

LIKE AND WILDCARDS

In SQL, the `LIKE` operator is used to search for a specified pattern in a column. Wildcards are characters that represent one or more other characters. Here are commonly used wildcards and their explanations:

1. % (Percent Sign):

- The percent sign represents zero, one, or multiple characters.
- Example: `LIKE 'app%'` matches all values that start with "app," like "apple," "application," etc.

2. _ (Underscore):

- The underscore represents a single character.
- Example: `LIKE '_pple'` matches values like "apple" but not "application."

3. [] (Square Brackets):

- Square brackets are used to specify a set of characters for a single character position.
- Example: `LIKE '[A-C]pple'` matches "Apple," "Bpple," or "Cpple," but not "Dpple."

4. ^ (Caret inside Square Brackets):

- When the caret (^) is placed at the beginning of the square brackets, it negates the character set, matching characters not in the set.
- Example: `LIKE '[^0-9]%'` matches values that don't start with a digit.`

5. Combining Wildcards:

- You can combine wildcards to create more complex patterns. For example, `LIKE 'a%p_e'` matches values like "apple" or "application" with any character between "p" and "e."

The `LIKE` operator, along with these wildcards, is commonly used in SQL queries for pattern matching and filtering rows based on textual patterns in column data.

Here are some example SQL queries using the `LIKE` operator and wildcards:

- Find all customers whose names start with "J":

```
SELECT * FROM customers WHERE customer_name LIKE 'J%';
```

- Find all products with "Red" or "Blue" in their name:

```
SELECT * FROM products WHERE product_name LIKE '%Red%' OR product_name LIKE '%Blue%';
```

- Find all email addresses that belong to a Gmail domain:

```
SELECT * FROM users WHERE email LIKE '%@gmail.com';
```

1. Find Names Ending with "son":

- Retrieve all customers whose last names end with "son."

```
SELECT * FROM customers WHERE last_name LIKE '%son';
```

2. Find Email Addresses with ".org" Domain:

- Retrieve all users with email addresses that belong to a ".org" domain

```
SELECT * FROM users WHERE email LIKE '%.org';
```

3. Find Product Names Starting with "Super":

- Retrieve all products whose names start with "Super."

```
SELECT * FROM products WHERE product_name LIKE 'Super%';
```

4. Find Words Containing "book":

- Retrieve all books from a library catalog that have the word "book" anywhere in their title.

```
SELECT * FROM library_catalog WHERE title LIKE '%book%';
```

5. Find Phone Numbers with a Specific Area Code:

- Retrieve all contacts with phone numbers that have a specific area code, such as "555."

```
SELECT * FROM contacts WHERE phone_number LIKE '%(555)%';
```

6. Find Usernames with Specific Character Sets:

- Retrieve all usernames that contain only letters and numbers (no special characters).

```
SELECT * FROM users WHERE username NOT LIKE '%[^a-zA-Z0-9]%';
```

7. Find ZIP Codes in a Specific Range:

- Retrieve all addresses with ZIP codes within a specified range, such as "90000" to "90999."

```
SELECT * FROM addresses WHERE zip_code BETWEEN '90000' AND '90999';
```

These SQL queries demonstrate different uses of the `LIKE` operator and wildcards to perform pattern matching in various scenarios, from finding specific word patterns in text to filtering data based on certain criteria.