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## 1. Single Table Extraction

```
SELECT * FROM table_name;
```

- This query retrieves all columns and rows from a single table.

## 2. Multiple Tables (Equi-Join)

```
SELECT table1.column1, table2.column2  
FROM table1  
INNER JOIN table2 ON table1.column1 = table2.column2;
```

- This query joins two tables based on an equality condition between columns in both tables.
- It selects specific columns from each table and returns only rows where the specified columns have matching values.

### 3. Multiple Tables (Non-Equi-Join)

```
SELECT table1.column1, table2.column2  
FROM table1  
LEFT JOIN table2 ON table1.column1 > table2.column2;
```

- This query joins two tables based on a non-equality condition between columns.
- It uses a LEFT JOIN to ensure all rows from the left table are included, even if no matching rows exist in the right table.

### 4. Self-Join

```
SELECT e1.name AS employee_name, e2.name AS manager_name  
FROM employees e1  
INNER JOIN employees e2 ON e1.manager_id = e2.employee_id;
```

- This query joins a table with itself.
- It uses aliases to distinguish columns from the same table and selects specific columns to retrieve specific information (e.g., employee names and their managers).

### 5. Outer Joins

#### 5.1 Left Outer Join

```
SELECT table1.column1, table2.column2  
FROM table1
```

```
LEFT OUTER JOIN table2 ON table1.column1 = table2.column2;
```

- This query includes all rows from the left table and matching rows from the right table.
- It replaces unmatched values from the right table with NULL.

## 5.2 Right Outer Join

```
SELECT table1.column1, table2.column2  
FROM table1  
RIGHT OUTER JOIN table2 ON table1.column1 = table2.column2;
```

- This query includes all rows from the right table and matching rows from the left table.
- It replaces unmatched values from the left table with NULL.

## 5.3 Full Outer Join

```
SELECT table1.column1, table2.column2  
FROM table1  
FULL OUTER JOIN table2 ON table1.column1 = table2.column2;
```

- This query includes all rows from both tables, regardless of whether they have matching values.
- It replaces unmatched values with NULL in both tables.

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