

XII - CHAPTER - 9
STRUCTURED QUERY LANGUAGE (SQL)

1. Query : A Query is a request to a database.

*****2. Components of SQL & Use**

2.1 :Data Definition Language (DDL) : Create, modify and delete tables in the database.		
DDL Commands	Commands :	Use
	CREATE TABLE	Create a new table
	ALTER TABLE	Modify the table
	DROP TABLE	Deletes the table
2.2 Data Manipulation Language (DML) : insertion of new rows into the tables, Modify existing value in the rows, deletion of existing rows from the tables.		
DML Commands	Commands :	Use
	INSERT INTO	To add records to the table.
	SELECT	Information is retrieved from the table
	UPDATE	Modifying data in a table
	DELETE	Remove one or more row from a Table
2.3 Data Control Language (DCL) : Used to control access to the database.		
DCL Commands	Commands :	Use
	GRANT	Allows access privileges to the users to the database
	REVOKE	Withdrawal of permission given by GRANT

*****3. Datatypes in SQL :** It defines the type of value that may be entered in the column of a table.

Data types in MySQL:

3.1 Numeric data type :

3.1.1) INT or INTEGER : It represents integers.

3.1.2) DEC or DECIMAL : Represents decimal numbers.

3.2 String(Text) data type : String is a group of characters.

3.2.1 CHAR or CHARACTER : Character includes letters ,digits, special symbols etc.

3.2.2 VARCHAR : VARCHAR represents variable length strings.

3.3 Date and time data type : DATE data type is used to store dates and
TIME datatype is used to store time values.

***4. Compare CHAR, VARCHAR in SQL :

CHAR	VARCHAR
Fixed length character data type	Variable length string data type
It can store a maximum of 255 characters.	It can store a maximum of 65535 characters.
Uses static memory allocation	Uses dynamic memory allocation.

***5. constraints in SQL :** Rules enforced on data that are entered into the column of a table.

SQL Constraints	KEY	Use
	NOT NULL	Specifies that a column can never have NULL values
	AUTO_INCREMENT	It allows a unique number to be generated automatically when a new record is inserted into a table
	UNIQUE	Used to avoid repeating the value in the column
	DEFAULT	A default value can be set for a column, in case the user does not provide a value for that column of a record
	PRIMARY KEY	combination of UNIQUE and NOT NULL constraints

6. Database related commands :

CREATE DATABASE : To create the database

USE : To open the database

SHOW DATABASES : Viewing the structure of a table.

7. Aggregate functions (Built-in functions)

Functions	Return Value
SUM ()	Total of the values in the column specified as argument
AVG ()	Average of the values in the column specified as argument
MIN ()	Smallest value in the column specified as argument
MAX ()	Largest of the values in the column specified as argument
COUNT ()	Number of non NULL values in the column specified as argument

****8 ORDER BY clause :** It specifies that a SQL SELECT statement returns a result set with the rows being sorted by the values of one or more columns