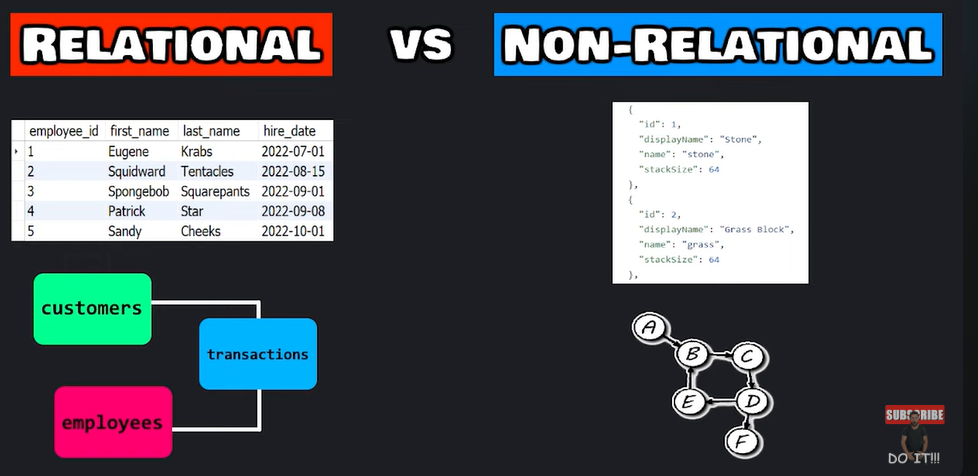
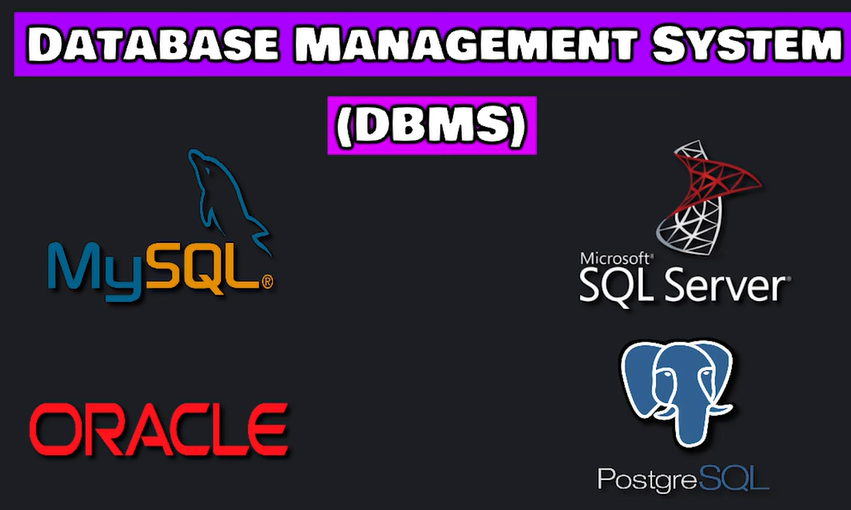
SQL – Structured Query Language



A screen shot of a screen

Description automatically generated



A screenshot of a computer

Description automatically generated

**SQL is Case Insensitive**

* **How to create a DATABASE**

**CREATE**

create database mydb;

**DROP**

Drop database mydb;

**ALTER**

Alter database mydb read only = 1;

* How to create a **TABLE**

**CREATE**

create table employees(

emp\_id int,

f\_name varchar(25),

l\_name varchar(25),

hourly\_pay decimal(5,2),

hire\_date date

);

select \* from employees;

rename table employees to workers;

rename table workers to employees;

**DROP**

drop table employees;

**ALTER**

**# adding column phone\_number**  
alter table employees

add phone\_number varchar(15);  
  
select \* from employees;

**#renaming column name phone\_number to email**

alter table employees

rename column phone\_number to email;

**# modifying column email datatype**

alter table employees

modify column email varchar(25);

**#modifying column email position just after l\_name**

alter table employees

modify column email varchar(25)

after l\_name;

select \* from employees;

**#modifying column email position at first**

alter table employees

modify column email varchar(25)

first ;

select \* from employees;

**# drop column email**

alter table employees

drop column email;

select \* from employees;

**INSERT**

**# inserting values into tables**

insert into employees

values (1, ”Bhavitha”, ”Narmeta”, 45.12,”2021-11-23”),

(2, "Sravya", "Vellore", 60.00, "2022-11-07"),

(3, "Janvika", "Appasani", 65.75, "2021-11-07");

select \* from employees;

**# inserting values into tables in specified columns**

insert into employees (emp\_id, f\_name, l\_name)

values (4, "Meghana", "Konda");

select \* from employees;

**SELECT**

select \* from employees;

select f\_name, l\_name

from employees;

select \*

from employees

where emp\_id = 2;

select \*

from employees

where hourly\_pay >= 50;

select \*

from employees

where hire\_date <= "2022-11-23";

select \*

from employees

where emp\_id != 1;

select \*

from employees

where hire\_date is NULL;

select \*

from employees

where hire\_date is not NULL;

* **How to UPDATE and DELETE data from table**

**UPDATE**

update employees

set hourly\_pay = 30.00,

hire\_date = "2024-01-07"

where emp\_id = 4;

select \* from employees;  
  
update employees

set hire\_date = "NULL"

where emp\_id = 4;

select \* from employees;  
  
  
update employees

set hourly\_pay = 30.00;

select \* from employees;  
  
  
**DELETE**delete from employees

where emp\_id = 4;

select \* from empolyees;

**AUTOCOMMIT, COMMIT, ROLLBACK**  
  
**CONSTRAINTS**  
**1.) UNIQUE CONSTRAINT**CREATE TABLE products(

p\_id INT,

p\_id VARCHAR(25) UNIQUE,

P\_price DECIMAL(4,2)   
  
);  
CREATE TABLE products(

p\_id INT,

p\_id VARCHAR(25),

P\_price DECIMAL(4,2)   
  
);  
  
INSERT INTO products

VALUES (101, “shirt”, 75.00),

(101, “pant”, 85.00),

(101, “shoes”, 75.00);

**# if table is created and want to add UNIQUE CONSTRAINT to a particular colomn**

ALTER TABLE products

ADD CONSTRAINT

UNIQUE(p\_name)

**2.) NOT NULL**

CREATE TABLE products(

product\_id INT,

product\_id VARCHAR(25),

product\_price DECIMAL(4,2) NOT NULL   
  
);

**# if already table is created and want to add NOT NULL to a particular colomn**

ALTER TABLE products

MODIFY price DECIMAL(4,2) NOT NULL

**3.) CHECK**create table employees(

emp\_id int,

f\_name varchar(25),

l\_name varchar(25),

hourly\_pay decimal(5,2),

hire\_date date

CONSTRAINT chk\_hourly\_pay CHECK (hourly\_pay >= 10.00)

);

**# if already table is created and want to add CHECK CONSTRAINT to particular colomn**

ALTER TABLE employees

ADD CONSTRAINT chk\_hourly\_pay CHECK(hourly\_pay >= 10.00);

**DROP CHECK**ALTER TABLE employees

DROP CHECK chk\_hourly\_pay;  
  
  
4. ) **DEFAULT CONSTRAINT**CREATE TABLE products(

product\_id INT,

product\_id VARCHAR(25),

product\_price DECIMAL(4,2) DEFAULT 0  
  
);

**# if already table is created and want to set DEFUALT to a particular colomn**  
ALTER TABLE products

ALTER P\_price SET DEFAULT 0

INSERT INTO products(p\_id,p\_name)

VALUES ("106", "COVER")  
  
**example**  
  
CREATE TABLE transactions(

transaction\_id INT,

amount DECIMAL (5, 2),

transaction\_date DATETIME DEFAULT NOW()

);

INSERT INTO transactions(transaction\_id, amount)

VALUES (1, 4.99);  
  
  
**PRIMARY KEY**

* **PRIMARY KEY** in a table is applied to a column where the values in it should be **UNIQUE** and **NOT NULL**
* Also there should be only one **PRIMARY KEY**

**Example**

CREATE TABLE transactions(

transaction\_id INT PRIMARY KEY,

amount DECIMAL (5,2)

);

**# if table is already created and want to add PRIMARY KEY to a particular colomn**

ALTER TABLE transaction

ADD CONSTRAINT

PRIMARY KEY (transaction\_id)

INSERT INTO transactions

VALUES (1002, 9.55);

SELECT \* FROM transactions;

SELECT amount

FROM transactions

WHERE transaction\_id = 1002

**AUTO\_INCREMENT CONSTRAINT**

CREATE TABLE transactions(

transaction\_id INT PRIMARY KEY AUTO\_INCREMENT,

amount DECIMAL (5, 2)

);  
  
CREATE TABLE transactions(

transaction\_id INT PRIMARY KEY AUTO\_INCREMENT,

amount DECIMAL (5, 2)

);

ALTER TABLE transactions

AUTO\_INCREMENT = 1000  
  
**FOREIGN KEY CONSTRAINT  
  
A computer screen shot of a chain and keys

Description automatically generated**

**A screenshot of a computer

Description automatically generated  
  
example**CREATE TABLE customers(

customer\_id INT PRIMARY KEY AUTO\_INCREMENT,

first\_name VARCHAR(25),

last\_name VARCHAR(25)

);

SELECT \* FROM customers;  
  
INSERT INTO CUSTOMERS(first\_name, last\_name)

VALUES ("Rakesh", "Aduri"),

("James", "Bond"),

("Alan", "Walker"),

("Adam", "Smith");

SELECT \* FROM CUSTOMERS;  
  
CREATE TABLE transactions(

transaction\_id INT PRIMARY KEY AUTO\_INCREMENT,

amount DECIMAL (5, 2),

customer\_id INT,

FOREIGN KEY (customer\_id) REFERENCES customers(customer\_id)

);

SELECT \* FROM transactions;  
  
**DROP FOREIGN KEY**

ALTER TABLE transactions

DROP FOREIGN KEY transactions\_ibfk\_1

ALTER TABLE transactions

ADD CONSTRAINT fk\_customer\_id

FOREIGN KEY (customer\_id) REFERENCES customers(customer\_id);

ALTER TABLE transactions

AUTO\_INCREMENT = 1000;

INSERT INTO transactions(amount, customer\_id)

VALUES (4.99, 3),

(2.89, 2),

(2.28, 3),

(4.99, 1);

SELECT \* FROM transactions;

DELETE FROM customers

WHERE customer\_id = 3;

**INNER JOIN**

A diagram of inner and inner

Description automatically generated

A screenshot of a computer

Description automatically generated

**A diagram of a customer

Description automatically generated with medium confidence**

INSERT INTO transactions(amount, customer\_id)

VALUES (1.00, NULL);

SELECT \* FROM transactions;

INSERT INTO customers(first\_name, last\_name)

VALUES ("poppy", "puff");

SELECT \* FROM customers;

SELECT \*

FROM transactions INNER JOIN customers

ON transactions.customer\_id = customers.customer\_id;

SELECT transaction\_id, amount, first\_name, last\_name

FROM transactions INNER JOIN customers

ON transactions.customer\_id = customers.customer\_id;

**LEFT JOIN  
  
A screenshot of a computer

Description automatically generated**

SELECT \*

FROM transactions LEFT JOIN customers

ON transactions.customer\_id = customers.customer\_id;

**RIGHT JOIN**

**A computer screen shot of a computer screen

Description automatically generated**

SELECT \*

FROM transactions LEFT JOIN customers

ON transactions.customer\_id = customers.customer\_id;

**FUNCTIONS in MYSQL**

**COUNT**

SELECT COUNT(amount) AS COUNT

FROM transactions;

**SUM**

SELECT SUM(amount) AS TOTAL

FROM transactions;

**AVERAGE**

SELECT AVERAGE(amount) AS AVG

FROM transactions;

**CONCAT**SELECT CONCAT (first\_name, “ ”, last\_name) AS full\_name  
FROM customers;

**LOGICAL OPERATORS**

**AND**

SELECT \*

FROM employees

WHERE hire\_date < "2022-11-23" AND job = "Sr Analyst";

**OR**

SELECT \*

FROM employees

WHERE job = "PMO" OR job = "Sr Analyst";

**NOT**

SELECT \*

FROM employees

WHERE NOT job = "BA" AND NOT job = "PMO";

**BETWEEN**

SELECT \*

FROM employees

WHERE hire\_date BETWEEN "2022-11-07" AND "2024-12-07"

**IN**

SELECT \*

FROM employees

WHERE job IN ("Sr Analyst", "Associate Analyst");