Lecture 9:-

SQL

SQL VS MY SQL

-> Is a DB language
-> Use to access data

-> Is a RDBMS software
-> Supports SQL
-> Used to perform operations on DB

SQL Data types

Data type	Function
char	string size (0-255)
varchar	string size (0-255)
TEXT	string size (0-65535)
TINYTEXT	
BLOB (to store audio videos)	
MEDIUMTEXT, MEDIUMBLOB, LONGTEXT, LONG BLOB	
TINYINT, SMALLINT, MEDIUMINT, INT, BIGINT	
FLOAT, DOUBLE, DECIMAL	
DATE, DATETIME, TIMESTAMP, TIME	
ENUM, SET	
BOOLEAN, BIT	
SIGNED, UNSIGNED	
ADVANCED -> JSON	

SQL Types of Commands-

1) DDL -> DATA DEFINATION LANGUAGE

a) CREATE -> Database, table, view
b) ALTERTABLE -> modify existing table
c) DROP -> to delete -> Table, DB, view
d) TRUNCATE -> remove all tuples of the table
e) RENAME -> table, db, column

2) DRL/DQL -> DATA RETRIVAL LANGUAGE / DATA QUERY LANGUAGE

a) SELECT -> To access data

3) DML -> DATA MODIFICATION LANGUAGE

a) INSERT -> to insert data
b) DELETE -> to delete data
3) UPDATE -> to update existing data

4) DCL -> DATA CONTROL LANGUAGE
to grant or revoke authorities

a) GRANT -> grant access
b) REVOKE -> revoke access

5) TCL -> TRANSACTION CONTROL LANGUAGE
(not discussing yet)

COMMANDS ->

1) CREATION OF DB-

a) CREATE DATABASE IF NOT EXISTS dB-name;
b) DROP DATABASE IF EXISTS dB-name;
c) USE DATABASE dB-name;
d) SHOW DATABASES ; // list all DB present in the server
e) SHOW TABLES; // list tables of the selected DB

2) DQL (Access DB) -

a) SELECT * FROM tableName;
b) SELECT column_name FROM tableName;

CAN WE USE 'SELECT' WITHOUT USING 'FROM'

"YES using dual table"

it creates dual table demo table
ex.->

SELECT 44+11 OUTPUT will be 55 in a GRID form

SELECT now(); // current time

SELECT lcase ('Lakshya') OUTPUT will be LAKSHYA

EX->
SELECT *FROM table_name WHERE age >18

SELECT * FROM WORKER WHERE salary> 9000;
SELECT first_name FROM WORKER WHERE department= 'IT';

BETWEEN

SELECT first_name FROM WORKER WHERE salary BETWEEN 5000 and 10000;

ALL CODE TILL NOW->

```
CREATE DATABASE IF NOT EXISTS COMPANY;

SHOW DATABASES;

USE COMPANY;



CREATE TABLE WORKER
(
    worker_id INT PRIMARY KEY  NOT NULL AUTO_INCREMENT,
    first_name VARCHAR (15) NOT NULL,
    last_name VARCHAR (15) NOT NULL,
    salary INT (9),
    joining_date DATE NOT NULL,
    department CHAR (25)
);


INSERT INTO WORKER
(worker_id, first_name , last_name , salary, joining_date,department) VALUES
( 001,      'Kunal',       'Rathore',     10000, '2025-01-01',   'IT'),
( 002,      'Naku',        'Lota',      9900, '2025-01-02',   'IT'),
( 003,      'Riya',        'Kumar',     10000, '2025-06-05',   'IT');


SELECT  * FROM WORKER;



CREATE TABLE IF NOT EXISTS BONUS
(
    worker_ref_id INT NOT NULL,
    bonus_amount INT (9),
    bonus_date DATE NOT NULL,
     FOREIGN KEY (worker_ref_id )
       REFERENCES WORKER (worker_id) ON DELETE CASCADE
```

```
        REFERENCES WORKER (worker_id) ON DELETE CASCADE


);

INSERT INTO BONUS
   (worker_ref_id , bonus_amount, bonus_date ) VALUES
   (001, 1000, '2025-03-01'),
    (002, 1000, '2025-03-01'),
   (003, 1000, '2025-03-01');



SELECT * FROM BONUS;



CREATE TABLE IF NOT EXISTS TITLE
(
        worker_ref_id INT NOT NULL,
        worker_title CHAR (25),
        affected_from DATE ,
        FOREIGN KEY (worker_ref_id )
        REFERENCES WORKER (worker_id) ON DELETE CASCADE

);



INSERT  INTO  TITLE
( worker_ref_id, worker_title, affected_from) VALUE
( 001, 'Manager', '2024-01-01'),
( 002, 'Employee', '2024-02-24'),
( 003, 'Employee', '2024-03-11');

SELECT * FROM TITLE ;
```

```
        worker_ref_id INT NOT NULL,
        worker_title CHAR (25),
        affected_from DATE ,
        FOREIGN KEY (worker_ref_id )
        REFERENCES WORKER (worker_id) ON DELETE CASCADE

);



INSERT  INTO  TITLE
( worker_ref_id, worker_title, affected_from) VALUE
( 001, 'Manager', '2024-01-01'),
( 002, 'Employee', '2024-02-24'),
( 003, 'Employee', '2024-03-11');

SELECT * FROM TITLE ;


SELECT first_name, salary, worker_id  FROM WORKER;


SELECT 44+11;

SELECT UCASE('Kunal');

SELECT * FROM WORKER WHERE salary> 9000;
SELECT  first_name  FROM WORKER WHERE department= 'IT';


SELECT first_name FROM WORKER WHERE salary BETWEEN 5000 and 10000;
```