SQL INTERVIEW

What is a database?

A collection of related information stored on different forms.
Ex:
Paper, On mind, or computer.

What is DBMS(database management system)?

A software program helps us to create and maintain a database.

- Makes us easy to maintain large amount of information
- Handles security.
- Backups
- Importing and exporting data
- Interacts with software applications

How to connect to SQL server?

Download SQL server
Download SQL management studio tool to connect to the database.

Open SQL management studio tool → server type: database engine
                                                              Server name: (local) or . or 127.0.0.1
                                                              Authentication: windows or sql
                                                              Username: Root
                                                              Password: password

----

C.R.U.D

Create Read Update Delete

Two types of databases?

Relational database(SQL):

Organize data in one or more tables.
Each table has rows and columns.
Each row is identified by its unique key.

Non relational database(NOSQL):

Organize data in a traditional table.
Documents

Graphs
Flexible tables.

Relational database Example?

Id   name   major
1   laksha   maths
2   shobana   history

Relational database management systems Example?

Mysql, Oracle, postgreSQL, mariaDB etc.
SQL

It's a standard language to interact with RDBMS.
It is used to perform C.R.U.D operations.
Used to define table and structures.

Structured Query Language is a database tool which is used to create and access database
to support software application.

MYSQL

It is a open source relational database management system works on many platforms.
It provides multi-user access to support any storage engines and is backed by oracle.

What are tables in SQL?

The table is a collection of record and its information at a single view.

What is query?

A query is the request made to the DBMS for specific information.

What is primary?

Primary key is the key which uniquely identifies a row. it has implicit NOT NULL constraint

----

What is a unique key?

Uniquely identifies a single row in the table.
Multiple values allowed per table.
Null values are allowed.
Duplicate values are not allowed.

What is a foreign key?

A foreign key is one table which can be related to the primary key of another table.
A table can have only 1 primary key. And a table can have more than 1 foreign key.

What is composite key?

Composite key is a combination of two or more columns in a table that can be used to uniquely identify each row in the table.

What is a data integrity?

Accuracy of data
Consistency of data
Integrity constraints - to enforce business rules on data.

What is clustered index and non-clustered index?

Write a SQL query to display the current date?

Select getDate();
// '2019-03-18 18:17:28.160'

----

4 types of language in SQL?

Data Query language(DQL): Used to query the database for information.

Data Definition language(DDL): Used to define the database for schemas.

CREATE, ALTER, DROP the tables.

Data Control language(DCL): Used for controlling the access for database.
                                  User and permission management.
GRANT, REVOKE

Data Manipulation language(DML): used for insert, update, delete data from the database.

Mysql installation

Google -> MySql community server-> first link
windows (x 86, 32 & 64 bit)mySql Installer->download
mySQL installer ->license agreement->custom->next
Mysql server-> mySql server add to right side
mySql shell-> mysql shell add to right side
next-> execute
standalone->root password -> password->next->execute

windows-> open mysql command line client
Enter password: password

mysql> CREATE DATABASE school;

Data Types in SQL?

INT   -> whole numbers
DECIMAL(M,N)   ->decimal numbers(total no of digits, digits after the decimal point)
VARCHAR(1)   ->string of text of length 1
BLOB   ->binary large object
DATE   ->yyyy-mm-dd
TIMESTAMP   ->yyyy-mm-dd hh-mm-ss

What is the difference between DELETE and TRUNCATE?

DELETE:

It is a DML command.
It is used to delete a row in the table.
We can rollback data after using the delete command.
It is slower than the truncate.

TRUNCATE:

It is a DDL command.
It is used to delete all the rows in the table.
We cannot rollback back after using the truncate command
It is faster.

DROP:

It is DDL command.
It is used to drop the table from the database.
We cannot rollback table after using the drop command.

What are the different subsets of SQL?

DDL - consists of commands used to define the database schema.
DML - consists of commands used to manipulate the data in the database.
DCL - consists of commands which is used to deal with rights and permissions, other
controls of the database system.
TCL - consists of commands which is used to deal with transaction of the database.

What do you mean by DBMS? What are its different types ?

A Database Management system is a software application that interacts with the user, applications and the database itself to capture and analyse data.
The data stored in the database can be modified, retrieved and deleted and can be of any type like string, numbers, images etc.

Types:

Hierarchial DBMS - represents the tree
Network DBMS - supports many to many
Relational DBMS - data stored in tables.
Object-oriented DBMS - every has the piece of data.

What do you mean by table and field in SQL?

Table:
Table refers to a collection of data in the form of rows and columns.

Fields:
Field refers to the number of columns in a table.

What are joins in SQL?

A join clause is used to combine rows from two or more tables, based on
Condition. It is used to merge two tables or retrieve data from there.

Inner Join - returns the records which have matching values in both the tables.
Full join - returns all the records which either have a match in the left or the right table.
Left join - returns all the records from the left table and those records which satisfy the condition from the right table.
Right join - returns all the record from the right table and those records which satisfy the condition from the left table.

What is the difference between CHAR and VARCHAR?

char(10) - used for strings of fixed length, can store only characters and will not able to store a string of any other length.
varchar(2)- used for character strings of variable length.
Can store any length. Ex: 6,8,2 in this variable.

How to create a table?

CREATE TABLE student(
Student_id INT PRIMARY KEY,
name VARCHAR(20) NOT NULL,

major VARCHAR(20) UNIQUE
);

How to see the information of the table?

DESCRIBE student;

How to delete the table?

DROP TABLE student;

How to modify the table?

ALTER TABLE student ADD gpa DECIMAL(3,2);

How to drop a column in a table?

ALTER TABLE student DROP COLUMN gpa;

How to insert values in the table?

INSERT INTO student VALUES(1,'Shobana','Computer science');

How to insert values only for specific columns?

INSERT INTO student(student_id, name) VALUES(2,'Laksha');

How to set default value?

CREATE TABLE student(
Student_id INT PRIMARY KEY,
name VARCHAR(20) NOT NULL,
major VARCHAR(20) DEFAULT 'undecided'
);

How to update the values in the table?

UPDATE student
set major = 'Bio'
WHERE major = 'Biology';

How to delete the information in the table?

DELETE TABLE student;   ----->deletes all rows

DELETE TABLE student

WHERE student_id = 5;   -------> deletes 1 row

How to set foreign key?

```
CREATE TABLE student(
Student_id INT PRIMARY KEY,
name VARCHAR(20) NOT NULL,
major VARCHAR(20) DEFAULT 'undecided',
FOREIGN KEY (dep_id) REFERENCES AS department(dep_id) ON DELETE SET NULL
);
```

How to limit the rows?

```
SELECT *
FROM STUDENT
LIMIT 5;
```

Not equal to example?

```
SELECT name
FROM student
WHERE major <> 'chemistry';
```

How do we use DISTINCT statement? What is its use?

The DISTINCT statement is used with the SELECT statement. If the records contain duplicate values then DISTINCT is used to select different values among duplicate records.

```
Syntax: SELECT DISTINCT column_name(s)
FROM table_name;
```

Order by sex and name?

```
SELECT sex
FROM employees
ORDER BY sex, name;
```

Find num of employees.

```
SELECT COUNT(emp_id)
FROM employee;
```

Find num of female employees born after 1970.

```
SELECT COUNT(emp_id)
```

FROM employee
WHERE sex ='F' and birth_date >'1971-01-01'';

Find the avg of all employee's salary.

SELECT AVG(salary)
FROM employee;

Find the sum of all employee's salary.

SELECT SUM(salary)
FROM employee;

Find the average of male employees

SELECT avg(salary)
FROM employee
WHERE sex='M';

Find out how many males and females are there.

SELECT COUNT(sex), sex
FROM employee
GROUP BY sex;

What are different Clauses used in SQL?

SELECT
FROM
WHERE
ORDER BY
GROUP BY
HAVING
JOIN
USING

Why do we use SQL constraints? Which constraints we can use while creating database in SQL?

Constraints are used to set the rules for all records in the table.

Constraints are defined while creating the database itself with CREATE TABLE statement or even after the table is created once with ALTER TABLE statement.

- NOT NULL: That indicates that the column must have some value and cannot be left null

- UNIQUE: This constraint is used to ensure that each row and column has unique value and no value is being repeated in any other row or column
- PRIMARY KEY: This constraint is used in association with NOT NULL and UNIQUE constraints such as on one or the combination of more than one columns to identify the particular record with a unique identity.
- FOREIGN KEY: It is used to ensure the referential integrity of data in the table and also matches the value in one table with another using Primary Key
- CHECK: It is used to ensure whether the value in columns fulfills the specified condition

----

What are different JOINS used in SQL?

inner join:selects all records from table A and table B where the join condition is met.

Left join:select all records from Table A(first) along with records from Table B(second) where the join condition is met.

Right join:select all records from Table B(first) along with records from Table A(second) where the join condition is met.

Full join:select all records from Table A and Table B whether the join condition is met or not.

What are transaction and its controls?

A transaction can be defined as the sequence task that is performed on databases in a logical manner to gain certain results.
Operations performed like Creating, updating, deleting records in the database comes from transactions.
In simple word, we can say that a transaction means a group of SQL queries executed on database records.
There are 4 transaction controls such as
- COMMIT: It is used to save all changes made through the transaction
- ROLLBACK: It is used to roll back the transaction such as all changes made by the transaction are reverted back and database remains as before
- SET TRANSACTION: Set the name of transaction
- SAVEPOINT: It is used to set the point from where the transaction is to be rolled back

----

What are properties of the transaction?

Properties of transaction are known as ACID properties, such as
- Atomicity: Ensures the completeness of all transactions performed. Checks whether every transaction is completed successfully
- Consistency: Ensures that all changes made through successful transaction are reflected properly on database

- Isolation: Ensures that all transactions are performed independently and changes made by one transaction are not reflected on other
- Durability: Ensures that the changes made in database with committed transactions persist as it is even after system failure

---

How many Aggregate Functions are available there in SQL?

SQL Aggregate Functions calculates values from multiple columns in a table and returns a single value.
There are 7 aggregate functions we use in SQL
- AVG(): Returns the average value from specified columns
- COUNT(): Returns number of table rows
- MAX(): Returns largest value among the records
- MIN(): Returns smallest value among the records
- SUM(): Returns the sum of specified column values
- FIRST(): Returns the first value
- LAST(): Returns Last value

What are Scalar Functions in SQL?

Scalar Functions are used to return a single value based on the input values. Scalar Functions are as follows
- UCASE(): Converts the specified field in upper case
- LCASE(): Converts the specified field in lower case
- MID(): Extracts and returns character from text field
- FORMAT(): Specifies the display format
- LEN(): Specifies the length of text field
- ROUND(): Rounds up the decimal field value to a number

What are triggers?

Triggers in SQL is kind of stored procedures used to create a response to a specific action performed on the table such as Insert, Update or Delete. You can invoke triggers explicitly on the table in the database.

Action and Event are two main components of SQL triggers when certain actions are performed the event occurs in response to that action.

Syntax: CREATE TRIGGER name {BEFORE|AFTER} (event [OR..]}
ON table_name [FOR [EACH] {ROW|STATEMENT}]
EXECUTE PROCEDURE functionname {arguments}

What is View in SQL?

A View can be defined as a virtual table that contains rows and columns with fields from one or more table.

Syntax: CREATE VIEW view_name AS
SELECT column_name(s)
FROM table_name
WHERE condition

How we can update the view?

SQL CREATE and REPLACE can be used for updating the view.

Following query syntax is to be executed to update the created view
Syntax: CREATE OR REPLACE VIEW view_name AS
SELECT column_name(s)
FROM table_name
WHERE condition

Explain the working of SQL Privileges?

SQL GRANT and REVOKE commands are used to implement privileges in SQL multiple user environments. The administrator of the database can grant or revoke privileges to or from users of database object like SELECT, INSERT, UPDATE, DELETE, ALL etc.

GRANT Command: This command is used provide database access to user apart from an administrator.

Syntax: GRANT privilege_name
ON object_name
TO {user_name|PUBLIC|role_name}
[WITH GRANT OPTION];

REVOKE Command: This command is used provide database deny or remove access to database objects.

Syntax: REVOKE privilege_name
ON object_name
FROM {user_name|PUBLIC|role_name};

How many types of Privileges are available in SQL?

There are two types of privileges used in SQL, such as
   ● System Privilege: System privileges deal with an object of a particular type and specifies the right to perform one or more actions on it which include Admin allows a

user to perform administrative tasks, ALTER ANY INDEX, ALTER ANY CACHE GROUP CREATE/ALTER/DELETE TABLE, CREATE/ALTER/DELETE VIEW etc.
- Object Privilege: This allows to perform actions on an object or object of another user(s) viz. table, view, indexes etc. Some of the object privileges are EXECUTE, INSERT, UPDATE, DELETE, SELECT, FLUSH, LOAD, INDEX, REFERENCES etc.

What is SQL Injection?

SQL Injection is a type of database attack technique where malicious SQL statements are inserted into an entry field of database such that once it is executed the database is opened for an attacker. This technique is usually used for attacking Data-Driven Applications to have an access to sensitive data and perform administrative tasks on databases.

For Example: SELECT column_name(s) FROM table_name WHERE condition;

What is SQL Sandbox in SQL Server?

SQL Sandbox is the safe place in SQL Server Environment where untrusted scripts are executed. There are 3 types of SQL sandbox, such as
- Safe Access Sandbox: Here a user can perform SQL operations such as creating stored procedures, triggers etc. but cannot have access to the memory and cannot create files.
- External Access Sandbox: User can have access to files without having a right to manipulate the memory allocation.
- Unsafe Access Sandbox: This contains untrusted codes where a user can have access to memory.

What is the difference between SQL and PL/SQL?

SQL is a structured query language to create and access databases whereas PL/SQL comes with procedural concepts of programming languages.

What is the difference between SQL and MySQL?

SQL is a structured query language that is used for manipulating and accessing the relational database, on the other hand, MySQL itself is a relational database that uses SQL as the standard database language.

What is the use of NVL function?

NVL function is used to convert the null value to its actual value.

What is the Cartesian product of table?

The output of Cross Join is called as a Cartesian product. It returns rows combining each row from the first table with each row of the second table.

For Example, if we join two tables having 15 and 20 columns the Cartesian product of two tables will be 15×20=300 Rows.

What do you mean by Subquery?

Query within another query is called as Subquery. A subquery is called inner query which returns output that is to be used by another query.

How many row comparison operators are used while working with a subquery?

There are 3-row comparison operators which are used in subqueries such as IN, ANY and ALL.

What is index?

If i want to retrieve some data from the data depends on some condition. It will check all the rows from the table and retrieve the datas back.
For this purpose, we can use index to reduce the network traffic and improve the performance.

Ex: tblEmployee(id,name,salary,gender)

SELECT * FROM tblEmployee
WHERE Salary > 5000 and Salary < 7000;

// checks all the rows and returns salary between 5000 and 7000.

We can index,

CREATE INDEX IX_tbleEmployee_Salary
ON tblEmployee (SALARY ASC)

It will create table with salary in asc order and row address
So it will go to the salary between 5000 and 7000 and returns the rows.

Execute sp_Helpindex tblEmployee // to see the index

Drop index tblEmployee.IX_tblEmployee_Salary // to drop the table index

----

Different type of indexes?

Clustered
Non clustered
Unique
Filtered
XML

FullText
Spacial
cloumnstore
Index with included columns
Index on computed columns

What is the difference between clustered and non-clustered indexes?

Clustered index:

A clustered index determines the physical order of data in a table. For this reason, a table can have only one clustered index.
Primary will automatically become the clustered index.

- One table can have only one clustered index but multiple nonclustered indexes.
- Clustered indexes can be read rapidly rather than non-clustered indexes.
- Clustered indexes store data physically in the table or view and non-clustered indexes do not store data in table as it has separate structure from data row

----

How to write a query to show the details of a student from Students table whose name starts with K?

SELECT * FROM Student WHERE Student_Name like 'K%';
Here 'like' operator is used for pattern matching.

What is the difference between Nested Subquery and Correlated Subquery?

Subquery within another subquery is called as Nested Subquery. If the output of a subquery is depending on column values of the parent query table then the query is called Correlated Subquery.

SELECT adminid(SELECT Firstname+' '+Lastname FROM Employee WHERE empid=emp. adminid)AS EmpAdminId FROM Employee
This query gets details of an employee from the Employee table.

What is Normalization? How many Normalization forms are there?

Normalization is used to organize the data in such manner that data redundancy will never occur in the database and avoid insert, update and delete anomalies.
There are 5 forms of Normalization

- First Normal Form (1NF): It removes all duplicate columns from the table. Creates a table for related data and identifies unique column values
- First Normal Form (2NF): Follows 1NF and creates and places data subsets in an individual table and defines the relationship between tables using the primary key
- Third Normal Form (3NF): Follows 2NF and removes those columns which are not related through primary key

- Fourth Normal Form (4NF): Follows 3NF and do not define multi-valued dependencies. 4NF also known as BCNF

What is Relationship? How many types of Relationship are there?

The relationship can be defined as the connection between more than one tables in the database.
There are 4 types of relationships
- One to One Relationship
- Many to One Relationship
- Many to Many Relationship
- One to Many Relationship

What do you mean by Stored Procedures? How do we use it?

A stored procedure is a collection of SQL statements which can be used as a function to access the database. We can create these stored procedures previously before using it and can execute these them wherever we require and also apply some conditional logic to it. Stored procedures are also used to reduce network traffic and improve performance.

Syntax: CREATE Procedure Procedure_Name
(
//Parameters
)
AS
BEGIN
SQL statements in stored procedures to update/retrieve records
END

State some properties of Relational databases?

- In relational databases, each column should have a unique name
- The sequence of rows and columns in relational databases are insignificant
- All values are atomic and each row is unique

What are Nested Triggers?

Triggers may implement data modification logic by using INSERT, UPDATE, and DELETE statement. These triggers that contain data modification logic and find other triggers for data modification are called Nested Triggers.

What is a Cursor?

A cursor is a database object which is used to manipulate data in a row-to-row manner. Cursor follows steps as given below
- Declare Cursor

- Open Cursor
- Retrieve row from the Cursor
- Process the row
- Close Cursor
- Deallocate Cursor

What is Collation?

Collation is a set of rules that check how the data is sorted by comparing it. Such as Character data is stored using correct character sequence along with case sensitivity, type, and accent.

What do we need to check in Database Testing?

Generally, in Database Testing following thing is need to be tested
- Database Connectivity
- Constraint Check
- Required Application Field and its size
- Data Retrieval and Processing With DML operations
- Stored Procedures
- Functional flow

What is Database White Box Testing?

Database White Box Testing involves
- Database Consistency and ACID properties
- Database triggers and logical views
- Decision Coverage, Condition Coverage, and Statement Coverage
- Database Tables, Data Model, and Database Schema
- Referential integrity rules

What is Database Black Box Testing?

Database Black Box Testing involves
- Data Mapping
- Data stored and retrieved
- Use of Black Box techniques such as Equivalence Partitioning and Boundary Value Analysis (BVA)

What are Indexes in SQL?

The index can be defined as the way to retrieve the data more quickly. We can define indexes using CREATE statements.

Syntax: CREATE INDEX index_name

ON table_name (column_name)
Further, we can also create Unique Index using following syntax;
Syntax: CREATE UNIQUE INDEX index_name
ON table_name (column_name)
****
UPDATE: Added more questions for your practice.

How to select all records from the table?

To select all the records from the table we need to use the following syntax:
Select * from table_name;

Define COMMIT?

COMMIT saves all changes made by DML statements.

What is the Primary key?

A Primary key is a column whose values uniquely identify every row in a table. Primary key
values can never be reused.

What are Foreign keys?

When a one table's primary key field is added to related tables in order to create the
common field which relates the two tables, it called a foreign key in other tables.
Foreign Key constraints enforce referential integrity.

What is CHECK Constraint?

A CHECK constraint is used to limit the values or type of data that can be stored in a
column. They are used to enforce domain integrity.

Is it possible for a table to have more than one foreign key?

Yes, a table can have many foreign keys and only one primary key.

What are the possible values for the BOOLEAN data field?

For a BOOLEAN data field, two values are possible: -1(true) and 0(false).

What is a stored procedure?

A stored procedure is a set of SQL queries which can take input and send back output.

What is identity in SQL?

An identity column in the SQL automatically generates numeric values. We can define a start and increment value of the identity column.

What is Normalization?

The process of table design to minimize the data redundancy is called normalization. We need to divide a database into two or more table and define relationships between them.

What is a Trigger?

The Trigger allows us to execute a batch of SQL code when a table event occurs (Insert, update or delete command executed against a specific table)

How to select random rows from a table?

Using a SAMPLE clause we can select random rows.

Example:
SELECT * FROM table_name SAMPLE(10);

Which TCP/IP port does SQL Server run?

By default SQL Server runs on port 1433.

Write a SQL SELECT query that only returns each name only once from a table?

To get each name only once, we need to use the DISTINCT keyword.

SELECT DISTINCT name FROM table_name;

Explain DML and DDL?

DML stands for Data Manipulation Language. INSERT, UPDATE and DELETE are DML statements.
DDL stands for Data Definition Language. CREATE, ALTER, DROP, RENAME are DDL statements.

Can we rename a column in the output of SQL query?

Yes using the following syntax we can do this.

SELECT column_name AS new_name FROM table_name;

Give the order of SQL SELECT?

Order of SQL SELECT clauses is: SELECT, FROM, WHERE, GROUP BY, HAVING, ORDER BY. Only the SELECT and FROM clause are mandatory.

Suppose a Student column has two columns, Name and Marks. How to get name and marks of the top three students.

SELECT Name, Marks FROM Student s1 where 3 <= (SELECT COUNT(*) FROM Students s2 WHERE s1.marks = s2.marks)

What is SQL comments?

SQL comments can be put by two consecutive hyphens (–).

Difference between TRUNCATE, DELETE and DROP commands?

DELETE removes some or all rows from a table based on the condition. It can be rolled back.

TRUNCATE removes ALL rows from a table by de-allocating the memory pages. The operation cannot be rolled back

DROP command removes a table from the database completely.

What are the properties of a transaction?

Generally, these properties are referred to as ACID properties. They are:
1. Atomicity
2. Consistency
3. Isolation
4. Durability.

What do you mean by ROWID?

Ans. It's an 18 character long pseudo column attached with each row of a table.

Define UNION, MINUS, UNION ALL, INTERSECT ?

MINUS – returns all distinct rows selected by the first query but not by the second.
UNION – returns all distinct rows selected by either query
UNION ALL – returns all rows selected by either query, including all duplicates.
INTERSECT – returns all distinct rows selected by both queries.

What is a transaction?

A transaction is a sequence of code that runs against a database. It takes the database from one consistent state to another.

What is the difference between UNIQUE and PRIMARY KEY constraints?

A table can have only one PRIMARY KEY whereas there can be any number of UNIQUE keys.

The primary key cannot contain Null values whereas Unique key can contain Null values.

What is a composite primary key?

Primary key created on more than one column is called composite primary key.

What is an Index?

An Index is a special structure associated with a table speed up the performance of queries. The index can be created on one or more columns of a table.

What is the Subquery?

A Subquery is a subset of select statements whose return values are used in filtering conditions of the main query.

What do you mean by query optimization?

Query optimization is a process in which a database system compares different query strategies and select the query with the least cost.

What is Collation?

 Set of rules that define how data is stored, how case sensitivity and Kana character can be treated etc.

What is Referential Integrity?

Set of rules that restrict the values of one or more columns of the tables based on the values of the primary key or unique key of the referenced table.

What is Case Function?

Case facilitates if-then-else type of logic in SQL. It evaluates a list of conditions and returns one of the multiple possible result expressions.

Define a temp table?

A temp table is a temporary storage structure to store the data temporarily.

How can we avoid duplicating records in a query?

By using DISTINCT keyword duplicating records in a query can be avoided.

Explain the difference between Rename and Alias?

Rename is a permanent name given to a table or column whereas Alias is a temporary name given to a table or column.

What is a View?

A view is a virtual table which contains data from one or more tables. Views restrict data access of the table by selecting only required values and make complex queries easy.

What are the advantages of Views?

Advantages of Views:
1. Views restrict access to the data because the view can display selected columns from the table.
2. Views can be used to make simple queries to retrieve the results of complicated queries. For example, views can be used to query information from multiple tables without the user knowing.

List the various privileges that a user can grant to another user?

SELECT, CONNECT, RESOURCES.

What is schema?

A schema is a collection of database objects of a User.

What is a Table?

A table is the basic unit of data storage in the database management system. Table data is stored in rows and columns.

Does View contain Data?

No, Views are virtual structure.

Can a View based on another View?

Yes, A View is based on another View.

What is the difference between Having clause and Where clause?

Both specify a search condition but Having clause is used only with the SELECT statement and typically used with GROUP BY clause.
If GROUP BY clause is not used then Having behaved like WHERE clause only.

What is the difference between Local and Global temporary table?

If defined in inside a compound statement a local temporary table exists only for the duration of that statement but a global temporary table exists permanently in the DB but its rows disappear when the connection is closed.

What is CTE?

A CTE or common table expression is an expression which contains temporary result set which is defined in a SQL statement.