

What is the difference between delete and truncate command ?

: Delete :

Delete command is used to delete row in a table.

You can rollback data after using delete statement.

It is a DML command.

It is slower than a truncate command.

Truncate :

Truncate is used to delete all the data from the tables.

You cannot rollback data.

It is a DDL command.

It is faster.

What are the different subset of SQL ?

DDL : Consist of the command that is used to define Database schema.

DML : Consists of the command that is used to manipulate the data that is present in the database.

DQL : Consists of the command that is used to retrieve the data from the tables.

DCL : Include the commands which deal with the rights, permissions, and other controls of the database systems.

TCL : Include the commands which is mainly deal with the transaction of database.

What do you mean by DBMS ?

A database management system is the software that interact with the user, applications, and the database itself to capture and analyses the data. The stored data can be modified, retrieved, and deleted, and can be any type like strings, numbers, images, etc.

What are the joins in SQL ?

A JOIN clause is used to combine rows from two or more tables. It is used to merge two or more tables or retrieve data from there.

There are mainly 4 types of joins :

- Inner join

- Full join

- Left join

- Right join

What is the difference between CHAR and VARCHAR() ?

CHAR is used to store strings of fixed length. For example, char(10) can only store 10 characters and will not be able to store a string of any other length.

Varchar is used for characters strings of a variable length, for example varchar (10) can store length i.e., 6,8,2 in this variable.

What is the primary key ?

Primary key is a attribute or a set of attributes to identify tuple uniquely. So, if there are 3 to 4 candidate keys present in a relationship then out of those, one can be chosen as a primary key.

What are constraints ?

Constraints are used to specify the limit on the datatype of the table. It can be specified while creating and alternating the table.

NOT NULL :

Ensures that a NULL value cannot be stored in column.

UNIQUE :

This constraint makes sure that all the values in the column should be different.

CHECK :

This constraint that all the values in a column satisfy a specific condition.

DEFAULT :

This constraint set the default values for a column when no value is specified.

INDEX :

This constraint is used to create and retrieve data from database very quickly.

What is the difference between SQL and MYSQL ?

SQL is a structured query language is a standard language based on the English language. Where as MYSQL is a relational database management system. So, SQL is basically a core of relational database which is used for accessing and managing the database. But as MYSQL is a relational database management system that works on many platforms. It provides multi-user support to many storage engines and is backed by oracle.

Short Ans :

SQL is the core of relational database which is used for accessing and managing database. And MYSQL is an open-source relational database management system that works on many platforms.

What is a foreign key ?

Foreign key is used to established the connection between two tables. The foreign key in the child table references the primary key in the parent table. And the foreign key constraint prevents actions that would destroy links between the child and the parent table.

What do you mean by data integrity ?

Data integrity defines the accuracy and consistency of the data.

SQL query to display the current date ?

```
SELECT CURDATE();
```

SQL query to display the current time ?

```
SELECT CURTIME();
```

SQL Query to display current date and time ?

```
SELECT NOW();
```

What is the different type of joins ?

INNER JOIN :

This join returns those records which have matching values in the both tables

FULL JOIN :

This join returns those records which either have match in the left or the right table.

LEFT JOIN :

This join returns all the values from the left table and the matching values from the right table.

RIGHT JOIN :

This join returns all the values from the right table and the matching values from the left table.

What is normalization ?

Normalization is a database design technique that reduces data redundancy and ensures that data stored logically.

What is index ?

INDEX is a performance tuning method that allows faster retrieval of records from the table. And index creates an entry for each value.

What are the advantages of normalization ?

- Better database organization.

- More tables with smaller rows.

- Efficient data access.

- Greater flexibility for queries.

- Quickly find the information.

- Allows easy modification.

- More compact database.

- Ensure consistent data after modification.

- Reduction of redundant and duplicate data.

What is the difference between DROP and TRUNCATE command ?

DROP removes a data along with the table structure and it cannot be rollback from the database.

TRUNCATE removes all the data from the table except table structure and cannot be rollback into from database.

Explain different type of Normalization ?

1NF, 2NF, 3NF and BCNF.

1NF:

Each table cell should have a single value. So, basically all the records must be unique.

2NF :

Database should be in 1NF and should also have single column primary key.

3NF :

The database should be in 2NF and must not have any transitive dependency.

BCNF :

The database should be in 3NF and makes sure that there is only 1 candidate key present in the table.

What are the different operators in the SQL ?

Arithmetic operators.

Bitwise operators.

Comparison operators.

Compound operators.

Logical operators.

Are NULL value same as the zero or a blank space ?

NULL value represents a value which is unavailable, unknown, not assigned or not applicable whereas zero is a number and blank space is a character.

What is the difference between cross join and natural join ?

Cross join produces the cross product or cartesian product of 2 tables. whereas natural join bases on the columns having the same name and datatypes in both the tables.

What is the subquery in SQL ?

A subquery is a query inside another query where a query defines to retrieve data or information back from the database.

Subquery are always executed 1st and the result of the subquery passed to the main query.

Count the no of records in the table ?

```
SELECT COUNT(*) FROM TABLE_NAME ;
```

Write the SQL query to find the names of employees that begin with 'A' ?

```
SELECT * FROM TABLE_NAME WHERE EMPNAME LIKE 'A%' ;
```

Write the SQL query to find the third largest salary of an employee from the table.

```
SELECT * FROM EMP ORDER BY SALARY DESC LIMIT 2,1;
```

What is the need of group functions in SQL ?

Group functions work on the set of rows and returns one result per group.

What is the main difference between and in clause ?

The between clause use to display rows based on the range provided in the between clause.

The IN clause used to check values contained in a specific set of values.

What is clause in SQL ?

A clause helps to filter the rows from the entire set of records.

What is the difference between having and where clause ?

The having clause can be used only with select statement. It is usually used in a group by clause.

The where clause is applied to each row before they are a part of the group by function in a query.

Why we use UNION operator ?

You can join the output of 2 queries in a single table.

What is alias command ?

Alias name is the temporary name to the given to the table or the column.

What are the aggregate functions and scalar functions ?

Used to evaluate mathematical calculation and returns a single value.

Scalar functions return a single value based on the input value.

How can you select unique records from a table ?

Using DISTINCT keyword

```
SELECT DISTINCT COLUMN_NAME FROM TABLE_NAME ;
```

Print the first 5 characters of the string ?

```
SELECT LEFT(COLUMN_NAME,5) FROM TABLE_NAME;
```

Print last 5 characters of the string ?

```
SELECT RIGHT(COLUMN_NAME,5) FROM TABLE_NAME;
```

What is the Auto_increment keyword ?

Allows the user to create a unique number to get generated whenever a new record is inserted into the table. This keyword is usually required whenever primary key is used.