

# Learn SQL

## Queries

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### `SELECT` Statement

The `SELECT *` statement returns all columns from the provided table in the result set. The given query will fetch all columns and records (rows) from the `movies` table.

```
SELECT *  
FROM movies;
```

### `AS` Clause

Columns or tables in SQL can be *aliased* using the `AS` clause. This allows columns or tables to be specifically renamed in the returned result set. The given query will return a result set with the column for `name` renamed to `movie_title`.

```
SELECT name AS 'movie_title'  
FROM movies;
```

### `DISTINCT` Clause

Unique values of a column can be selected using a `DISTINCT` query. For a table `contact_details` having five rows in which the `city` column contains Chicago, Madison, Boston, Madison, and Denver, the given query would return:

- Chicago
- Madison
- Boston
- Denver

```
SELECT DISTINCT city
FROM contact_details;
```

## WHERE Clause

The `WHERE` clause is used to filter records (rows) that match a certain condition. The given query will select all records where the `pub_year` equals `2017`.

```
SELECT title
FROM library
WHERE pub_year = 2017;
```

## LIKE Operator

The `LIKE` operator can be used inside of a `WHERE` clause to match a specified pattern. The given query will match any movie that begins with `star` in its title.

```
SELECT name
FROM movies
WHERE name LIKE 'Star%';
```

## \_ Wildcard

The `_` wildcard can be used in a `LIKE` operator pattern to match any single

unspecified character. The given query will match any movie which begins with a single character, followed by `ove`.

```
SELECT name
FROM movies
WHERE name LIKE '_ove';
```

## % Wildcard

The `%` wildcard can be used in a `LIKE` operator pattern to match zero or more unspecified character(s). The example query will match any movie that begins with `The`, followed by zero or more of any characters.

```
SELECT name
FROM movies
WHERE name LIKE 'The%';
```

## NULL Values

Column values in SQL records can be `NULL`, or have no value. These records can be matched (or not matched) using the `IS NULL` and `IS NOT NULL` operators in combination with the `WHERE` clause. The given query will match all addresses where the address has a value or is not `NULL`.

```
SELECT address
FROM records
WHERE address IS NOT NULL;
```

## BETWEEN Operator

The `BETWEEN` operator can be used to filter by a *range* of values. The range of

values can be text, numbers or date data. The given query will match any movie made between the years 1980 and 1990, inclusive.

```
SELECT *  
FROM movies  
WHERE year BETWEEN 1980 AND 1990;
```

## AND Operator

The `AND` operator allows multiple conditions to be combined. Records must match both conditions that are joined by `AND` to be included in the result set. The example query will match any car that is blue and made after 2014.

```
SELECT model  
FROM cars  
WHERE color = 'blue'  
AND year > 2014;
```

## OR Operator

The `OR` operator allows multiple conditions to be combined. Records matching either condition joined by the `OR` are included in the result set. The given query will match customers whose state is either `ca` or `ny`.

```
SELECT name  
FROM customers  
WHERE state = "ca"  
OR state = "ny";
```

## ORDER BY Clause

The `ORDER BY` clause can be used to sort the result set by a particular column either alphabetically or numerically. It can be ordered in ascending (default) or descending order with `ASC / DESC`. In the example, all the rows of the `contacts` table will be ordered by the `birth_date` column in descending order.

```
SELECT *  
FROM contacts  
ORDER BY birth_date DESC;
```

## LIMIT Clause

The `LIMIT` clause is used to narrow, or *limit*, a result set to the specified number of rows. The given query will limit the result set to 5 rows.

```
SELECT *  
FROM movies  
LIMIT 5;
```

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