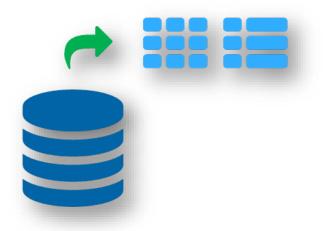


# Retrieve





- SELECT
- WHERE
- DISTINCT, ORDER, LIMIT





- SELECT
- WHERE
- DISTINCT, ORDER, Limit





# **SELECT**

# Syntax

**SELECT** attributename01, attributename02, ... **FROM** tablename;

```
-- Get the names of all clients
SELECT FirstName, LastName FROM Clients
```



# SELECT ALL

# Syntax

**SELECT** \* **FROM** *tablename*;

```
-- Get all data
SELECT * FROM Clients
```



- SELECT
- WHERE
- DISTINCT, ORDER, LIMIT





# Syntax

**SELECT** attribute01, attribute02, ... **FROM** tablename **WHERE** condition;

```
-- Only select clients older than 30 years SELECT * FROM Clients WHERE Age>30;
```

Operator	Function	
=	equal	
<> or !=	not equal	

Operator	Function
<	smaller then
>	bigger then

Operator	Function
<=	smaller or equal
>=	bigger or equal



# AND / OR / NOT

#### Syntax

**SELECT** attribute01, attribute02, ... **FROM** tablename **WHERE** condition01 **AND** condition02 **OR NOT** condition03;

```
/* Only select clients older than 30 years
   AND younger than 50 years
   OR if their first name is NOT Thomas */
SELECT * FROM Clients
WHERE Age>30 AND Age<50 OR NOT FirstName='Thomas';</pre>
```



#### LIKE

# Syntax

```
SELECT attribute01, attribute02, ... FROM tablename WHERE condition LIKE pattern;
```

```
-- Select clients whose last name ends with the pattern man SELECT * FROM Clients
WHERE LastName LIKE '%man';
```

Placeholder	Representation
%	The percent sign represents zero, one, or multiple characters
_	The underscore represents a single character



**IN** (shorthand for multiple OR conditions)

# Syntax

**SELECT** attribute01, attribute02, ... **FROM** tablename **WHERE** attribute0N **IN** (value01, value02, ... );

```
-- Get all clients in the cities NY, LA, and Chicago SELECT * FROM Clients WHERE City IN ('New York', 'Los Angeles', 'Chicago');
```



**BETWEEN** (values within a given range)

#### Syntax

**SELECT** attribute01, attribute02, ... **FROM** tablename **WHERE** attribute0N **BETWEEN** value01 **AND** value02;

#### Example

-- Get all clients who are between 30 and 50 years old SELECT \* FROM Clients
WHERE Age BETWEEN 30 AND 50;



**NULL** (if there is no value)

# Syntax

SELECT attribute01, attribute02, ... FROM tablename WHERE attribute0N IS NULL;

```
-- Get all clients who have a first name stored SELECT * FROM Clients
WHERE FirstName IS NOT NULL;
```



- SELECT
- WHERE
- DISTINCT, ORDER, LIMIT





# DISTINCT

# Return only distinct (different) values

# Syntax

**SELECT DISTINCT** attribute01, attribute02, ... **FROM** tablename **WHERE** condition;

```
-- Select all different cities
SELECT DISTINCT City FROM Clients;
```



# ORDER

#### Sort the result-set in ascending or descending order

#### Syntax

**SELECT DISTINCT** attribute01, attribute02, ... **FROM** tablename **ORDER BY** attribute01, attribute02, ... **ASC|DESC**;

```
-- Select clients and sort them by their age (oldest first)
SELECT FirstName, LastName, Age FROM Clients
ORDER BY Age DESC;
```



# LIMIT

#### Limit the number of records

# Syntax

**SELECT DISTINCT** *attribute01*, *attribute02*, ... **FROM** *tablename* **LIMIT** *number*;

```
-- Select the first ten clients
SELECT * FROM Clients
LIMIT 10;
```