**Which SQL constraint do we use to set some value to a field whose value has not been added explicitly?**

1. UNIQUE
2. NOT NULL
3. DEFAULT
4. CHECK

**Answer: C**

**Explanation:** The DEFAULT constraint is used to set a default value for a column which comes into use when a value for a field in that column is not set.

**Which of the following matches the definition given below: It is an artificial key that aims to uniquely identify each record.**

Primary Key

Foreign Key

Surrogate Key

Composite Key

Hide

**Correct Answer**

**Explanation:** Surrogate Key is an artificial key that aims to uniquely identify each record.

**Which of the following commands are used to put a restriction on the number of rows returned from a query?**

LIMIT

LIKE

WHERE

GROUP BY

Hide

**Correct Answer**

**Explanation:** LIMIT is used to put a restriction on how many rows are returned from a query.

**Which of the following SQL functions compares the similarities of 2 strings and returns the result as a 4 character code?**

SOUNDEX

DIFFERENCE

CONCAT

None of the above

Hide

**Correct Answer**

**Explanation:** SOUNDEX compares 2 strings and returns their similarity as a 4 character code.

**Which of the following constraints can be defined only at the column level?**

UNIQUE

NOT NULL

CHECK

PRIMARY KEY

Hide

**Correct Answer**

**Explanation:** NOT NULL constraint can be defined only at the column level.

5) ~~Which statement is used to delete all rows in a table without having the action logged?~~

1. ~~DELETE~~
2. ~~REMOVE~~
3. ~~DROP~~
4. ~~TRUNCATE~~

**~~Answer:~~**~~D~~

**Explanation:** TRUNCATE statement removes all rows in a table without logging the individual row deletions. It uses fewer system and transaction log resources, which makes its execution fast. This statement is similar to the DELETE statement without the WHERE clause.

6) ~~SQL Views are also known as~~

1. ~~Simple tables~~
2. ~~Virtual tables~~
3. ~~Complex tables~~
4. ~~Actual Tables~~

**~~Answer:~~**~~B~~

**Explanation:** A view is also known as a virtual table because it contains rows and columns similar to a real table. It shows the table interface but cannot be stored in a database.

~~How many Primary keys can have in a table?~~

1. ~~Only 1~~
2. ~~Only 2~~
3. ~~Depends on no of Columns~~
4. ~~Depends on DBA~~

**~~Answer:~~**~~A~~

**Explanation:** The primary key can consist of a single or combination of the field that uniquely identifies each record in a table. It cannot be null or empty. A table may have duplicate columns, but it can contain only one primary key.

10) ~~Which of the following is not a valid aggregate function?~~

1. ~~COUNT~~
2. ~~COMPUTE~~
3. ~~SUM~~
4. ~~MAX~~

**~~Answer:~~**~~B~~

**Explanation:** Aggregate function is used to perform calculations on multiple values and return the output in a single value. It is mostly used with the SELECT statement. COUNT, SUM, and MAX are all aggregate functions.

COMPUTE is not an aggregate function. It is used to generate totals as an additional column at the end of the result set.

16) ~~Which of the following statement is true?~~

1. ~~TRUNCATE free the table space while DELETE does not.~~
2. ~~Both TRUNCATE and DELETE statements free the table's space.~~
3. ~~Both TRUNCATE and DELETE statement does not free the table's space.~~
4. ~~DELETE free the table space while TRUNCATE does not.~~

**~~Answer:~~**~~A~~

**Explanation:**

The TRUNCATE statement in SQL removes all data from the table and free the table's space.

SQL's DELETE statement removes all data from the table but does not free the table's space.

20) ~~Which of the following is true about the HAVING clause?~~

1. ~~Similar to the WHERE clause but is used for columns rather than groups.~~
2. ~~Similar to WHERE clause but is used for rows rather than columns.~~
3. ~~Similar to WHERE clause but is used for groups rather than rows.~~
4. ~~Acts~~ exactly like a WHERE clause.

**Answer:** C

**Explanation:** The HAVING clause is always used with the GROUP BY clause and returns the rows where the condition is TRUE.

25) ~~How can you change "Thomas" into "Michel" in the "LastName" column in the Users table?~~

1. ~~UPDATE User SET LastName = 'Thomas' INTO LastName = 'Michel'~~
2. ~~MODIFY Users SET LastName = 'Michel' WHERE LastName = 'Thomas'~~
3. ~~MODIFY Users SET LastName = 'Thomas' INTO LastName = 'Michel'~~
4. ~~UPDATE Users SET LastName = 'Michel' WHERE LastName = 'Thomas'~~

**~~Answer:~~**~~D~~

**Explanation:** The UPDATE statement is used for modifying the table data by using the SET and WHERE clause. The SET clause is used to change the values of the column specified in the WHERE clause. See the below syntax:

*UPDATE table SET column1 = expression1, column2 = expression2,... WHERE conditions*

27) ~~Which type of JOIN is used to returns rows that do not have matching values?~~

1. ~~Natural JOIN~~
2. ~~Outer JOIN~~
3. ~~EQUI JOIN~~
4. ~~All of the above~~

~~Hide Answer Workspace~~

**~~Answer:~~**~~B~~

**Explanation:**

OUTER JOIN is the only join that returned the unmatched rows in one or both tables. It can be classified into the following types:

* LEFT JOIN that shows only the unmatched rows from the left table.
* RIGHT JOIN that shows only the unmatched rows from the right table.
* FULL OUTER JOIN that shows the unmatched rows from both tables.

EQUI JOIN shows records for equality or matching column(s) values of the relative tables.

A Natural join can only be performed if at least one common attribute exists between two relations (the attributes should be the same name and domain).

32) ~~Why we need to create an index if the primary key is already present in a table?~~

1. ~~Index improves the speed of data retrieval operations on a table.~~
2. ~~Indexes are special lookup tables that will be used by the database search engine.~~
3. ~~Indexes are synonyms of a column in a table.~~
4. ~~All of the above~~

**~~Answer:~~**~~A~~

**Explanation:** When we define a primary key in a table, the Database Engine enforces the data's uniqueness by creating a unique index for those columns. This indexing process improves data retrieval when the primary key is used in queries. Therefore, we need to create an index if a primary key is already present in a table.

33) ~~Group of operations that form a single logical unit of work is known as~~

1. ~~View~~
2. ~~Network~~
3. ~~Unit~~
4. ~~Transaction~~

**~~Answer:~~**~~D~~

**Explanation:** A transaction is a sequential group of statements such as select, insert, update or delete to perform as one single logical unit of work that can be committed or rolled back

37~~) Which of the following is the correct order of a SQL statement?~~

1. ~~SELECT, GROUP BY, WHERE, HAVING~~
2. ~~SELECT, WHERE, GROUP BY, HAVING~~
3. ~~SELECT, HAVING, WHERE, GROUP BY~~
4. ~~SELECT, WHERE, HAVING, GROUP BY~~

**~~Answer:~~**~~B~~

**Explanation:** In SQL statements, the WHERE clause always comes before GROUP BY, and the HAVING clause always comes after GROUP BY. Therefore, option B is the correct choice.

38) ~~What is the difference between a PRIMARY KEY and a UNIQUE KEY?~~

1. ~~Primary key can store null value, whereas a unique key cannot store null value.~~
2. ~~We can have only one primary key in a table while we can have multiple unique keys~~
3. ~~Primary key cannot be a date variable whereas unique key can be~~
4. ~~None of these~~

**~~Answer:~~**~~B~~

**Explanation:**

The primary key is a single or combination of the field that identifies each record in a table uniquely. It cannot take a NULL value. A table can have only one primary key. Also, we can create a date variable as a primary key in a table.

Unique key also determines each row of the table uniquely, but it can take null value into. A table can have more than one unique key. We cannot create a date variable as a unique key in a table.

4~~1)~~ ~~Which of the following statement is correct regarding the difference between TRUNCATE, DELETE and DROP command?~~

~~I. DELETE operation can be rolled back but TRUNCATE and DROP operations cannot be rolled back.  
II. TRUNCATE and DROP operations can be rolled back but DELETE operations cannot be rolled back.  
III. DELETE is an example of DML, but TRUNCATE and DROP are examples of DDL.  
IV. All are an example of DDL.~~

1. ~~I and III~~
2. ~~II and III~~
3. ~~II and IV~~
4. ~~II and IV~~

**~~Answer:~~**~~A~~

**Explanation:**

DELETE is used to remove existing records from the database. DELETE command is a DML statement so that it can be rolled back.

DROP is used to delete the whole table, including its structure. DROP is a DDL command that lost the data permanently, and it cannot be rolled back.

TRUNCATE is used to delete the whole records, but it preserves the table's schema or structure. TRUNCATE is a DDL command, so it cannot be rolled back.

Hence, option A is the correct answer.

45) ~~Find the cities name with the condition and temperature from table 'whether' where condition = sunny or cloudy but temperature >= 60.~~

1. ~~SELECT city, temperature, condition FROM weather WHERE condition = 'cloudy' AND condition = 'sunny' OR temperature >= 60~~
2. ~~SELECT city, temperature, condition FROM weather WHERE condition = 'cloudy' OR condition = 'sunny' OR temperature >= 60~~
3. ~~SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' OR condition = 'cloudy' AND temperature >= 60~~
4. ~~SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' AND condition = 'cloudy' AND temperature >= 60~~

**~~Answer:~~**~~C~~

**Explanation:** We know that the AND operator gives the output only when both the first conditions are true. In contrast, the OR operator gives the output when either the first condition OR the second condition is true. Hence the option C is the correct choice.

46) ~~Which of the following statement is correct to display all the cities with the condition, temperature, and humidity whose humidity is in the range of 60 to 75 from the 'whether' table?~~

1. ~~SELECT \* FROM weather WHERE humidity IN (60 to 75)~~
2. ~~SELECT \* FROM weather WHERE humidity BETWEEN 60 AND 75~~
3. ~~SELECT \* FROM weather WHERE humidity NOT IN (60 AND 75)~~
4. ~~SELECT \* FROM weather WHERE humidity NOT BETWEEN 60 AND 75~~

**~~Answer:~~**~~B~~

**Explanation:**

The BETWEEN is a conditional operator that is used to retrieve values from an expression within a range. It can be used with the SELECT, INSERT, UPDATE and DELETE statement.

The IN is a conditional operator used to reduce the use of multiple OR conditions in the SELECT, INSERT, UPDATE and DELETE statement.

Hence the option B is the correct choice.

54) ~~What is the need for our query to execute successfully on an existing view?~~

1. ~~The specified table must contain data.~~
2. ~~We must have a SELECT privilege on the view.~~
3. ~~We should have a SELECT privilege only on the specified table.~~
4. ~~The specified table must be in the same database or schema.~~

**Answer:** B

**Explanation:** It is required to have a SELECT privilege to query on the existing view. Hence option B is the right choice.

**10.****~~Which of the following commands is used to delete all rows and free up space from a table?~~**

~~TRUNCATE~~

~~DROP~~

~~DELETE~~

~~ALTER~~

**Explanation:** TRUNCATE command is used to delete all rows and free up space from a table.

**12~~.~~****~~What does the following code snippet do?~~**

**~~DELETE FROM STUDENTS~~**

**~~WHERE AGE = 16;~~**

**~~ROLLBACK;~~**

~~Performs an undo operation on the delete operation.~~

~~Deletes the rows from the table where AGE = 16~~

~~Deletes the entire table~~

~~None of the above~~

~~Hide~~

**~~Explanation:~~**~~The ROLLBACK command is used to perform a rollback onto the latest unsaved changes.~~

~~11. Which of the following joins are SQL server default?  
a) Inner  
b) Equi  
c) Outer  
d) None of the Mentioned~~

~~Answer: a~~

~~17.~~ ~~Exception handling is possible in SQL Server using \_\_\_\_\_\_\_\_\_\_\_\_\_  
a) FINAL  
b) FINALLY  
c) THROW  
d) All of the mentioned~~

~~Answer: c~~  
Explanation: Exception handling is possible in SQL Server using THROW. It generates an error message and initiates error processing for the session.

~~19.~~ ~~DML triggers in SQL Server is applicable to \_\_\_\_\_\_\_\_\_\_\_\_\_  
a) Update  
b) Delete  
c) Insert  
d) All of the mentioned~~

~~Answer: d~~Explanation: In SQL Server we can create triggers on DML statements (like INSERT, UPDATE, and DELETE) and stored procedures that perform DML-like operations.

20. ~~User defined function in SQL Server can return \_\_\_\_\_\_\_\_\_\_\_\_  
a) Result set  
b) Scalar value  
c) Set of values  
d) All of the mentioned~~

~~Answer: d~~  
Explanation: SQL Server user-defined functions are routines that accept parameters, perform an action, such as a complex calculation, and return the result of that action as a value.

~~33.~~ ~~Which of the following is the benefit of SQL Server Profiler?  
a) Correlating performance counters to diagnose problems  
b) Capturing the series of Transact-SQL statements that lead to a problem  
c) Finding and diagnosing slow-running queries  
d) All of the mentioned~~

~~Answer: d~~Explanation: Microsoft SQL Server Profiler is a graphical user interface to SQL Trace for monitoring an instance of the Database Engine or Analysis Services.

What is a constraint in SQL?

Constraints are the rules that decide what kind of data can enter into the database tables. SQL server has six types of constraints, and we will explore all these constraints here with suitable examples. The constraints that we are going to explore are listed below:

1. Primary Key Constraint
2. Foreign Key Constraint
3. Not Null Constraint
4. Unique constraint
5. Default Constraint
6. Check Constraint

What is an index in SQL Server? And types of indexes, explain each?

database tables are not enough for getting the data efficiently in case of a huge amount of data. We need to index the column in a table to get the data quickly. An index is a database object created and maintained by the DBMS. Indexed columns are ordered or sorted so that data searching is extremely fast. An index can be applied to a column or a view. A table can have more than one index.

Clustered Index

A Clustered Index sorts and stores the data in the table based on keys. A Clustered Index can be defined only once per table in the SQL Server Database because the data rows can be sorted in only one order. Text, nText, and Image data are not allowed as a Clustered index.

Non-Clustered Index

Non-Clustered Indexes, or simply indexes, are created outside of the table. SQL Server supports 999 Non-Clustered per table, and each Non-Clustered can have up to 1023 columns. A Non-Clustered Index does not support the Text, nText, and Image data types.

What is an Identity?

What is the Difference between a HAVING clause and a WHERE clause?

* What is subquery? Explain the Properties of a Subquery?
* What are Different Types of Join?
* What is Connection Pooling and why it is Used?
* What is the Difference between a Local and a Global Temporary Table?
* What is the STUFF Function and How Does it Differ from the REPLACE Function?
* What does it mean to have QUOTED\_IDENTIFIER ON? What are the Implications of having it OFF?
* What is CHECK Constraint?
* What is the difference between UNION and UNION ALL?
* What is B-Tree?
* What is CTE?
* What is Filtered Index?
* What is the difference between CHAR and VARCHAR Datatypes?
* What is the Difference between VARCHAR and NVARCHAR datatypes?
* How to Delete Duplicate Rows?
* What are Ranking Functions?
* What is the ‘FILLFACTOR’?
* What is a Covered index?