs 2
SELECT SYSDATE – (SYSDATE + 2) FROM DUAL; outputs -2.
10. Let the statement : SELECT column1 FROM myTable; return 10 rows.
The statement : SELECT ALL column1 FROM myTable; will return
a) less than 10 rows
b) more than 10 rows
c) exactly 10 rows
d) none of the Mentioned
View Answer

Answer: c
Explanation: All are optional. Its presence or absence doesn't change the output. Unlike DISTINCT, it allows duplicates in the output.

Oracle SQL Questions and Answers – DDL Command

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "DDL Commands".

1. Which is the subset of SQL commands used to manipulate Oracle Database structures, including tables?
a) Data Definition Language(DDL)
b) Data Manipulation Language(DML)
c) DML and DDL
d) None of the Mentioned
View Answer

Answer: a
Explanation: The DDL is used to manage table and index structure.CREATE, ALTER, RENAME, DROP and TRUNCATE statements are the names of few data definition elements.
2. Which of the following is/are the DDL statements?
A) Create
B) Drop

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C) Alter
D) All of the Mentioned
View Answer

Answer: d
Explanation: All the mentioned commands are the part of DDL statements.
3. In SQL, which command(s) is(are) used to change a table's storage characteristics?
a) ALTER TABLE
b) MODIFY TABLE
c) CHANGE TABLE
d) All of the Mentioned
View Answer

Answer: a
Explanation: To change the structure of the table we use ALTER TABLE Syntax:
ALTER TABLE "table_name" ADD "column_name" datatype
OR
ALTER TABLE "table_name" DROP COLUMN "column_name".
4. In SQL, which of the following is not a data definition language commands?
a) RENAME
b) REVOKE
c) GRANT
d) UPDATE
View Answer

Answer: a
Explanation: With RENAME statement you can rename a table.RENAME, REVOKE and GRANT are DDL commands
and UPDATE is DML command.
5. _____clause is an additional filter that is applied to the result.
a) Select
b) Group-by
c) Having
d) Order by
View Answer

Answer: c
Explanation: The HAVING clause was added to SQL because the WHERE keyword could not be used with aggregate
functions.
6. _____ defines rules regarding the values allowed in columns and is the standard mechanism for enforcing
database integrity.
a) Column
b) Constraint
c) Index
d) Trigger
View Answer

Answer: b
Explanation: SQL constraints are used to specify rules for the data in a table.If there is any violation between the
constraint and the data action, the action is aborted by the constraint.
7. SQL has how many main commands for DDL:
a) 1
b) 2
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c) 3
d) 4
View Answer

Answer: c
Explanation: Create, Delete, Alter these are 3 main command.
8. Which command defines its columns, integrity constraint in create table:
a) Create command
b) Drop table command
c) Alter table command
d) All of the Mentioned
View Answer

Answer: a
Explanation: The CREATE TABLE statement is used to create a table in a database.Tables are organized into rows and columns.
9. Which command is used for removing a table and all its data from the database:
a) Create command
b) Drop table command
c) Alter table command
d) All of the Mentioned
View Answer

Answer: b
Explanation: The DROP INDEX statement is used to delete an index in a table.
10. Which command allows the removal of all rows from a table but flushes a table more efficiently since no rollback information is retained:
a) TRUNCATE command
b) Create command
c) Drop table command
d) Alter table command
View Answer

Answer: a
Explanation: The SQL TRUNCATE TABLE command is used to delete complete data from an existing table.You can also use DROP TABLE command to delete complete table but it would remove complete table structure form the database and you would need to re-create this table once again if you wish you store some data.

Oracle SQL Questions and Answers – DML Command

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "DML Command".

1. The language used application programs to request data from the DBMS is referred to as _____
a) DML
b) DDL
c) Query language
d) All of the Mentioned
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Answer: a

Explanation: Data Manipulation Language (DML) statements are used for managing data in database. DML commands are not auto-committed. It means changes made by DML command are not permanent to database, it can be rolled back.

2. In SQL, which of the following is not a data Manipulation Language Commands?

a) Delete

b) Truncate

c) Update

d) Create

View Answer

Answer: b

Explanation: The SQL TRUNCATE TABLE command is used to delete complete data from an existing table.You can also use DROP TABLE command to delete complete table but it would remove complete table structure form the database and you would need to re-create this table once again if you wish you store some data.

3. Which of the following is not a type of SQL statement?

a) Data Manipulation Language (DML)

b) Data Definition Language (DDL)

c) Data Control Language (DCL)

d) Data Communication Language (DCL)

View Answer

Answer: d

Explanation: Data Communication Language (DCL) is not a type of SQL statement.

4. Which of the following is not included in DML (Data Manipulation Language)

a) INSERT

b) UPDATE

c) DELETE

d) CREATE

View Answer

Answer: d

Explanation: The CREATE TABLE statement is used to create a table in a database.Tables are organized into rows and columns; and each table must have a name.

5. TRUNCATE statement in SQL is a –

a) DML statement

b) DDL statement

c) DCL statement

d) TCL statement

View Answer

Answer: b

Explanation: The SQL TRUNCATE TABLE command is used to delete complete data from an existing table.so its a DDL statement.

6. In SQL, which command is used to add new rows to a table?

a) Alter Table

b) Add row

c) Insert

d) Append

View Answer

Answer: c

Explanation: Alter Table will change the structure of the table.

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7. Stack is also called _____
a) First In First Out (LIFO)
b) Last In First Out (FIFO)
c) First In Last Out (FILO)
d) First Come First Served (FCFS)
View Answer

Answer: c
Explanation: Stack works on the First In Last Out.
8. A table that displays data redundancies yields _____ anomalies.
a) Update
b) Insertion
c) Deletion
d) All of the Mentioned
View Answer

Answer: d
Explanation: Table that displays data redundancies yields update, insertion, deletion anomalies.
9. A type of query that is placed within a WHERE or HAVING clause of another query is called
a) Master query
b) Sub query
c) Super query
d) Multi-query
View Answer

Answer: b
Explanation: Sub-query that is placed within a WHERE or HAVING clause of another query.
10. The three language components of a database management system (DBMS) like DDL, DCL, DML.
Two different types of people (users and practitioners) are concerned with them. Which of them do users of a DBMS usually deal with?
a) DDL
b) DML
c) DDL and DCL
d) DCL and DML
View Answer

Answer: b
Explanation: The users and practitioners are concerned with only Data manipulation language component of DBMS.

Oracle SQL Questions and Answers – DCL,TCL Command

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "DCL ,TCL Command".

1. DCL stands for :
a) Data Control Language
b) Data Console Language
c) Data Console Level
d) Data Control Level
View Answer

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2. TCL stands for:
a) Transaction control languages
b) Transaction command languages
c) Transaction connect languages
d) None of the Mentioned
View Answer

3. _____commands in SQL allow controlling access to data within database.
a) Database
b) Data
c) Data control
d) All of the Mentioned
View Answer

Answer: c
Explanation: Data control is used for the controlling the access to database.
4. In an SQL statement, which of the following parts states the conditions for row selection?
a) Where
b) From
c) Order By
d) Group By
View Answer

Answer: a
Explanation: In an SQL statement where clause states the conditions for row selection.
5. A transaction completes its execution is said to be
a) Committed
b) Aborted
c) Rolled back
d) Failed
View Answer

Answer: a
Explanation: A transaction the completes its execution is said to be Committed.
6. Which of the following keyword is used with Data Control Language (DCL) statements?
a) SELECT
b) INSERT
c) DELETE
d) GRANT
View Answer

Answer: d
Explanation: GRANT is the keyword which is used with Data Control Language statements.
7. DCL Provides Commands To Perform Actions Like _____
a) Change The Structure Of Tables
b) Insert, Update Or Delete Records And Data Values
c) Authorizing Access And Other Control Over Database
d) None of the Mentioned
View Answer

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Answer: c
Explanation: DCL is used to perform the action like authorization, Access and other control over database.
8. The Database Language That Allows You To Access Or Maintain Data In A Database
a) DCL
b) DML
c) DDL
d) All of the Mentioned
View Answer

Answer: a
Explanation: DCL command like Grant and Revoke is used for to give access on the database.
9. A Database Language Concerned With The Definition Of The Whole Database Structure And Schema Is _____
a) DCL
b) DML
c) DDL
d) All of the Mentioned
View Answer

Answer: c
Explanation: Data Definition Language is used for the to define the data structure of the Table.
10. 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].
View Answer

Answer: b
Explanation: DESCRIBE command is used to get the structure of the Oracle Table.

Oracle Database Questions and Answers – Foreign, Candidate, Primary, Composite, Unique Keys

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "Foreign, Candidate, Primary, Composite, Unique Keys".

1. How can a SQL developer add a key on a table?
a) While creating a table
b) With Alter table command
c) With SQL server Properties window
d) All of the Mentioned
View Answer

Answer: d
Explanation: Adding key on a table can be done with all the above mentioned way.
2. A _____ key is a minimal super key
a) Primary
b) Foreign
c) Candidate
d) Non-Prime
View Answer

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3. Which of the following is not a Key in SQL Server?
a) Primary
b) Foreign
c) Alternate
d) Secondary
View Answer

Answer: d
Explanation: Except Secondary all are the types of key in SQL server.
4. What is true about Unique and primary key?
a) Unique can have multiple NULL values but Primary can't have.
b) Unique can have single NULL value but Primary can't have even single.
c) Both can have duplicate values
d) None of the Mentioned
View Answer

Answer: b
Explanation: Primary key doesn't allow Null values and Unique key allows Null value, but only one Null value.
5. By default, which key creates Clustered index?
a) Foreign Key
b) Unique Key
c) Primary Key
d) None of the Mentioned
View Answer

Answer: c
Explanation: Primary Key by default it adds a clustered index.
6. A Key which is a set of one or more columns that can identify a record uniquely is called?
a) Natural key
b) Candidate key
c) Not Null key
d) Alternate key
View Answer

Answer: b
Explanation: A candidate key is a combination of attributes that can be uniquely used to identify a database record without any extraneous data. Each table may have one or more candidate keys. One of these candidate keys is selected as the table primary key.
7. Which key accepts multiple NULL values?
a) Foreign Key
b) Unique Key
c) Primary Key
d) None of the Mentioned
View Answer

Answer: a
Explanation: A foreign key is a key used to link two tables together. This is sometimes called a referencing key.Foreign Key is a column or a combination of columns whose values match a Primary Key in a different table.
8. A Foreign key is combined with a foreign key creates
a) Parent child relationship between the tables that connect them
b) Many-Many relationship between the tables that connect them
c) Network model between the tables that connect them
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d) None of the Mentioned
View Answer

Answer: a
Explanation: In a foreign key reference, a link is created between two tables when the column or columns that hold the primary key value for one table are referenced by the column or columns in another table. This column becomes a foreign key in the second table.

9. Which of the following statements is not correct?
a) The primary key must be unique for a given table
b) Specifying a zero (0) for the lower bound for the association multiplicity on a class diagram indicates that the item is required
c) Specifying a one (1) for the lower bound for the association multiplicity on a class diagram indicates that the item is required
d) Most databases allow multiple records that are identical
View Answer

Answer: b
Explanation: A foreign key is a column that references a column (most often the primary key) of another table. The purpose of the foreign key is to ensure referential integrity of the data. In other words, only values that are supposed to appear in the database are permitted.

10. In a database, a foreign key is ?
a) A data element/attribute within a data field of a data record that is not unique, and cannot be used to distinguish one data record in a database from another data record within a database table
b) A data element/attribute within a data field of a data record within a database table that is a secondary key in another database table
c) A data element/attribute within a data field of a data record within a database table that is a primary key in another database table
d) A data element/attribute within a data field of a data record that enables a database to uniquely distinguish one data record in a database from another data record within a database table
View Answer

Answer: c
Explanation: A FOREIGN KEY constraint can reference columns in tables in the same database or within the same table. These are called self-referencing tables. For example, consider an employee table that contains three columns: employee_number, employee_name, and manager_employee_number. Because the manager is also an employee, there is a foreign key relationship from the manager_employee_number column to the employee_number column.

Oracle Database Questions and Answers – Attribute, Tuple and Entity

This set of Oracle Database Multiple Choice Questions & Answers (MCQs) focuses on "Attribute, tuple and Entity".

1. In an E-R diagram an entity set is represent by a
a) Rectangle
b) Ellipse
c) Diamond box
d) Circle
View Answer

Answer: a
Explanation: Entity types represent sets of objects and are pictured by rectangular nodes.

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2. A relational database developer refers to a record as
a) A criteria
b) A relation
c) A tuple
d) An attribute
View Answer

Answer: c
Explanation: A tuple is analogous to a record in non-relational databases.
3. The relational model feature is that there
a) is no need for primary key data
b) is much more data independence than some other database models
c) are explicit relationships among records
d) are tables with many dimensions
View Answer

Answer: b
Explanation: The relational model is the conceptual basis of relational databases. Proposed by E.F.Codd in 1969, it is a method of structuring data using relations, which are grid-like mathematical structures consisting of columns and rows.
4. E-R model uses this symbol to represent weak entity set ?
a) Dotted rectangle
b) Diamond
c) Doubly outlined rectangle
d) None of the Mentioned
View Answer

Answer: c
Explanation: A weak entity set is indicated by a doubly-outlined box.
5. Which of the following is record based logical model?
a) Network Model
b) Object oriented model
c) E-R Model
d) None of the Mentioned
View Answer

Answer: a
Explanation: The network model is a database model conceived as a flexible way of representing objects and their relationships.
6. A _____ normal form normalization will be needed where all attributes in a relation tuple are not functionally dependent only on the key attribute.
a) First
b) Second
c) Third
d) Fourth
View Answer

Answer: c
Explanation: A database is in third normal form if it satisfies the following conditions:1)It is in second normal form. 2)There is no transitive functional dependency
7. Identify the criteria for designing database from the point of view of user
a) No redundancy
b) No inapplicable attributes
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c) Uniformity in naming & definitions of the data items
d) All of the Mentioned
View Answer

Answer: d
Explanation: To designing database from the point of user view we need all the mentioned required.
8. The relational model is based on the concept that data is organized and stored in two-dimensional tables called _____
a) Fields
b) Records
c) Relations
d) Keys
View Answer

Answer: b
Explanation: In the context of a relational database, a row also called a record or tuple represents a single, implicitly structured data item in a table.
9. An aggregation association is drawn using which symbol:
a) a line which loops back onto the same table
b) small closed diamond at the end of a line connecting two tables
c) small open diamond at the end of a line connecting two tables
d) small triangle at the end of a line connecting the aggregated item and multiple component items
View Answer

Answer: c
Explanation: There are three primary inter-object relationships: association, aggregation, and composition. Using the right relationship line is important for placing implicit restrictions on the visibility and propagation of changes to the related classes, matter which play major role in reducing system complexity.
10. An n-array relationship is drawn using which symbol:
a) A diamond
b) A line with arrows showing direction
c) A line without arrows showing direction
d) A rectangle
View Answer

Answer: a
Explanation: When a single parent-child relationship exists, the relationship is called binary. All of the previous examples of relationships to this point have been binary relationships. However, when creating a data model, it is not uncommon to come across n-array relationships, the modeling name for relationships between two or more parent entities and a single child table.

Database Questions and Answers – Relational Database and Database Schema

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Relational Database and Database Schema".

1. A relational database consists of a collection of
a) Tables
b) Fields
c) Records

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d) Keys
View Answer

Answer: a
Explanation: Fields are the column of the relation or tables.Records are each row in relation.Keys are the constraints in a relation .
2. A _____ in a table represents a relationship among a set of values.
a) Column
b) Key
c) Row
d) Entry
View Answer

Answer: c
Explanation: Column has only one set of values.Keys are constraints and row is one whole set of attributes.Entry is just a piece of data.
3. The term _____ is used to refer to a row.
a) Attribute
b) Tuple
c) Field
d) Instance
View Answer

Answer: b
Explanation: Tuple is one entry of the relation with several attributes which are fields.
4. The term attribute refers to a _____ of a table.
a) Record
b) Column
c) Tuple
d) Key
View Answer

Answer: b
Explanation: Attribute is a specific domain in the relation which has entries of all tuples.
5. For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute.
a) Domain
b) Relation
c) Set
d) Schema
View Answer

Answer: a
Explanation: The values of the attribute should be present in the domain.Domain is a set of values permitted .
6. Database _____ which is the logical design of the database, and the database _____ which is a snapshot of the data in the database at a given instant in time.
a) Instance, Schema
b) Relation, Schema
c) Relation, Domain
d) Schema, Instance
View Answer

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Answer: d
Explanation: Instance is a instance of time and schema is a representation.
7.Course(course_id,sec_id,semester)
Here the course_id,sec_id and semester are _____ and course is a _____
a) Relations, Attribute
b) Attributes, Relation
c) Tuple, Relation
d) Tuple, Attributes
View Answer

Answer: b
Explanation: The relation course has a set of attributes course_id,sec_id,semester .
8. Department (dept name, building, budget) and Employee (employee_id , name, dept name,salary)
Here the dept_name attribute appears in both the relations .Here using common attributes in relation schema is one way of relating _____ relations.
a) Attributes of common
b) Tuple of common
c) Tuple of distinct
d) Attributes of distinct
View Answer

Answer: c
Explanation: Here the relations are connected by the common attributes.
9. A domain is atomic if elements of the domain are considered to be _____ units.
a) Different
b) Indivisbile
c) Constant
d) Divisible
View Answer

Answer: b
Explanation: None.
10. The tuples of the relations can be of _____ order.
a) Any
b) Same
c) Sorted
d) Constant
View Answer

Answer: a
Explanation: The values only count .The order of the tuples does not matter.

Database Questions and Answers – Relational Query Operations and Relational Operators

This set of Database MCQs focuses on "Relational Query Operations and Relational Operators".

1. Using which language can a user request information from a database ?
a) Query
b) Relational
c) Structural

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d) Compiler
View Answer

Answer: a
Explanation: Query language is a method through which the database entries can be accessed.
2. Student(ID, name, dept name, tot_cred)
In this query which attribute form the primary key?
a) Name
b) Dept
c) Tot_cred
d) ID
View Answer

Answer: d
Explanation: The attributes name ,dept and tot_cred can have same values unlike ID .
3. Which one of the following is a procedural language ?
a) Domain relational calculus
b) Tuple relational calculus
c) Relational algebra
d) Query language
View Answer

Answer: c
Explanation: Domain and Tuple relational calculus are non-procedural language.Query language is a method through which the database entries can be accessed.
4. The_____ operation allows the combining of two relations by merging pairs of tuples, one from each relation, into a single tuple.
a) Select
b) Join
c) Union
d) Intersection
View Answer

Answer: b
Explanation: Join finds the common tuple in the relations and combines it.
5. The result which operation contains all pairs of tuples from the two relations, regardless of whether their attribute values match.
a) Join
b) Cartesian product
c) Intersection
d) Set difference
View Answer

Answer: b
Explanation: Cartesian product is the multiplication of all the values in the attributes.
6. The _____operation performs a set union of two "similarly structured" tables
a) Union
b) Join
c) Product
d) Intersect
View Answer

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Answer: a
Explanation: Union just combines all the values of relations of same attributes.
7. The most commonly used operation in relational algebra for projecting a set of tuple from a relation is
a) Join
b) Projection
c) Select
d) Union
View Answer

Answer: c
Explanation: Select is used to view the tuples of the relation with or without some constraints.
8. The _____ operator takes the results of two queries and returns only rows that appear in both result sets.
a) Union
b) Intersect
c) Difference
d) Projection
View Answer

Answer: b
Explanation: The union operator gives the result which is the union of two queries and difference is the one where query which is not a part of second query .
9. A _____ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys.
a) Schema diagram
b) Relational algebra
c) Database diagram
d) Schema flow
View Answer

Answer: a
Explanation: None.
10. The _____ provides a set of operations that take one or more relations as input and return a relation as an output.
a) Schematic representation
b) Relational algebra
c) Scheme diagram
d) Relation flow
View Answer

Answer: b
Explanation: None.

Database Questions and Answers – SQL Basics and SQL Data Definition

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "SQL Basics and SQL Data Definition".

1. Which one of the following is used to define the structure of the relation ,deleting relations and relating schemas ?
a) DML(Data Manipulation Langauge)
b) DDL(Data Definition Langauge)
c) Query

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d) Relational Schema
View Answer

2. Which one of the following provides the ability to query information from the database and to insert tuples into, delete tuples from, and modify tuples in the database ?
a) DML(Data Manipulation Langauge)
b) DDL(Data Definition Langauge)
c) Query
d) Relational Schema
View Answer

Answer: a
Explanation: DML performs change in the values of the relation.
3. Create table employee (name varchar ,id integer)
What type of statement is this ?
a) DML
b) DDL
c) View
d) Integrity constraint
View Answer

Answer: b
Explanation: Data Definition language is the language which performs all the operation in defining structure of relation.
4. Select * from employee
What type of statement is this?
a) DML
b) DDL
c) View
d) Integrity constraint
View Answer

Answer: a
Explanation: Select operation just shows the required fields of the relation. So it forms a DML.
5. The basic data type char(n) is a _____ length character string and varchar(n) is _____ length character.
a) Fixed, equal
b) Equal, variable
c) Fixed, variable
d) Variable, equal
View Answer

Answer: c
Explanation: Varchar changes its length accordingly whereas char has a specific length which has to be filled by either letters or spaces.
6. An attribute A of datatype varchar(20) has the value "Avi" . The attribute B of datatype char(20) has value "Reed" .Here attribute A has ____ spaces and attribute B has ____ spaces.
a) 3, 20
b) 20, 4
c) 20 , 20
d) 3, 4
View Answer

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Answer: a

Explanation: Varchar changes its length accordingly whereas char has a specific length which has to be filled by either letters or spaces.

7. To remove a relation from an SQL database, we use the _____ command.
a) Delete
b) Purge
c) Remove
d) Drop table
View Answer

Answer: d

Explanation: Drop table deletes the whole structure of the relation .purge removes the table which cannot be obtained again.

8. Delete from r; r – relation
This command performs which of the following action ?
a) Remove relation
b) Clear relation entries
c) Delete fields
d) Delete rows
View Answer

Answer: b

Explanation: Delete command removes the entries in the table.

9. Insert into instructor values (10211, 'Smith', 'Biology', 66000);
What type of statement is this ?
a) Query
b) DML
c) Relational
d) DDL
View Answer

Answer: b

Explanation: The values are manipulated .So it is a DML.

10. Updates that violate _____ are disallowed.
a) Integrity constraints
b) Transaction control
c) Authorization
d) DDL constraints
View Answer

Answer: a

Explanation: Integrity constraint has to be maintained in the entries of the relation.

Database Questions and Answers – Basic SQL Operations

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Basic SQL Operations".

1.

```
SELECT name _____  instructor name, course id
```

```
FROM instructor, teaches
WHERE instructor.ID= teaches.ID;
```
Which keyword must be used here to rename the field name ?
a) From
b) Rename
c) As
d) Join
View Answer

Answer: c
Explanation: As keyword is used to rename.
2.

```
SELECT * FROM employee WHERE dept_name="Comp Sci";
```
In the SQL given above there is an error . Identify the error .
a) Dept_name
b) Employee
c) "Comp Sci"
d) From
View Answer

Answer: c
Explanation: For any string operations single quoted(') must be used to enclose.
3.

```
SELECT emp_name
FROM department
WHERE dept_name LIKE ' _____ Computer Science';
```
Which one of the following has to be added into the blank to select the dept_name which has Computer Science as its ending string ?
a) %
b) _
c) ||
d) $
View Answer

Answer: a
Explanation: The % character matches any substring.
4. '_ _ _ ' matches any string of _____ three characters. '_ _ _ %' matches any string of at _____ three characters.
a) Atleast, Exactly
b) Exactly, Atleast
c) Atleast, All
d) All , Exactly
View Answer

Answer: b
Explanation: None.
5.

```
SELECT name
FROM instructor
```

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```
WHERE dept name = 'Physics'
ORDER BY name;
```
By default, the order by clause lists items in _____ order.
a) Descending
b) Any
c) Same
d) Ascending
View Answer

Answer: d
Explanation: Specification of descending order is essential but it not for ascending.
6.

```
SELECT *
FROM instructor
ORDER BY salary _____, name ____;
```
To display the salary from greater to smaller and name in ascending order which of the following options should be used ?
a) Ascending, Descending
b) Asc, Desc
c) Desc, Asc
d) Descending, Ascending
View Answer

Answer: c
Explanation: None.
7.

```
SELECT name
FROM instructor
WHERE salary <= 100000 AND salary >= 90000;
```
This query can be replaced by which of the following ?

```
a) SELECT name
FROM instructor
WHERE salary BETWEEN 90000 AND 100000;
b) SELECT name
FROM employee
WHERE salary <= 90000 AND salary>=100000;
c) SELECT name
FROM employee
WHERE salary BETWEEN 90000 AND 100000;
d) SELECT name
FROM instructor
WHERE salary BETWEEN 100000 AND 90000;
```
View Answer

Answer: a
Explanation: SQL includes a between comparison operator to simplify where clauses that specify that a value be less than or equal to some value and greater than or equal to some other value.

8.

```
SELECT instructor.*
FROM instructor, teaches
WHERE instructor.ID= teaches.ID;
```
This query does which of the following operation?
a) All attributes of instructor and teaches are selected
b) All attributes of instructor are selected on the given condition
c) All attributes of teaches are selected on given condition
d) Only the some attributes from instructed and teaches are selected
View Answer

Answer: b
Explanation: The asterisk symbol " * " can be usedin the select clause to denote "all attributes."
9. In SQL the spaces at the end of the string are removed by _____ function .
a) Upper
b) String
c) Trim
d) Lower
View Answer

Answer: c
Explanation: The syntax of trim is Trim(s); where s-string .
10. _____ operator is used for appending two strings.
a) &
b) %
c) ||
d) _
View Answer

Answer: c
Explanation: || is the concatenation operator.

Database Questions and Answers – Set Operations

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Set Operations".

1. The union operation is represented by
a) ∩
b) U
c) –
d) *
View Answer

Answer: b
Explanation: Union operator combines the relations.
2. The intersection operator is used to get the _____ tuples.
a) Different
b) Common
c) All
d) Repeating
View Answer

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Answer: b
Explanation: Intersection operator ignores unique tuples and takes only common ones.
3. The union operation automatically _____, unlike the select clause.
a) Adds tuples
b) Eliminates unique tuples
c) Adds common tuples
d) Eliminates duplicate
View Answer

Answer: d
Explanation: None.
4. If we want to retain all duplicates, we must write _____ in place of union.
a) Union all
b) Union some
c) Intersect all
d) Intersect some
View Answer

Answer: a
Explanation: Union all will combine all the tuples including duplicates.
5.

```
(SELECT course id
FROM SECTION
WHERE semester = 'Fall' AND YEAR= 2009)
EXCEPT
(SELECT course id
FROM SECTION
WHERE semester = 'Spring' AND YEAR= 2010);
```
This query displays
a) Only tuples from second part
b) Only tuples from the first part which has the tuples from second part
c) Tuples from both the parts
d) Tuples from first part which do not have second part
View Answer

Answer: d
Explanation: Except keyword is used to ignore the values.
6. For like predicate which of the following is true.

```
i) % matches zero OF more characters.
ii) _ matches exactly one CHARACTER.
```
a) i-only
b) ii-only
c) Both of the mentioned
d) None of the mentioned
View Answer

Answer: a
Explanation:% is used with like and _ is used to fill in the character.
7. The number of attributes in relation is called as its
a) Cardinality
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b) Degree
c) Tuples
d) Entity
View Answer

Answer: b
Explanation: None.
8. _____ clause is an additional filter that is applied to the result.
a) Select
b) Group-by
c) Having
d) Order by
View Answer

Answer: c
Explanation: Having is used to provide additional aggregate filtration to the query.
9. _____ joins are SQL server default
a) Outer
b) Inner
c) Equi
d) None of the mentioned
View Answer

Answer: b
Explanation: It is optional to give the inner keyword with join as it is default .
10. The _____ is essentially used to search for patterns in target string.
a) Like Predicate
b) Null Predicate
c) In Predicate
d) Out Predicate
View Answer

Answer: a
Explanation: Like predicate matches the string in the given pattern.

Database Questions and Answers – Null Values Operations

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Null Values Operations".

1. A _____ indicates an absent value that may exist but be unknown or that may not exist at all.
a) Empty tuple
b) New value
c) Null value
d) Old value
View Answer

Answer: c
Explanation: None.
2. If the attribute phone number is included in the relation all the values need not be entered into the phone number column . This type of entry is given as

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a) 0
b) –
c) Null
d) Empty space
View Answer

Answer: c
Explanation: Null is used to represent absence of a value.
3. The predicate in a where clause can involve Boolean operations such as and.The result of true and unknown is_____
false and unknown is _____ while unknown and unknown is _____
a) Unknown, unknown, false
b) True, false, unknown
c) True, unknown, unknown
d) Unknown, false, unknown
View Answer

4.

```
 SELECT name
FROM instructor
WHERE salary IS NOT NULL;
Selects
```
a) Tuples with null value
b) Tuples with no null values
c) Tuples with any salary
d) All of the mentioned
View Answer

Answer: b
Explanation: Not null constraint removes the tpules of null values.
5. In a employee table to include the attributes whose value always have some value which of the following constraint
must be used ?
a) Null
b) Not null
c) Unique
d) Distinct
View Answer

Answer: b
Explanation: Not null constraint removes the tpules of null values.
6. Using the _____ clause retains only one copy of such identical tuples.
a) Null
b) Unique
c) Not null
d) Distinct
View Answer

Answer: d
Explanation: Unique is a constraint.
7.

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```
CREATE TABLE employee (id INTEGER,name VARCHAR(20),salary NOT NULL);
INSERT INTO employee VALUES (1005,Rach,0);
INSERT INTO employee VALUES (1007,Ross, );
INSERT INTO employee VALUES (1002,Joey,335);
```
Some of these insert statements will produce an error. Identify the statement.
a) Insert into employee values (1005,Rach,0);
b) Insert into employee values (1002,Joey,335);
c) Insert into employee values (1007,Ross,);
d) None of the mentioned
View Answer

Answer: c
Explanation: Not null constraint is specified which means sone value (can include 0 also) should be given.
8. The primary key must be
a) Unique
b) Not null
c) Both Unique and Not null
d) Either Unique or Not null
View Answer

Answer: c
Explanation: Primary key must satisfy unique and not null condition for sure.
9. You attempt to query the database with this command:

```
 SELECT nvl (100 / quantity, NONE)
      FROM inventory;
```
Why does this statement cause an error when QUANTITY values are null?
a) The expression attempts to divide by a null value
b) The data types in the conversion function are incompatible
c) The character string none should be enclosed in single quotes (' ')
d) A null value used in an expression cannot be converted to an actual value
View Answer

Answer: a
Explanation: The expression attempts to divide by a null value is errorneous in sql.
10. The result of _____unknown is unknown.
a) Xor
b) Or
c) And
d) Not
View Answer

Answer: d
Explanation: Since unknown does not hold any value the value cannot have a reverse value.

Database Questions and Answers – Aggregate Functions and Nested Subqueries – 1

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Aggregate Functions and Nested Subqueries – 1".

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1. Aggregate functions are functions that take a _____ as input and return a single value.
a) Collection of values
b) Single value
c) Aggregate value
d) Both Collection of values & Single value
View Answer

Answer: a
Explanation: None.
2.

```
SELECT _____
FROM instructor
WHERE dept name= 'Comp. Sci.';
```
Which of the following should be used to find the mean of the salary ?
a) Mean(salary)
b) Avg(salary)
c) Sum(salary)
d) Count(salary)
View Answer

Answer: b
Explanation: Avg() is used to find the mean of the values.
3.

```
SELECT COUNT (_____  ID)
FROM teaches
WHERE semester = 'Spring' AND YEAR = 2010;
```
If we do want to eliminate duplicates, we use the keyword _____in the aggregate expression.
a) Distinct
b) Count
c) Avg
d) Primary key
View Answer

Answer: a
Explanation: Distinct keyword is used to select only unique items from the relation.
4. All aggregate functions except _____ ignore null values in their input collection.
a) Count(attribute)
b) Count(*)
c) Avg
d) Sum
View Answer

Answer: b
Explanation: * is used to select all values including null.
5. A Boolean data type that can take values true, false, and_____
a) 1
b) 0
c) Null
d) Unknown
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Answer: d

Explanation: Unknown values do not take null value but it is not known.

6. The _____ connective tests for set membership, where the set is a collection of values produced by a select clause. The _____ connective tests for the absence of set membership.

a) Or, in
b) Not in, in
c) In, not in
d) In, or
View Answer

Answer: c

Explanation: In checks if the query has the value but not in checks if it does not have the value.

7. Which of the following should be used to find all the courses taught in the Fall 2009 semester but not in the Spring 2010 semester .

```
a) SELECT DISTINCT course id
FROM SECTION
WHERE semester = 'Fall' AND YEAR= 2009 AND
course id NOT IN (SELECT course id
FROM SECTION
WHERE semester = 'Spring' AND YEAR= 2010);
b) SELECT DISTINCT course_id
FROM instructor
WHERE name NOT IN ('Fall', 'Spring');
c) (SELECT course id
FROM SECTION
WHERE semester = 'Spring' AND YEAR= 2010)
d) SELECT COUNT (DISTINCT ID)
FROM takes
WHERE (course id, sec id, semester, YEAR) IN (SELECT course id, sec id, semester,
YEAR
FROM teaches
WHERE teaches.ID= 10101);
```
View Answer

8. The phrase "greater than at least one" is represented in SQL by _____
a) < all
b) < some
c) > all
d) > some
View Answer

Answer: d

Explanation: >some takes atlest one value above it .

9. Which of the following is used to find all courses taught in both the Fall 2009 semester and in the Spring 2010 semester .

```
a) SELECT course id
FROM SECTION AS S
WHERE semester = 'Fall' AND YEAR= 2009 AND
EXISTS (SELECT *
FROM SECTION AS T
```

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```
WHERE semester = 'Spring' AND YEAR= 2010 AND
S.course id= T.course id);
b) SELECT name
FROM instructor
WHERE salary > SOME (SELECT salary
FROM instructor
WHERE dept name = 'Biology');
c) SELECT COUNT (DISTINCT ID)
FROM takes
WHERE (course id, sec id, semester, YEAR) IN (SELECT course id, sec id, semester,
YEAR
FROM teaches
WHERE teaches.ID= 10101);
d) (SELECT course id
FROM SECTION
WHERE semester = 'Spring' AND YEAR= 2010)
```
View Answer
Answer: a
Explanation: None.

10. We can test for the nonexistence of tuples in a subquery by using the _____ construct.
a) Not exist
b) Not exists
c) Exists
d) Exist
View Answer

Answer: b
Explanation: Exists is used to check for existence of tuples.

Database Questions and Answers – Aggregate Functions and Nested Subqueries – 2

This set of Database Interview Questions and Answers focuses on "Aggregate Functions and Nested Subqueries – 2".

1.

```
SELECT dept_name, ID, avg (salary)
FROM instructor
GROUP BY dept_name;
This statement IS erroneous because
```
a) Avg(salary) should not be selected
b) Dept_id should not be used in group by clause
c) Misplaced group by clause
d) Group by clause is not valid in this query
View Answer

Answer: b
Explanation: Any attribute that is not present in the group by clause must appear only inside an aggregate function if it appears in the select clause, otherwise the query is treated as erroneous.

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2. SQL applies predicates in the _____ clause after groups have been formed, so aggregate functions may be used.
a) Group by
b) With
c) Where
d) Having
View Answer

Answer: b
Explanation: The with clause provides away of defining a temporary relation whose definition is available only to the query in which the with clause occurs.
3. Aggregate functions can be used in the select list or the_____clause of a select statement or subquery. They cannot be used in a _____ clause.
a) Where, having
b) Having, where
c) Group by, having
d) Group by, where
View Answer

Answer: b
Explanation: To include aggregate functions having clause must be included after where.
4. The _____ keyword is used to access attributes of preceding tables or subqueries in the from clause.
a) In
b) Lateral
c) Having
d) With
View Answer

Answer: b
Explanation:
```
 Eg : SELECT name, salary, avg salary
            FROM instructor I1, lateral (SELECT avg(salary) AS avg salary
            FROM instructor I2
            WHERE I2.dept name= I1.dept name);
```
Without the lateral clause, the subquery cannot access the correlation variable
I1 from the outer query.

5. Which of the following creates temporary relation for the query on which it is defined ?
a) With
b) From
c) Where
d) Select
View Answer

Answer: a
Explanation: The with clause provides away of defining a temporary relation whose definition is available only to the query in which the with clause occurs.
6.

```
WITH max_budget (VALUE) AS
(SELECT MAX(budget)
FROM department)
SELECT budget
```
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```
FROM department, max_budget
WHERE department.budget = MAX budget.value;
```
In the query given above which one of the following is a temporary relation ?
a) Budget
b) Department
c) Value
d) Max_budget
View Answer

Answer: d
Explanation: With clause creates a temporary relation.
7. Subqueries cannot:
a) Use group by or group functions
b) Retrieve data from a table different from the one in the outer query
c) Join tables
d) Appear in select, update, delete, insert statements.
View Answer

Answer: c
Explanation: None.
8. Which of the following is not a aggregate function ?
a) Avg
b) Sum
c) With
d) Min
View Answer

Answer: c
Explanation: With is used to create temporary relation and its not a aggregate function.
9. The EXISTS keyword will be true if:
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
View Answer

Answer: a
Explanation: EXISTS keyword checks for existance of condition.
10. How can you find rows that do not match some specified condition?
a) EXISTS
b) Double use of NOT EXISTS
c) NOT EXISTS
d) None of the mentioned
View Answer

Answer: b
Explanation: None.

Database Questions and Answers – Modification of Database

Collected by
Md. Jubayir Hossain

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Modification of Database".

1. A Delete command operates on _____ relation.
a) One
b) Two
c) Several
d) Null
View Answer

Answer: a
Explanation: Delete can delete from only one table at a time.
2. Delete from r where P;
The above command
a) Deletes a particular tuple from the relation
b) Deletes the relation
c) Clears all entries from the relation
d) All of the mentioned
View Answer

Answer: a
Explanation: Here P gives the condition for deleting specific rows.
3. Which one of the following deletes all the entries but keeps the structure of the relation .
a) Delete from r where P;
b) Delete from instructor where dept name= 'Finance';
c) Delete from instructor where salary between 13000 and 15000;
d) Delete from instructor;
View Answer

Answer: d
Explanation: Absence of condition deletes all rows.
4. Which of the following is used to insert a tuple from another relation.

```
a)  INSERT INTO course (course id, title, dept name, credits)
    VALUES ('CS-437', 'DATABASE Systems', 'Comp. Sci.', 4);
b)  INSERT INTO instructor
    SELECT ID, name, dept name, 18000
    FROM student
    WHERE dept name = 'Music' AND tot cred > 144;
c)  INSERT INTO course VALUES ('CS-437', 'DATABASE Systems', 'Comp. Sci.', 4);
d)  NOT possible
```
View Answer
Answer: b
Explanation: Using select statement in insert will include rows which are the result of the selection.

5. Which of the following deletes all tuples in the instructor relation for those instructors associated with a department located in the Watson building which is in department relation.

```
a)  DELETE FROM instructor
    WHERE dept_name IN 'Watson';
b)  DELETE FROM department
    WHERE building='Watson';
```
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```
c) DELETE FROM instructor
   WHERE dept_name IN (SELECT dept name
                              FROM department
                              WHERE building = 'Watson');
```
d) NONE OF the mentioned
View Answer
Answer: c
Explanation: The query must include building=watson condition to filter the tuples.

6.

```
UPDATE instructor
       _____ salary= salary * 1.05;
```
Fill in with correct keyword to update the instructor relation.
a) Where
b) Set
c) In
d) Select
View Answer

Answer: b
Explanation: Set is used to update the particular value.
7. _____ are useful in SQL update statements,where they can be used in the set clause.
a) Multiple queries
b) Sub queries
c) Update
d) Scalar subqueries
View Answer

Answer: d
Explanation: None.
8. The problem of ordering the update in multiple update is avoided using
a) Set
b) Where
c) Case
d) When
View Answer

Answer: c
Explanation: The case statements can add the order of updating tuples.
9. Which of the following is the correct format for case statements.

```
a) CASE
   WHEN pred1 ... result1
   WHEN pred2 ... result2
   . . .
   WHEN predn ... resultn
   ELSE result0
   END
b) CASE
   WHEN pred1 THEN result1
```

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```
    WHEN pred2 THEN result2
    . . .
    WHEN predn THEN resultn
    ELSE result0
    END
c) CASE
    WHEN pred1 THEN result1
    WHEN pred2 THEN result2
    . . .
    WHEN predn THEN resultn
    ELSE result0
    END
d) ALL OF the mentioned
```
View Answer
Answer: b
Explanation: None.

10. Which of the following relation updates all instructors with salary over $100,000 receive a 3 percent raise, whereas all others receive a 5 percent raise.

```
a) UPDATE instructor
    SET salary = salary * 1.03
    WHERE salary > 100000;
    UPDATE instructor
    SET salary = salary * 1.05
    WHERE salary <= 100000;
b) UPDATE instructor
    SET salary = salary * 1.05
    WHERE salary < (SELECT avg (salary)
    FROM instructor);
c) UPDATE instructor
    SET salary = CASE
    WHEN salary <= 100000 THEN salary * 1.05
    ELSE salary * 1.03
    END
d) BOTH a AND c
```
View Answer
Answer: d
Explanation: The order of the two update statements is important. If we changed the order of the two statements, an instructor with a salary just under $100,000 would receive an over 8 percent raise. SQL provides a case construct that we can use to perform both the updates with a single update statement, avoiding the problem with the order of updates.

Database Questions and Answers – Join Expressions

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Join Expressions".

1. The_____condition allows a general predicate over the relations being joined.
a) On
b) Using
c) Set

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d) Where
View Answer

Answer: a
Explanation: On gives the condition for the join expression.
2. Which of the join operations do not preserve non matched tuples.
a) Left outer join
b) Right outer join
c) Inner join
d) Natural join
View Answer

Answer: c
Explanation: INNER JOIN: Returns all rows when there is at least one match in BOTH tables.
3.

```
SELECT *
  FROM student JOIN takes USING (ID);
```
The above query is equivalent to

```
a)  SELECT *
    FROM student INNER JOIN takes USING (ID);
b)  SELECT *
    FROM student OUTER JOIN takes USING (ID);
c)  SELECT *
    FROM student LEFT OUTER JOIN takes USING (ID);
d)  NONE OF the mentioned
```
View Answer
Answer: a
Explanation: Join can be replaced by inner join.

4. 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 mentioned
View Answer

Answer: c
Explanation: An outer join does not require each record in the two joined tables to have a matching record..
5. How many tables may be included with a join?
a) One
b) Two
c) Three
d) All of the mentioned
View Answer

Answer: d
Explanation: Join can combine multiple tables.
6. Which are the join types in join condition:
a) Cross join
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b) Natural join
c) Join with USING clause
d) All of the mentioned
View Answer

Answer: d
Explanation: There are totally four join types in SQL.
7. How many join types in join condition:
a) 2
b) 3
c) 4
d) 5
View Answer

Answer: d
Explanation: Types are inner join,left outer join,right outer join,full join,cross join.
8. Which join refers to join records from the right table that have no matching key in the left table are include in the result set:
a) Left outer join
b) Right outer join
c) Full outer join
d) Half outer join
View Answer

Answer: b
Explanation: RIGHT OUTER JOIN: Return all rows from the right table, and the matched rows from the left table.
9. The operation which is not considered a basic operation of relational algebra is
a) Join
b) Selection
c) Union
d) Cross product
View Answer

Answer: a
Explanation: None.
10. In SQL the statement select * from R, S is equivalent to
a) Select * from R natural join S
b) Select * from R cross join S
c) Select * from R union join S
d) Select * from R inner join S
View Answer

Answer: b
Explanation: None.

Database Questions and Answers – Null Values Operations

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Null Values Operations".

Collected by
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1. A _____ indicates an absent value that may exist but be unknown or that may not exist at all.
a) Empty tuple
b) New value
c) Null value
d) Old value
View Answer

Answer: c
Explanation: None.
2. If the attribute phone number is included in the relation all the values need not be entered into the phone number column . This type of entry is given as
a) 0
b) –
c) Null
d) Empty space
View Answer

Answer: c
Explanation: Null is used to represent absence of a value.
3. The predicate in a where clause can involve Boolean operations such as and.The result of true and unknown is_____ false and unknown is _____ while unknown and unknown is _____
a) Unknown, unknown, false
b) True, false, unknown
c) True, unknown, unknown
d) Unknown, false, unknown
View Answer

Answer: d
Explanation: None.
4.

```
 SELECT name
FROM instructor
WHERE salary IS NOT NULL;
Selects
```
a) Tuples with null value
b) Tuples with no null values
c) Tuples with any salary
d) All of the mentioned
View Answer

Answer: b
Explanation: Not null constraint removes the tpules of null values.
5. In a employee table to include the attributes whose value always have some value which of the following constraint must be used ?
a) Null
b) Not null
c) Unique
d) Distinct
View Answer

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Answer: b
Explanation: Not null constraint removes the tpules of null values.
6. Using the _____ clause retains only one copy of such identical tuples.
a) Null
b) Unique
c) Not null
d) Distinct
View Answer

Answer: d
Explanation: Unique is a constraint.
7.

```
CREATE TABLE employee (id INTEGER,name VARCHAR(20),salary NOT NULL);
INSERT INTO employee VALUES (1005,Rach,0);
INSERT INTO employee VALUES (1007,Ross, );
INSERT INTO employee VALUES (1002,Joey,335);
```
Some of these insert statements will produce an error. Identify the statement.
a) Insert into employee values (1005,Rach,0);
b) Insert into employee values (1002,Joey,335);
c) Insert into employee values (1007,Ross,);
d) None of the mentioned
View Answer

Answer: c
Explanation: Not null constraint is specified which means sone value (can include 0 also) should be given.
8. The primary key must be
a) Unique
b) Not null
c) Both Unique and Not null
d) Either Unique or Not null
View Answer

Answer: c
Explanation: Primary key must satisfy unique and not null condition for sure.
9. You attempt to query the database with this command:

```
 SELECT nvl (100 / quantity, NONE)
      FROM inventory;
```
Why does this statement cause an error when QUANTITY values are null?
a) The expression attempts to divide by a null value
b) The data types in the conversion function are incompatible
c) The character string none should be enclosed in single quotes (' ')
d) A null value used in an expression cannot be converted to an actual value
View Answer

Answer: a
Explanation: The expression attempts to divide by a null value is errorneous in sql.
10. The result of _____unknown is unknown.
a) Xor
b) Or
c) And
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d) Not
View Answer

Answer: d
Explanation: Since unknown does not hold any value the value cannot have a reverse value.

Database Questions and Answers – SQL Data Types and Schemas

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "SQL Data Types and Schemas".

1. Dates must be specified in the format
a) mm/dd/yy
b) yyyy/mm/dd
c) dd/mm/yy
d) yy/dd/mm
View Answer

Answer: b
Explanation: yyyy/mm/dd is the default format in sql .
2. An _____ on an attribute of a relation is a data structure that allows the database system to find those tuples in the relation that have a specified value for that attribute efficiently, without scanning through all the tuples of the relation.
a) Index
b) Reference
c) Assertion
d) Timestamp
View Answer

Answer: a
Explanation: Index is the reference to the tuples in a relation.
3. Create index studentID_index on student(ID);
Here which one denotes the relation for which index is created ?
a) StudentID_index
b) ID
c) StudentID
d) Student
View Answer

Answer: d
Explanation: The statement creates an index named studentID index on the attribute ID of the relation student.
4. Which of the following is used to store movie and image files ?
a) Clob
b) Blob
c) Binary
d) Image
View Answer

Answer: b
Explanation: SQL therefore provides large-object data types for character data (clob) and binary data (blob). The letters "lob" in these data types stand for "Large OBject." .

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5. The user defined data type can be created using
a) Create datatype
b) Create data
c) Create definetype
d) Create type
View Answer

Answer: d
Explanation: The create type clause can be used to define new types.Syntax : create type Dollars as numeric(12,2) final; .
6. Values of one type can be converted to another domain using which of the following ?
a) Cast
b) Drop type
c) Alter type
d) Convert
View Answer

Answer: a
Explanation: Example of cast :cast (department.budget to numeric(12,2)). SQL provides drop type and alter type clauses to drop or modify types that have been created earlier.
7.

```
CREATE DOMAIN YearlySalary NUMERIC(8,2)
CONSTRAINT salary VALUE test _____;
```
In order to ensure that an instructor's salary domain allows only values greater than a specified value use:
a) Value>=30000.00
b) Not null;
c) Check(value >= 29000.00);
d) Check(value)
View Answer

Answer: c
Explanation: Check(value 'condition') is the syntax.
8. Which of the following closely resembles Create view ?
a) Create table . . .like
b) Create table . . . as
c) With data
d) Create view as
View Answer

Answer: b
Explanation: The 'create table . . . as' statement closely resembles the create view statement and both are defined by using queries.The main difference is that the contents of the table are set when the table is created, whereas the contents of a view always reflect the current query result.
9. In contemporary databases the top level of the hierarchy consists of _____ each of which can contain _____
a) Catalogs, schemas
b) Schemas, catalogs
c) Environment, schemas
d) Schemas, Environment
View Answer

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Answer: a
Explanation: None.
10. Which of the following statements creates a new table temp instructor that has the same schema as instructor.
a) create table temp_instructor;
b) Create table temp_instructor like instructor;
c) Create Table as temp_instructor;
d) Create table like temp_instructor;
View Answer

Answer: b
Explanation: None.

Database Questions and Answers – Functions and Procedures

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Functions and Procedures".

1.

```
 Create function dept count(dept_name varchar(20))
begin
declare d count integer;
select count(*) into d count
from instructor
where instructor.dept_name= dept_name
return d count;
end
```
Find the error in the the above statement .
a) Return type missing
b) Dept_name is mismatched
c) Reference relation is not mentioned
d) All of the mentioned
View Answer

Answer: a
Explanation: Return integer should be given after create function for this particular function .
2. For the function created in Question 1 ,which of the following is a proper select statement ?

```
a) SELECT dept name, budget
FROM instructor
WHERE dept COUNT() > 12;
b) SELECT dept name, budget
FROM instructor
WHERE dept COUNT(dept name) > 12;
c) SELECT dept name, budget
WHERE dept COUNT(dept name) > 12;
d) SELECT dept name, budget
FROM instructor
WHERE dept COUNT(budget) > 12;
```
View Answer
Answer: b
Explanation: The count of the dept_name must be checked for the displaying from instructor relation.
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3. Which of he following is used to input the entry and give the result in a variable in a procedure ?
a) Put and get
b) Get and put
c) Out and In
d) In and out
View Answer

Answer: d
Explanation: Create procedure dept count proc(in dept name varchar(20), out d count integer).Here in and out refers to input and result of procedure.
4.

```
Create procedure dept_count proc(in dept name varchar(20),
out d count integer)
begin
select count(*) into d count
from instructor
where instructor.dept name= dept count proc.dept name
end
```

Which of the following is used to call the procedure given above ?
a) Declare d_count integer;
b) Declare d_count integer;
call dept_count proc('Physics', d_count);
c) Declare d_count integer;
call dept_count proc('Physics');
d) Declare d_count;
call dept_count proc('Physics', d_count);
View Answer

Answer: b
Explanation: Here the 'Physics' is in variable and d_count is out variable.
5. The format for compound statement is
a) Begin ……. end
b) Begin atomic……. end
c) Begin ……. repeat
d) Both Begin ……. end and Begin atomic……. end
View Answer

Answer: d
Explanation: A compound statement is of the form begin . . . end, and it may contain multiple SQL statements between the begin and the end.A compound statement of the form begin atomic . . . end ensures that all the statements contained within it are executed as a single transaction.
6.

```
Repeat
sequence of statements;
_____
end repeat
```

Fill in the correct option :
a) While Condition
b) Until variable
c) Until boolean expression

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d) Until 0
View Answer

Answer: c
Explanation: None.
7. Which of the following is the correct format for if statement ?
a) If boolean expression
then statement or compound statement
elseif boolean expression
then statement or compound statement
else statement or compound statement
end if
b) If boolean expression
then statement or compound statement
elsif boolean expression
then statement or compound statement
else statement or compound statement
end if
c) If boolean expression
then statement or compound statement
elif boolean expression
then statement or compound statement
else statement or compound statement
end if
d) If boolean expression
then statement or compound statement
else
statement or compound statement
else statement or compound statement
end if
View Answer

Answer: a
Explanation: The conditional statements supported by SQL include if-then-else statements by using this syntax.elif and elsif are not allowed.
8. A stored procedure in SQL is a_____
a) Block of functions
b) Group of Transact-SQL statements compiled into a single execution plan.
c) Group of distinct SQL statements.
d) None of the mentioned
View Answer

Answer: b
Explanation: If it a atomic statement then the statements are in single transaction.
9. Temporary stored procedures are stored in _____ database.
a) Master
b) Model
c) User specific
d) Tempdb
View Answer

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Answer: d
Explanation: None.
10. Declare out of classroom seats condition

```
DECLARE exit handler FOR OUT OF classroom seats
BEGIN
SEQUENCE OF statements
END
```
The above statements are used for
a) Calling procedures
b) Handling Exception
c) Handling procedures
d) All of the mentioned
View Answer

Answer: b
Explanation: The SQL procedural language also supports the signaling of exception conditions, and declaring of handlers that can handle the exception, as in this code.

Database Questions and Answers – Query Processing

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Query Processing".

1. A collection of data designed to be used by different people is called a/an
a) Organization
b) Database
c) Relationship
d) Schema
View Answer

Answer: b
Explanation: Database is a collection of related tables.
2. Which of the following is the oldest database model?
a) Relational
b) Deductive
c) Physical
d) Network
View Answer

Answer: d
Explanation: The network model is a database model conceived as a flexible way of representing objects and their relationships.
3. Which of the following schemas does define a view or views of the database for particular users?
a) Internal schema
b) Conceptual schema
c) Physical schema
d) External schema
View Answer

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Answer: d
Explanation: An externally-defined schema can provide access to tables that are managed on any PostgreSQL, Microsoft SQL Server, SAS, Oracle, or MySQL database.
4. Which of the following is an attribute that can uniquely identify a row in a table?
a) Secondary key
b) Candidate key
c) Foreign key
d) Alternate key
View Answer

Answer: b
Explanation: A Candidate Key can be any column or a combination of columns that can qualify as unique key in database.
5. Which of the following is the process of selecting the data storage and data access characteristics of the database?
a) Logical database design
b) Physical database design
c) Testing and performance tuning
d) Evaluation and selecting
View Answer

Answer: b
Explanation: The physical design of the database optimizes performance while ensuring data integrity by avoiding unnecessary data redundancies.
6. Which of the following terms does refer to the correctness and completeness of the data in a database?
a) Data security
b) Data constraint
c) Data independence
d) Data integrity
View Answer

Answer: d
Explanation: ACID property is satisfied by transaction in database.
7. The relationship between DEPARTMENT and EMPLOYEE is a
a) One-to-one relationship
b) One-to-many relationship
c) Many-to-many relationship
d) Many-to-one relationship
View Answer

Answer: b
Explanation: One entity department is related to several employees.
8. A table can be logically connected to another table by defining a
a) Super key
b) Candidate key
c) Primary key
d) Unique key
View Answer

Answer: c
Explanation: A superkey is a combination of attributes that can be uniquely used to identify a database record.
9. If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called
a) Consistent state

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b) Parallel state
c) Durable state
d) Inconsistent state
View Answer

Answer: d
Explanation: SQL data consistency is that whenever a transaction is performed, it sees a consistent database.
10. Ensuring isolation property is the responsibility of the
a) Recovery-management component of the DBMS
b) Concurrency-control component of the DBMS
c) Transaction-management component of the DBMS
d) Buffer management component in DBMS
View Answer

Answer: b
Explanation: Concurrency control ensures that correct results for concurrent operations are generated, while getting those results as quickly as possible.

Database Questions and Answers – Selection Operation

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Selection Operation".

1. In query processing, the _____ is the lowest-level operator to access data.
a) Index Search
b) Linear search
c) File scan
d) Access paths
View Answer

Answer: c
Explanation: File scans are search algorithms that locate and retrieve records that fulfill a selection condition.
2. In a _____ the system scans each file block and tests all records to see whether they satisfy the selection condition.
a) Index Search
b) Linear search
c) File scan
d) Access paths
View Answer

Answer: b
Explanation: An initial seek is required to access the first block of the file.
3. Index structures are referred to as _____ since they provide a path through which data can be located and accessed.
a) Index Search
b) Linear search
c) File scan
d) Access paths
View Answer

Answer: d
Explanation: A primary index is an index that allows the records of a file to be read in an order that corresponds to the physical order in the file.
4. Search algorithms that use an index are referred to as
a) Index Search
b) Linear search
c) File scan
d) Access paths
View Answer

Answer: a
Explanation: Selection predicates are used to guide in the choice of the index to use in processing the query.
5. Which algorithm uses equality comparison on a key attribute with a primary index to retrieve a single record that satisfies the corresponding equality condition.
a) A2
b) A4
c) A5
d) A6
View Answer

Answer: a
Explanation: A2 – primary index, equality on key.
6. The strategy can retrieve a single record if the equality condition is on a key;multiple records may be retrieved if the indexing field is not a key is
a) A2
b) A4
c) A5
d) A6
View Answer

Answer: b
Explanation: A4 – Secondary index, equality.
7. The algorithm that uses a secondary ordered index to guide retrieval for comparison conditions involving $<, \leq, \geq$, or $>$ is
a) A2
b) A4
c) A5
d) A6
View Answer

Answer: d
Explanation: A6 – Secondary index, comparison.
8. The ___ algorithm scans each index for pointers to tuples that satisfy an individual condition.
a) A2
b) A4
c) A9
d) A6
View Answer

Answer: c
Explanation: A9 – Conjunctive selection by intersection of identifiers.
9. If access paths are available on all the conditions of a disjunctive selection, each index is scanned for pointers to tuples that satisfy the individual condition. This is satisfied by
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a) A10
b) A7
c) A9
d) A6
View Answer

Answer: a
Explanation: A10 – Disjunctive selection by union of identifiers.
10. Conjunctive selection using one index. This is
a) A10
b) A7
c) A9
d) A6
View Answer

Answer: b
Explanation: To reduce the cost of A7 we choose a ——————————i and one of algorithms A1 through A6 for which the combination results in the least cost for ——————————i (r). The cost of algorithm A7 is given by the cost of the chosen algorithm.

Database Questions and Answers – Join Operations

This set of Database Multiple Choice Questions & Answers (MCQs) focuses on "Join Operations".

1. A_____ is a query that retrieves rows from more than one table or view:
a) Start
b) End
c) Join
d) All of the mentioned
View Answer

Answer: c
Explanation: An SQL join clause combines records from two or more tables in a database. It creates a set that can be saved as a table or used as it is. A JOIN is a means for combining fields from two tables by using values common to each.
2. A condition is referred to as _____
a) Join in SQL
b) Join condition
c) Join in SQL & Condition
d) None of the mentioned
View Answer

Answer: b
Explanation: An SQL join clause combines records from two or more tables in a database. It creates a set that can be saved as a table or used as it is. A JOIN is a means for combining fields from two tables by using values common to each.
3. Which oracle is the join condition is specified using the WHERE clause:
a) Oracle 9i
b) Oracle 8i
c) Pre-oracle 9i
d) Pre-oracle 8i
View Answer

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Answer: c
Explanation: Oracle 9i is a version of the Oracle Database. The i stands for "Internet" to indicate that 9i is "Internet ready".
4. How many join types in join condition:
a) 2
b) 3
c) 4
d) 5
View Answer

Answer: d
Explanation: INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN, EQUIJOIN.
5. Which are the join types in join condition:
a) Cross join
b) Natural join
c) Join with USING clause
d) All of the mentioned
View Answer

Answer: d
Explanation: INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN, EQUIJOIN are the types of joins.
6. Which product is returned in a join query have no join condition:
a) Equijoins
b) Cartesian
c) Both Equijoins and Cartesian
d) None of the mentioned
View Answer

Answer: b
Explanation: A Cartesian coordinate system is a coordinate system that specifies each point uniquely in a plane by a pair of numerical coordinates.
7. Which is a join condition contains an equality operator:
a) Equijoins
b) Cartesian
c) Both Equijoins and Cartesian
d) None of the mentioned
View Answer

Answer: a
Explanation: An equi-join is a specific type of comparator-based join, that uses only equality comparisons in the join-predicate.
8. Which join refers to join records from the write table that have no matching key in the left table are include in the result set:
a) Left outer join
b) Right outer join
c) Full outer join
d) Half outer join
View Answer

Answer: b
Explanation: A right outer join will return all the rows that an inner join returns plus one row for each of the other rows in

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the second table that did not have a match in the first table. It is the same as a left outer join with the tables specified in the opposite order.

9. Which operation are allowed in a join view:
a) UPDATE
b) INSERT
c) DELETE
d) All of the mentioned
View Answer

Answer: d
Explanation: The DELETE statement is used to delete rows in a table.The UPDATE statement is used to update existing records in a table.The INSERT INTO statement is used to insert new records in a table.

10. Which view that contains more than one table in the top-level FROM clause of the SELECT statement:
a) Join view
b) Datable join view
c) Updatable join view
d) All of the mentioned
View Answer

Answer: c
Explanation: The DELETE statement is used to delete rows in a table.The UPDATE statement is used to update existing records in a table.The INSERT INTO statement is used to insert new records in a table.