MS SQL NOTES

1. What is SQL:-

* SQL stands for structure query language
* You can easily create and manipulate the database, access and modify the table rows and columns, etc.
* This query language became the standard of ANSI in the year of 1986 and ISO in the year of 1987.
* If you want to get a job in the field of data science, then it is the most important query language to learn. Big enterprises like Facebook, Instagram, and LinkedIn, use SQL for storing the data in the back-end.

## Why SQL?

* SQL allows the data professionals and users to retrieve the data from the relational database management systems.
* It also helps them to describe the structured data.
* It allows SQL users to create, drop, and manipulate the database and its tables.
* It also helps in creating the view, stored procedure, and functions in the relational database.
* It allows you to define the data and modify that stored data in the relational database.
* It also allows SQL users to set the permissions or constraints on table columns, views, and stored procedures.

## What Can SQL do?

## SQL can execute queries against a database

## SQL can retrieve data from a database

## SQL can insert records in a database

## SQL can update records in a database

## SQL can delete records from a database

## SQL can create new databases

## SQL can create new tables in a database

## SQL can create stored procedures in a database

## SQL can create views in a database

## SQL can set permissions on tables, procedures, and views

## Some SQL Commands

## The SQL commands help in creating and managing the database. The most common SQL commands which are highly used are mentioned below:

## CREATE command

## UPDATE command

## DELETE command

## SELECT command

## DROP command

## INSERT command

## CREATE Command

## This command helps in creating the new database, new table, table view, and other objects of the database.

## UPDATE Command

## command helps in updating or changing the stored data in the database.

## DELETE Command

## This command helps in removing or erasing the saved records from the database tables. It erases single or multiple tuples from the tables of the database.

## SELECT Command

## This command helps in accessing the single or multiple rows from one or multiple tables of the database. We can also use this command with the WHERE clause.

## DROP Command

## This command helps in deleting the entire table, table view, and other objects from the database.

## INSERT Command

## This command helps in inserting the data or records into the database tables. We can easily insert the records in single as well as multiple rows of the table.

1. **What is RDBM**

* RDBMS stands for Relational Database Management System.
* RDBMS is the basis for SQL, and for all modern database systems such as MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.
* The data in RDBMS is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows.

**Example**

SELECT \* FROM Customers;

1. **SQL Syntax:-**

* You can write the keywords of SQL in both uppercase and lowercase, but writing the SQL keywords in uppercase improves the readability of the SQL query.
* SQL statements or syntax are dependent on text lines. We can place a single SQL statement on one or multiple text lines.
* You can perform most of the action in a database with SQL statements.
* SQL syntax depends on relational algebra and tuple relational calculus.

1. **Some of The Most Important SQL Commands**

* SELECT - extracts data from a database
* UPDATE - updates data in a database
* DELETE - deletes data from a database
* INSERT INTO - inserts new data into a database
* CREATE DATABASE - creates a new database
* ALTER DATABASE - modifies a database
* CREATE TABLE - creates a new table
* ALTER TABLE - modifies a table
* DROP TABLE - deletes a table
* CREATE INDEX - creates an index (search key)
* DROP INDEX - deletes an index