





Genuine Authentic

Quality

## Categories

DDL: Data Definition Language

DQL: Data Query Language

**DML**: Data Manipulation Language

DCL: Data Control Language

TCL: Transaction Control Language

### Commands

#### DDL

CREATE | DROP | ALTER | TRUNCATE RENAME I COMMENT

### DQL

SELECT

#### DML

INSERT | UPDATE | DELETE | LOCK CALL | EXPLAIN PLAN

#### DCL

GRANT | REVOKE

### TCL

COMMIT I ROLLBACK SAVEPOINT | SET TRANSACTION

### Operators

Arithmetic

Bitwise

+ - \* / % & | ^

#### Comparison

= < > <= >= !< !> <> !=

### Compound

+= -= \*= /= %= &= |= ^=

### Logical

AND I OR I NOT I ANY BETWEEN SOME | ALL | EXISTS | LIKE UNIQUE IS NULL I

## Important Keywords

DISTINCT | LIMIT WHERE ORDER BY | DESC | ASC AS | FROM | SET | VALUES DEFAULT CASE

## Database Objects

VIEW I SYNONYM SEQUENCE I INDEX TRIGGER

### Constraints

UNIQUE NOT NULL FOREIGN KEY PRIMARY KEY CHECK | DEFAULT

## Aggregation Functions

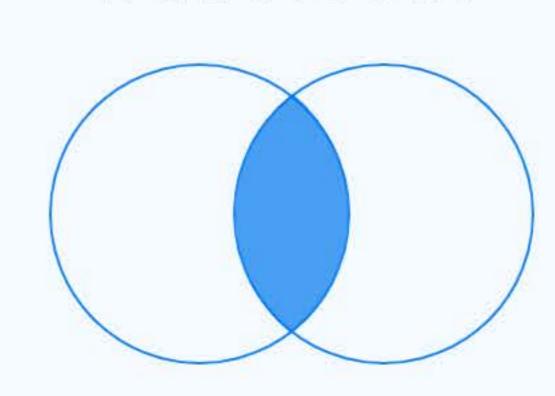
COUNT AVG SUM MAX MIN

# Aggregation Keywords

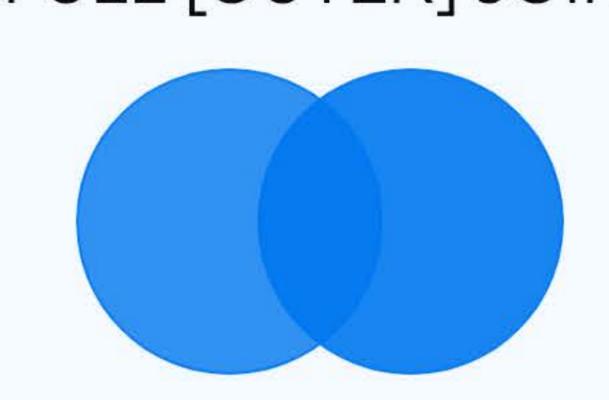
GROUP BY HAVING

### Joins

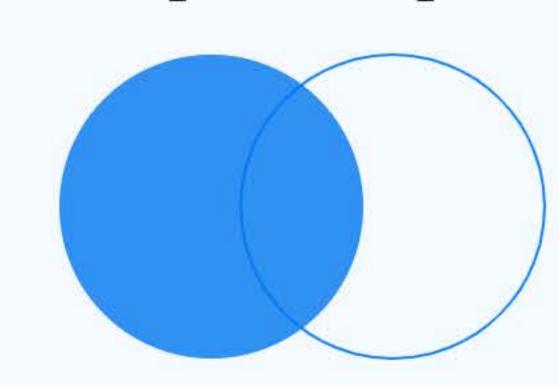
**INNER JOIN** 



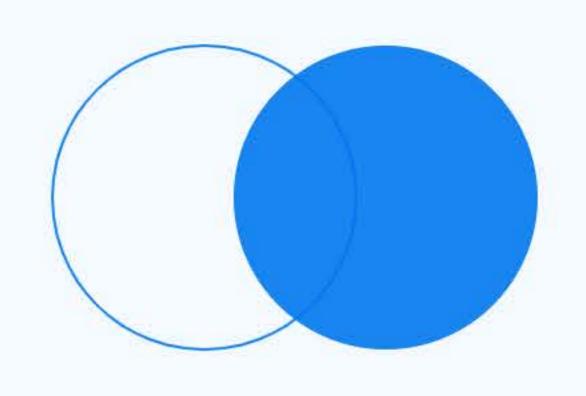
FULL [OUTER] JOIN



LEFT [OUTER] JOIN



RIGHT [OUTER] JOIN



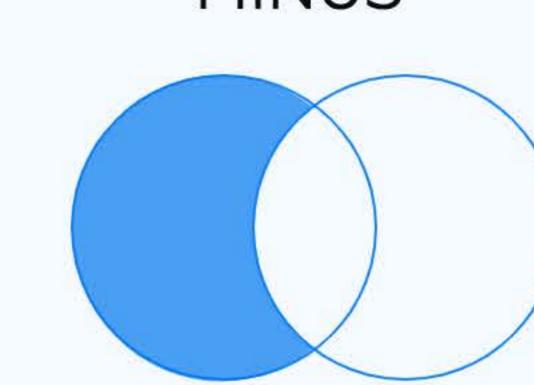
## Set Operations

UNION

UNION ALL

INTERSECT

**EXCEPT** MINUS



# DDL Examples

#### Create a Table

CREATE TABLE Students ( rollno int PRIMARY KEY, fname varchar(255) NOT NULL, lname varchar(255)

#### Adding a new column to the Table

**ALTER TABLE** Students ADD email varchar(255);

#### Modifying the data type of existing column

**ALTER TABLE** Students ALTER COLUMN lname varchar (512);

#### Removing an existing column from the Table

**ALTER TABLE** Students DROP COLUMN email;

#### Truncate (remove all data) a Table

TRUNCATE TABLE Students;

#### Drop a Table

DROP TABLE Students;

# DQL Examples

## Fetch all data from a Table

SELECT \* FROM Students;

#### Filter data from a Table SELECT \* FROM Students

WHERE rollno = 1234;

SELECT \* FROM Students WHERE rollno > 1234 age < 15;

#### Fetch selected columns

AND

LIMIT

SELECT fname, lname Students WHERE rollno > 1234 age < 15; AND

#### Fetch maximum 10 rows

SELECT fname, lname FROM Students WHERE rollno > 1234 age < 15

10;

# Fetch count of records

SELECT count (\*) FROM Students;

## Fetch Maximum Age

SELECT max(age) FROM Students;

## Fetch Minimum Age

SELECT min (age) FROM Students;

### Fetch Sum of Age

SELECT sum (age) FROM Students;

## Fetch Average Age

SELECT avg (age) FROM Students;

### Fetch Average Age for each gender SELECT avg (age)

FROM Students GROUP BY gender;

# Sort (order) fetched records

SELECT fname, lname FROM Students WHERE rollno > 1234 age < 15 AND ORDER BY gender;

#### Sort in descending order

SELECT fname, lname FROM Students WHERE rollno > 1234 AND age < 15 ORDER BY gender DESC;

#### Fetch from 2 Tables

SELECT fname, clsteacher FROM Students INNER JOIN Section Students.section ON =Section.id;

## DML Examples

#### Insert data (rows) into a Table

INSERT INTO Students (rollno, fname, lname) VALUES (1234, 'Christiano', 'Ronaldo');

#### Update data (value of column) of a Table

UPDATE Students SET lname = 'Messi' WHERE rollno = 1234;

### Delete data (rows) from a Table

DELETE FROM Students WHERE rollno = 1234;

#### Aggregate and, Filter

SELECT section, count (\*) AS studentcount FROM Students GROUP BY section HAVING count (\*) > 20;

#### Full Outer Join

SELECT fname, clsteacher FROM Students FULL JOIN Section Students.section = Section.id; ON

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