

Basic SQL Syntax:

1. **SELECT Statement:**

- The `SELECT` statement is used to retrieve data from one or more tables.

```
```sql
SELECT column1, column2
FROM table_name;
```
```

Example 1:

```
```sql
SELECT first_name, last_name
FROM employees;
```
```

Example 2:

```
```sql
SELECT product_name, price
FROM products;
```
```

2. **FROM Clause:**

- The `FROM` clause specifies the table from which the data should be retrieved.

```
```sql
SELECT column1, column2
FROM table_name;
```
```

Example 1:

```
```sql
SELECT customer_name, order_date
FROM orders;
```
```

Example 2:

```
```sql
SELECT book_title, author
FROM books;
```
```

```

### 3. **\*\*WHERE Clause:\*\***

- The `WHERE` clause is used to filter the rows based on a specified condition.

```
```sql
SELECT column1, column2
FROM table_name
WHERE condition;
```
```

Example 1:

```
```sql
SELECT product_name, price
FROM products
WHERE category = 'Electronics';
```
```

Example 2:

```
```sql
SELECT employee_name, salary
FROM employees
WHERE department = 'IT';
```
```

### 4. **\*\*ORDER BY Clause:\*\***

- The `ORDER BY` clause is used to sort the result set in ascending or descending order.

```
```sql
SELECT column1, column2
FROM table_name
ORDER BY column1 [ASC|DESC];
```
```

Example 1:

```
```sql
SELECT product_name, price
FROM products
ORDER BY price DESC;
```
```

Example 2:

```
```sql
SELECT employee_name, hire_date
FROM employees
ORDER BY hire_date ASC;
```
```

Certainly! Let's continue with more detailed examples for each component:

5. **\*\*SELECT Statement (Aggregate Functions):\*\***

- The `SELECT` statement can also use aggregate functions like `SUM`, `AVG`, `COUNT`, etc.

```
```sql
SELECT AVG(column1) AS average_value, COUNT(column2) AS count_value
FROM table_name
WHERE condition;
```
```

Example 1:

```
```sql
SELECT AVG(price) AS average_price, COUNT(product_id) AS product_count
FROM products
WHERE category = 'Electronics';
```
```

Example 2:

```
```sql
SELECT MAX(salary) AS max_salary, MIN(salary) AS min_salary
FROM employees
WHERE department = 'HR';
```
```

6. **\*\*FROM Clause (Multiple Tables - JOIN):\*\***

- The `FROM` clause can involve multiple tables using the `JOIN` operation.

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

Example 1:

```
```sql
SELECT orders.order_id, customers.customer_name
FROM orders
JOIN customers ON orders.customer_id = customers.customer_id;
```
```

Example 2:

```
```sql
SELECT employees.employee_name, departments.department_name
FROM employees
JOIN departments ON employees.department_id = departments.department_id;
```
```

#### 7. \*\*WHERE Clause (Logical Operators):\*\*

- The `WHERE` clause can use logical operators like `AND`, `OR`, and `NOT` for more complex conditions.

```
```sql
SELECT column1, column2
FROM table_name
WHERE condition1 AND condition2;
```
```

Example 1:

```
```sql
SELECT product_name, price
FROM products
WHERE category = 'Electronics' AND price > 500;
```
```

Example 2:

```
```sql
SELECT employee_name, salary
FROM employees
WHERE department = 'IT' OR department = 'Engineering';
```
```

#### 8. \*\*ORDER BY Clause (Multiple Columns):\*\*

- The `ORDER BY` clause can sort the result set based on multiple columns.

```
```sql
SELECT column1, column2
FROM table_name
ORDER BY column1, column2 [ASC|DESC];
```
```

Example 1:

```
```sql
SELECT customer_name, order_date, total_amount
FROM orders
ORDER BY order_date DESC, total_amount DESC;
```
```

Example 2:

```
```sql
SELECT product_name, price, stock_quantity
FROM products
ORDER BY stock_quantity ASC, price DESC;
```
```