

LIKE Wildcards

by Sophia Tutorial



WHAT'S COVERED

This tutorial explores using the LIKE operator with more complex options through wildcards in two parts:

1. Combining Wildcards
2. Complex Comparisons

1. Combining Wildcards

We can add more complexity to the LIKE operator with very specific criteria. For example, if we explore the data in the customer table, you may see a variety of phone numbers in different formats. If we want to find the phone numbers that have the format +1 (###) ###-####, we can use the underscore wildcard (_) to represent each digit:

```
SELECT *  
FROM customer  
WHERE phone like '+1 (____) ____-____';
```

Query Results									
Row count: 21									
customer_id	first_name	last_name	company	address	city	state	country	postal_code	phone
3	François	Tremblay		1498 rue Bélanger	Montréal	QC	Canada	H2G 1A7	+1 (514) 721-4711
14	Mark	Philips	Telus	8210 111 ST NW	Edmonton	AB	Canada	T6G 2C7	+1 (780) 434-4554
15	Jennifer	Peterson	Rogers Canada	700 W Pender Street	Vancouver	BC	Canada	V6C 1G8	+1 (604) 688-2255
16	Frank	Harris	Google Inc.	1600 Amphitheatre Parkway	Mountain View	CA	USA	94043-1351	+1 (650) 253-0000
17	Jack	Smith	Microsoft Corporation	1 Microsoft Way	Redmond	WA	USA	98052-8300	+1 (425) 882-8080
18	Michelle	Brooks		627 Broadway	New York	NY	USA	10012-2612	+1 (212) 221-3546
19	Tim	Goyer	Apple Inc.	1 Infinite Loop	Cupertino	CA	USA	95014	+1 (408) 996-1010
20	Dan	Miller		541 Del Medio Avenue	Mountain View	CA	USA	94040-111	+1 (650) 644-3358
21	Kathy	Chase		801 W 4th Street	Reno	NV	USA	89503	+1 (775) 223-7665
22	Heather	Leacock		120 S Orange Ave	Orlando	FL	USA	32801	+1 (407) 999-7788
23	John	Gordon		69 Salem Street	Boston	MA	USA	2113	+1 (617) 522-1333
24	Frank	Ralston		162 E Superior Street	Chicago	IL	USA	60611	+1 (312) 332-3232
25	Victor	Stevens		319 N. Frances Street	Madison	WI	USA	53703	+1 (608) 257-0597
26	Richard	Cunningham		2211 W Berry Street	Fort Worth	TX	USA	76110	+1 (817) 924-7272
27	Patrick	Gray		1033 N Park Ave	Tucson	AZ	USA	85719	+1 (520) 622-4200
28	Julia	Barnett		302 S 700 E	Salt Lake City	UT	USA	84102	+1 (801) 531-7272
29	Robert	Brown		796 Dundas Street West	Toronto	ON	Canada	M6J 1V1	+1 (416) 363-8888
30	Edward	Francis		230 Elgin Street	Ottawa	ON	Canada	K2P 1L7	+1 (613) 234-3322
31	Martha	Silk		194A Chain Lake Drive	Halifax	NS	Canada	B3S 1C5	+1 (902) 450-0450
32	Aaron	Mitchell		696 Osborne Street	Winnipeg	MB	Canada	R3L 2B9	+1 (204) 452-6452
33	Ellie	Sullivan		5112 48 Street	Yellowknife	NT	Canada	X1A 1N6	+1 (867) 920-2233

We could also use this to find email addresses that have a domain name extension with exactly two characters:

```
SELECT *
FROM customer
WHERE email like '%.____';
```

This would look for any number of characters, followed by the dot and ending with two characters. We can use the wildcards to find values of a certain length with a specific format. For example, if we wanted to find the customers with the last name starting with the letter S and having four characters, we can do the following:

```
SELECT *
FROM customer
WHERE last_name like 'S_____';
```

Query Results							
Row count: 1							
customer_id	first_name	last_name	company	address	city	state	country
31	Martha	Silk		194A Chain Lake Drive	Halifax	NS	Canada

If we were to expand this to find the customers starting with the letter S and having at least four characters, we can add the % to the end of the clause:

```
SELECT *
FROM customer
WHERE last_name like 'S_____';
```

Query Results							
Row count: 1							
customer_id	first_name	last_name	company	address	city	state	country
31	Martha	Silk		194A Chain Lake Drive	Halifax	NS	Canada

We can combine some of these with additional checks. For example, if we wanted to find customers with the last name of nine characters starting with the letter S and ending with the letter r, we would use the following:

```
SELECT *
FROM customer
WHERE last_name like 'S_____r';
```

Notice that we have seven underscore characters in this case as S and r would count as one character each. The % could be listed in any position in the clause in this case.

2. Complex Comparisons

You can also combine both types of wildcards together to find specific content. For example, we may want to split up a marketing campaign to get all of the email addresses that start with the letter m and have a domain starting with the letter a. One might think you could use the following query:

```
SELECT *
FROM customer
WHERE email like 'm%a%';
```

However, this would return the following result that simply looks for the letter m, then 0 or more characters later, it looks for the letter a, and then can end with 0 or more characters.

Query Results											
Row count: 7											
customer_id	first_name	last_name	company	address	city	state	country	postal_code	phone	fax	email
14	Mark	Philips	Telus	8210 111 ST NW	Edmonton	AB	Canada	T6G 2C7	+1 (780) 434-4554	+1 (780) 434-5565	mphilips12@shaw.ca
18	Michelle	Brooks		627 Broadway	New York	NY	USA	10012-2612	+1 (212) 221-3546	+1 (212) 221-4679	michelleb@aol.com
31	Martha	Silk		194A Chain Lake Drive	Halifax	NS	Canada	B3S 1C5	+1 (902) 450-0450		marthasilk@gmail.com
35	Madalena	Sampaio		Rua dos Campeões Europeus de Viena, 4350	Porto		Portugal		+351 (225) 022-448		masampaio@sapo.pt
41	Marc	Dubois		11, Place Bellecour	Lyon		France	69002	+33 04 78 30 30 30		marc.dubois@hotmail.com
55	Mark	Taylor		421 Bourke Street	Sidney	NSW	Australia	2010	+61 (02) 9332 3633		mark.taylor@yahoo.au
58	Manoj	Pareek		12,Community Centre	Delhi		India	110017	+91 0174 39883988		manoj.pareek@rediff.com

This would return values that begin with the letter m, and then include the letter a at any other point.

With an email, you probably want to have specific character checks with the @ and the . which will change the search criteria. We must include these characters as part of the comparison in a specific order as defined by our problem.

```
SELECT *
FROM customer
WHERE email like 'm%a%.%';
```

In the parameter, we are looking for the letter m, then any number of characters before the @ sign followed by the letter a. Then any number of characters before the dot (.) followed by any number of characters.

Query Results											
Row count: 1											
customer_id	first_name	last_name	company	address	city	state	country	postal_code	phone	fax	email
18	Michelle	Brooks		627 Broadway	New York	NY	USA	10012-2612	+1 (212) 221-3546	+1 (212) 221-4679	michelleb@soi.com



TRY IT

Your turn! Open the SQL tool by clicking on the LAUNCH DATABASE button below. Then enter in one of the examples above and see how it works. Next, try your own choices for which columns you want the query to provide.

SUMMARY

The LIKE clause allows more complex filtering options of data with wildcards.