

Experiment 5

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Aim:

Study of Operation in SQL

Theory:

Operator Category	Operator	Syntax	Description
Arithmetic	+		– Increase the stock_available value by 100 for each book Select stock_available+100 from books; Update books set stock_available=stock_avaialble+100;
	-		– Decrease the stock_available value by 100 for each book Select stock_available+100 from books; Update books set stock_available=stock_avaialble+100;
	*		–Multiply the value of stoc_available
	/		–Half the value of stock_available Select stock_avaialble /2 from books
Logical	and	Select * from column1,column2 From table_name Where condition1 and condition2 and condition3	Select * from books where (author_name="Henry Korth" and SBC=200); ->1 row If condition false then it returns empty set
	or	Select * from column1,column2 From table_name where (condition1 or condition2 or condition3);	– Get the details of books written by henry korth or C.J. Date Select * from books where (author_name="Henry Korth" or

			author_name="C.J. Date"); ->1 row
	not	Select * from column1,column2 From table_name where not(condition1 or condition2 or condition3);	Select * from books where not (author_name="Henry Korth" and SBC=200);
Relational	=		Select * from books where bib_ref_no='DBMS1001';
	!= or <>		Select * from books where bib_ref_no!='DBMS1001';
	<, >, <=, >=		Select * from books where rating>3;
Miscellaneous	ANY	If any returns true if any of the value of the inner inner query returns atleast one tuple. ALL return true if the subquery returns atleast a single tuple	Find any record in the orders table with quantity =9. Display Deatils Select p_name from products where p_id=ANY(select PID from orders where quantity=9); Find the distinct categoryID of the products which has any record in the orders table select distinct category_id from products where p_id = any (select PID from orders); select p_name from products where p_id = any (select PID from orders where Quantity>1000); ->empty set Since ANY evaluates to false(empty set)
Logical Operators	All	select column_name from table_name where column_name = all (sub-query); ALL return true if the subquery returns only a single value	select p_name from products where p_id = ALL (select PID from orders where Quantity>1000); select p_name from products where p_id = ALL (select PID from orders where Quantity=15 or Quantity=5); select p_name from products where p_id = ALL (select PID from orders where Quantity=12 or Quantity=8); There are multiple PIDs with quantity

			=8 hence all return false
	some	<p>SOME operator evaluates the condition between the outer and inner tables and evaluates to true if the final result returns any records in the Orders table. Else false.</p> <p>The SOME and ANY comparison conditions are similar to each other and are completely interchangeable.</p> <p>SELECT column_name FROM table_name WHERE expression = SOME (SELECT column_name FROM table_name WHERE expression);</p>	<p>SELECT * FROM Orders WHERE p.id = SOME (SELECT p.id FROM Products WHERE p.id = ANY (SELECT p.id FROM Products WHERE p.id = 9));</p> <p>Select distinct PID from orders where quantity > some(select quantity from orders);</p>
	BETWEEN NOT BETWEEN	<p>Inclusive range</p> <p>The between operator selects values within a range can be number or dates</p>	<p>Select * from products where price between 10 AND 20</p> <p>Select * from products where price not between 10 AND 20</p>
	IN AND NOT IN	<p>The IN operator allows u to specufy multiple values in a WHERE clause</p> <p>It is like multiple OR conditions</p> <p>SELECT column_name FROM table_name WHERE column_name IN(value1, vlaue2...);</p>	<p>SELECT * FROM products WHERE Price IN(10,20);</p> <p>SELECT * FROM products WHERE Price NOT IN(10,20);</p> <p>SELECT * FROM products WHERE p_name NOT IN('chaas','syrup');</p>
	IS NULL IS NOT	<p>The IS NULL operrator is used ti test for empty values (NULL values)</p>	<p>Select * from products where p_name IS NULL; ->empt set</p>

	NULL	Select * from column_name from table_name where column_name IS NULL	Select * from products where p_name IS NOT NULL; ->all retrieved
	EXISTS	The exists operator is used to check for the existence of any record in a subq The EXISTS subq returns True if the subseq returns one or more records	Select p_id from products where exists (select * from orders where pid=1);
	LIKE	Used for pattern matching Uses 2 valid operators % and _ _ -> any one character % -> any string of any length select column_name from table_name where column_name like "	select * from orders where orderID Like '%247%'; select * from orders where orderID Like '10%'; select * from orders where orderID Like '10%'; select * from orders where orderID Like '%50'; select * from orders where orderID Like '_0%'; select * from orders where orderID Like '1_%%'; select * from orders where orderID Like '1__4%%'; select * from orders where orderID Like '1_\%%'; \% -> character version of %
	NOT LIKE		

Code/Output:

```
(base) extint@extint-Inspiron-15-3511:~$ sudo mysql
[sudo] password for extint:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 31
Server version: 10.6.16-MariaDB-0ubuntu0.22.04.1 Ubuntu 22.04
```

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
MariaDB [(none)]> create database db5
```

```
-> ;
```

```
Query OK, 1 row affected (0.065 sec)
```

```
MariaDB [(none)]> use db5
```

```
Database changed
```

```
MariaDB [db5]> Create table books(title char(150),ISBN int, author_name char(150),bib_ref_no
varchar(150), rating float,SPC int, stock_available int, SBC int);
```

```
Query OK, 0 rows affected (0.261 sec)
```

```
MariaDB [db5]>
```

```
MariaDB [db5]> insert into books values("Database System Concepts",1260,"Henry
Korth","DBMS1001",4.4,500,10000,200);
```

```
Query OK, 1 row affected (0.061 sec)
```

```
MariaDB [db5]> insert into books values("Database System Design",1337,"Carlos
Coronel","DBMS2001",3.8,600,10500,100);
```

```
Query OK, 1 row affected (0.039 sec)
```

```
MariaDB [db5]> insert into books values("DBMS",0072,"Johannes
Gherke","DBMS3001",4.0,200,9000,250);
```

```
Query OK, 1 row affected (0.135 sec)
```

```
MariaDB [db5]> insert into books values("An Intro to DBMS system",0201,"C.J.
Date","DBMS3005",4.5,350,8500,350);
```

```
Query OK, 1 row affected (0.072 sec)
```

```
MariaDB [db5]> select stock_available + 100 from books;
```

```
+-----+
```

```
| stock_available + 100 |
```

```
+-----+
```

```
|          10100 |
|          10600 |
|           9100 |
|           8600 |
+-----+
```

4 rows in set (0.001 sec)

MariaDB [db5]> update books set stock_available=stock_avaialable+100;

ERROR 1054 (42S22): Unknown column 'stock_avaialable' in 'field list'

MariaDB [db5]> update books set stock_available=stock_available+100;

Query OK, 4 rows affected (0.085 sec)

Rows matched: 4 Changed: 4 Warnings: 0

MariaDB [db5]> select* from books

-> ;

```
+-----+-----+-----+-----+-----+-----+-----+
| title          | ISBN | author_name  | bib_ref_no | rating | SPC | stock_available | SBC |
+-----+-----+-----+-----+-----+-----+-----+
| Database System Concepts | 1260 | Henry Korth  | DBMS1001  | 4.4 | 500 | 10100 | 200 |
| Database System Design   | 1337 | Carlos Coronel | DBMS2001  | 3.8 | 600 | 10600 | 100 |
| DBMS                    | 72  | Johannes Gherke | DBMS3001  | 4   | 200 | 9100  | 250 |
| An Intro to DBMS system  | 201 | C.J. Date     | DBMS3005  | 4.5 | 350 | 8600  | 350 |
+-----+-----+-----+-----+-----+-----+-----+
```

4 rows in set (0.000 sec)

MariaDB [db5]> update books set stock_available=stock_available-50;

Query OK, 4 rows affected (0.443 sec)

Rows matched: 4 Changed: 4 Warnings: 0

MariaDB [db5]> select* from books

-> ;

```
+-----+-----+-----+-----+-----+-----+-----+
| title          | ISBN | author_name  | bib_ref_no | rating | SPC | stock_available | SBC |
+-----+-----+-----+-----+-----+-----+-----+
| Database System Concepts | 1260 | Henry Korth  | DBMS1001  | 4.4 | 500 | 10050 | 200 |
| Database System Design   | 1337 | Carlos Coronel | DBMS2001  | 3.8 | 600 | 10550 | 100 |
| DBMS                    | 72  | Johannes Gherke | DBMS3001  | 4   | 200 | 9050  | 250 |
| An Intro to DBMS system  | 201 | C.J. Date     | DBMS3005  | 4.5 | 350 | 8550  | 350 |
+-----+-----+-----+-----+-----+-----+-----+
```

```
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.001 sec)
```

MariaDB [db5]> select stock_available/2 from books;

```
+-----+
| stock_available/2 |
+-----+
|      5025.0000 |
|      5275.0000 |
|      4525.0000 |
|      4275.0000 |
+-----+
```

4 rows in set (0.001 sec)

MariaDB [db5]> update books set stock_available=stock_available/2;

Query OK, 4 rows affected (0.273 sec)

Rows matched: 4 Changed: 4 Warnings: 0

MariaDB [db5]> select* from books;

```
+-----+-----+-----+-----+-----+-----+-----+
| title          | ISBN | author_name | bib_ref_no | rating | SPC | stock_available | SBC |
+-----+-----+-----+-----+-----+-----+-----+
| Database System Concepts | 1260 | Henry Korth | DBMS1001 | 4.4 | 500 | 5025 | 200 |
| Database System Design | 1337 | Carlos Coronel | DBMS2001 | 3.8 | 600 | 5275 | 100 |
| DBMS          | 72 | Johannes Gherke | DBMS3001 | 4 | 200 | 4525 | 250 |
| An Intro to DBMS system | 201 | C.J. Date | DBMS3005 | 4.5 | 350 | 4275 | 350 |
+-----+-----+-----+-----+-----+-----+-----+
```

4 rows in set (0.001 sec)

MariaDB [db5]> Select * from books where (author_name="Henry Korth" and SBC=200);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'Korth" and SBC=200)' at line 1

MariaDB [db5]> select * from books where (author_name="Henry Korth" and SBC=200);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'Korth" and SBC=200)' at line 1

MariaDB [db5]> select * from books where (author_name='Henry Korth' and SBC=200);

```
+-----+-----+-----+-----+-----+-----+-----+
| title          | ISBN | author_name | bib_ref_no | rating | SPC | stock_available | SBC |
+-----+-----+-----+-----+-----+-----+-----+
```

| Database System Concepts | 1260 | Henry Korth | DBMS1001 | 4.4 | 500 | 5025 | 200 |

+-----+-----+-----+-----+-----+-----+-----+-----+

1 row in set (0.001 sec)

MariaDB [db5]> select * from books where (author_name='Henry' and SBC=200);
Empty set (0.001 sec)

MariaDB [db5]> Select * from books where (author_name="Henry Korth" or author_name="C.J. Date");

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'Korth" or author_name="C.J. Date")' at line 1

MariaDB [db5]> ->1 row

-> ;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near '->1 row' at line 1

MariaDB [db5]> Select * from books where (author_name="Henry Korth" or author_name="C.J. Date");

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'Korth" or author_name="C.J. Date")' at line 1

MariaDB [db5]> Select * from books where (author_name='Henry Korth' or author_name='C.J. Date');

+-----+-----+-----+-----+-----+-----+-----+-----+

| title | ISBN | author_name | bib_ref_no | rating | SPC | stock_available | SBC |

+-----+-----+-----+-----+-----+-----+-----+-----+

| Database System Concepts | 1260 | Henry Korth | DBMS1001 | 4.4 | 500 | 5025 | 200 |

| An Intro to DBMS system | 201 | C.J. Date | DBMS3005 | 4.5 | 350 | 4275 | 350 |

+-----+-----+-----+-----+-----+-----+-----+-----+

2 rows in set (0.001 sec)

MariaDB [db5]> Select * from books where

-> not (author_name="Henry Korth" and SBC=200);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'Korth" and SBC=200)' at line 2

MariaDB [db5]> Select * from books where not (author_name='Henry Korth' and SBC=200);

+-----+-----+-----+-----+-----+-----+-----+-----+

| title | ISBN | author_name | bib_ref_no | rating | SPC | stock_available | SBC |

+-----+-----+-----+-----+-----+-----+-----+-----+

| Database System Design | 1337 | Carlos Coronel | DBMS2001 | 3.8 | 600 | 5275 | 100 |

100 |

title	ISBN	author_name	bib_ref_no	rating	SPC	stock_available	SBC
DBMS	72	Johannes Gherke	DBMS3001	4	200	4525	250
An Intro to DBMS system	201	C.J. Date	DBMS3005	4.5	350	4275	350

3 rows in set (0.001 sec)

```
MariaDB [db5]> Select * from books where bib_ref_no='DBMS1001';
ERROR 1054 (42S22): Unknown column "DBMS1001" in 'where clause'
MariaDB [db5]> Select * from books where bib_ref_no='DBMS2001';
ERROR 1054 (42S22): Unknown column "DBMS2001" in 'where clause'
MariaDB [db5]> Select * from books where bib_ref_no=DBMS2001;
ERROR 1054 (42S22): Unknown column 'DBMS2001' in 'where clause'
MariaDB [db5]> Select * from books where bib_ref_no='DBMS2001';
```

title	ISBN	author_name	bib_ref_no	rating	SPC	stock_available	SBC
Database System Design	1337	Carlos Coronel	DBMS2001	3.8	600	5275	100

1 row in set (0.001 sec)

```
MariaDB [db5]> Select * from books where bib_ref_no!='DBMS1001';
ERROR 1054 (42S22): Unknown column "DBMS1001" in 'where clause'
MariaDB [db5]> Select * from books where bib_ref_no!= 'DBMS1001';
```

title	ISBN	author_name	bib_ref_no	rating	SPC	stock_available	SBC
Database System Design	1337	Carlos Coronel	DBMS2001	3.8	600	5275	100
DBMS	72	Johannes Gherke	DBMS3001	4	200	4525	250
An Intro to DBMS system	201	C.J. Date	DBMS3005	4.5	350	4275	350

3 rows in set (0.001 sec)

```
MariaDB [db5]> Select * from books where rating>3;
```

title	ISBN	author_name	bib_ref_no	rating	SPC	stock_available	SBC
Database System Concepts	1260	Henry Korth	DBMS1001	4.4	500	5025	200
Database System Design	1337	Carlos Coronel	DBMS2001	3.8	600	5275	100
DBMS	72	Johannes Gherke	DBMS3001	4	200	4525	250

| An Intro to DBMS system | 201 | C.J. Date | DBMS3005 | 4.5 | 350 | 4275 | 350 |

+-----+-----+-----+-----+-----+-----+-----+-----+

4 rows in set (0.001 sec)

MariaDB [db5]> create table products(p_id int, p_name char(30), Supplier_id int, category_id int, price int);

Query OK, 0 rows affected (0.172 sec)

MariaDB [db5]> insert into products values

(1,"Chas",1,1,18),(2,"Chai",1,1,19),(3,"Syrup",1,2,10),(4,"Seasoning",2,2,22),(5,"Gumbo Mix",2,2,21),(6,"Berry Spread",3,2,25),(7,"Dried Pears",3,7,30),(8,"Sauce",3,2,40),(9,"Kobe Niku",4,6,97);

Query OK, 9 rows affected (0.031 sec)

Records: 9 Duplicates: 0 Warnings: 0

MariaDB [db5]>

MariaDB [db5]> create table orders (orderdetailsID int, orderID int, PID int, quantity int);

Query OK, 0 rows affected (0.194 sec)

MariaDB [db5]> insert into orders values (1,10248,1,12),

-> (2,10248,2,1),

-> (3,10248,3,15),

-> (4,10249,1,8),

-> (5,10249,4,4),

-> (6,10249,5,6),

-> (7,10250,3,5),

-> (8,10250,4,18),

-> (9,10251,5,2),

-> (10,10251,6,8),

-> (11,10252,7,9),

-> (12,10252,8,9),

-> (13,10250,9,20),

-> (14,10249,9,4);

Query OK, 14 rows affected (0.015 sec)

Records: 14 Duplicates: 0 Warnings: 0

MariaDB [db5]> select * from products

-> ;

+-----+-----+-----+-----+-----+

| p_id | p_name | Supplier_id | category_id | price |

+-----+-----+-----+-----+-----+

| 1 | Chas | 1 | 1 | 18 |

| 2 | Chai | 1 | 1 | 19 |

3	Syrup	1	2	10
4	Seasoning	2	2	22
5	Gumbo Mix	2	2	21
6	Berry Spread	3	2	25
7	Dried Pears	3	7	30
8	Sauce	3	2	40
9	Kobe Niku	4	6	97

9 rows in set (0.000 sec)

MariaDB [db5]> Select p_name from products where p_id=ANY(select PID from orders where quantity=9);

p_name
Dried Pears
Sauce

2 rows in set (0.030 sec)

MariaDB [db5]> select distinct from category_id from products where any (select)
-> ;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'from category_id from products where any (select)' at line 1

MariaDB [db5]> select distinct from category_id from products where p_id = any (select PID from orders);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'from category_id from products where p_id = any (select PID from orders)' at line 1

MariaDB [db5]> select distinct from category_id from products where p_id = any (select PID from orders);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'from category_id from products where p_id = any (select PID from orders)' at line 1

MariaDB [db5]> select distinct category_id from products where p_id = any (select PID from orders);

category_id
1
2
7
6

+-----+

4 rows in set (0.001 sec)

MariaDB [db5]> select p_name from products where p_id = any (select PID from orders where Quantity>1000);

Empty set (0.001 sec)

MariaDB [db5]> select p_name from products where p_id = ALL (select PID from orders where Quantity>1000);

+-----+

| p_name |

+-----+

| Chas |

| Chai |

| Syrup |

| Seasoning |

| Gumbo Mix |

| Berry Spread |

| Dried Pears |

| Sauce |

| Kobe Niku |

+-----+

9 rows in set (0.001 sec)

MariaDB [db5]> select * from orders order by PID asc

-> ;

+-----+-----+-----+-----+

| orderdetailsID | orderID | PID | quantity |

+-----+-----+-----+-----+

| 1 | 10248 | 1 | 12 |

| 4 | 10249 | 1 | 8 |

| 2 | 10248 | 2 | 1 |

| 3 | 10248 | 3 | 15 |

| 7 | 10250 | 3 | 5 |

| 8 | 10250 | 4 | 18 |

| 5 | 10249 | 4 | 4 |

| 6 | 10249 | 5 | 6 |

| 9 | 10251 | 5 | 2 |

| 10 | 10251 | 6 | 8 |

| 11 | 10252 | 7 | 9 |

| 12 | 10252 | 8 | 9 |

| 13 | 10250 | 9 | 20 |

| 14 | 10249 | 9 | 4 |

+-----+-----+-----+-----+

14 rows in set (0.001 sec)

MariaDB [db5]> select p_name from products where p_id = ALL (select PID from orders where Quantity=6 or Quantity=2);

```
+-----+
| p_name |
+-----+
| Gumbo Mix |
+-----+
```

1 row in set (0.001 sec)

MariaDB [db5]> select p_name from products where p_id = ALL (select PID from orders where Quantity=15 or Quantity=5);

```
+-----+
| p_name |
+-----+
| Syrup |
+-----+
```

1 row in set (0.001 sec)

MariaDB [db5]> select p_name from products where p_id = ALL (select PID from orders where Quantity=12 or Quantity=8);
Empty set (0.001 sec)

MariaDB [db5]> Select distinct PID from orders where quantity > some(select quantity from orders);

```
+-----+
| PID |
+-----+
| 1 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
+-----+
```

8 rows in set (0.001 sec)

MariaDB [db5]> Select distinct PID from orders where quantity > some(select quantity from orders) order by PID asc;

```
+-----+
| PID |
```

```

+-----+
| 1 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
+-----+

```

8 rows in set (0.001 sec)

```

MariaDB [db5]> SELECT *
-> FROM products
-> WHERE Price IN(10,20);

```

```

+-----+-----+-----+-----+-----+
| p_id | p_name | Supplier_id | category_id | price |
+-----+-----+-----+-----+-----+
| 3 | Syrup | 1 | 2 | 10 |
+-----+-----+-----+-----+-----+

```

1 row in set (0.001 sec)

```

MariaDB [db5]>
MariaDB [db5]>
MariaDB [db5]>
MariaDB [db5]> SELECT *
-> FROM products
-> WHERE Price NOT IN(10,20);

```

```

+-----+-----+-----+-----+-----+
| p_id | p_name | Supplier_id | category_id | price |
+-----+-----+-----+-----+-----+
| 1 | Chas | 1 | 1 | 18 |
| 2 | Chai | 1 | 1 | 19 |
| 4 | Seasoning | 2 | 2 | 22 |
| 5 | Gumbo Mix | 2 | 2 | 21 |
| 6 | Berry Spread | 3 | 2 | 25 |
| 7 | Dried Pears | 3 | 7 | 30 |
| 8 | Sauce | 3 | 2 | 40 |
| 9 | Kobe Niku | 4 | 6 | 97 |
+-----+-----+-----+-----+-----+

```

8 rows in set (0.001 sec)

```

MariaDB [db5]> SELECT *
-> FROM products

```

-> WHERE p_name NOT IN('chaas','syrup');

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'syrup')' at line 3

MariaDB [db5]> SELECT * FROM products WHERE p_name NOT IN('chaas','syrup');

p_id	p_name	Supplier_id	category_id	price
1	Chas	1	1	18
2	Chai	1	1	19
4	Seasoning	2	2	22
5	Gumbo Mix	2	2	21
6	Berry Spread	3	2	25
7	Dried Pears	3	7	30
8	Sauce	3	2	40
9	Kobe Niku	4	6	97

8 rows in set (0.001 sec)

MariaDB [db5]> SELECT * FROM products WHERE p_name IN('chaas','syrup');

p_id	p_name	Supplier_id	category_id	price
3	Syrup	1	2	10

1 row in set (0.001 sec)

MariaDB [db5]> SELECT * FROM products WHERE p_name IN('chas','syrup');

p_id	p_name	Supplier_id	category_id	price
1	Chas	1	1	18
3	Syrup	1	2	10

2 rows in set (0.001 sec)

MariaDB [db5]> Select * from products where p_name IS NULL;

Empty set (0.000 sec)

MariaDB [db5]> Select * from products where p_name IS NOT NULL;

p_id	p_name	Supplier_id	category_id	price
1	Chas	1	1	18
2	Chai	1	1	19

3	Syrup	1	2	10
4	Seasoning	2	2	22
5	Gumbo Mix	2	2	21
6	Berry Spread	3	2	25
7	Dried Pears	3	7	30
8	Sauce	3	2	40
9	Kobe Niku	4	6	97

9 rows in set (0.001 sec)

```
MariaDB [db5]> Select p_id from products where exists (select * from orders where pid=1);
```

p_id
1
2
3
4
5
6
7
8
9

9 rows in set (0.000 sec)

```
MariaDB [db5]> Select p_id from products where exists (select pid from orders where
products.p_id=orders.PID and orders.quantity =1);
```

p_id
2

1 row in set (0.001 sec)

```
MariaDB [db5]> delete from orders where exists (select * from products where
products.p_id=orders.pid and products.p_name='chas');
Query OK, 2 rows affected (0.017 sec)
```

```
MariaDB [db5]> select * from orders
-> ;
```

orderdetailsID	orderID	PID	quantity
----------------	---------	-----	----------

	2		10248		2		1	
	3		10248		3		15	
	5		10249		4		4	
	6		10249		5		6	
	7		10250		3		5	
	8		10250		4		18	
	9		10251		5		2	
	10		10251		6		8	
	11		10252		7		9	
	12		10252		8		9	
	13		10250		9		20	
	14		10249		9		4	

```

+-----+-----+-----+
12 rows in set (0.000 sec)

```

```

MariaDB [db5]> select * from orders where orderID Like '%247%';
ERROR 1054 (42S22): Unknown column '' in 'where clause'
MariaDB [db5]> select * from orders where orderID Like '%247%';
Empty set (0.000 sec)

```

```

MariaDB [db5]> select * from orders where orderID Like '%248%';
+-----+-----+-----+
| orderdetailsID | orderID | PID | quantity |
+-----+-----+-----+
| 2 | 10248 | 2 | 1 |
| 3 | 10248 | 3 | 15 |
+-----+-----+-----+
2 rows in set (0.000 sec)

```

```

MariaDB [db5]> select * from orders where orderID Like '10%';
+-----+-----+-----+
| orderdetailsID | orderID | PID | quantity |
+-----+-----+-----+
| 2 | 10248 | 2 | 1 |
| 3 | 10248 | 3 | 15 |
| 5 | 10249 | 4 | 4 |
| 6 | 10249 | 5 | 6 |
| 7 | 10250 | 3 | 5 |
| 8 | 10250 | 4 | 18 |
| 9 | 10251 | 5 | 2 |
| 10 | 10251 | 6 | 8 |
| 11 | 10252 | 7 | 9 |
| 12 | 10252 | 8 | 9 |
| 13 | 10250 | 9 | 20 |

```

orderdetailsID	orderID	PID	quantity
14	10249	9	4

12 rows in set (0.000 sec)

MariaDB [db5]> select * from orders where orderID Like '1024%';

orderdetailsID	orderID	PID	quantity
2	10248	2	1
3	10248	3	15
5	10249	4	4
6	10249	5	6
14	10249	9	4

5 rows in set (0.001 sec)

MariaDB [db5]> select * from orders where orderID Like '%50';

orderdetailsID	orderID	PID	quantity
7	10250	3	5
8	10250	4	18
13	10250	9	20

3 rows in set (0.000 sec)

MariaDB [db5]> select * from orders where orderID Like '_0%';

orderdetailsID	orderID	PID	quantity
2	10248	2	1
3	10248	3	15
5	10249	4	4
6	10249	5	6
7	10250	3	5
8	10250	4	18
9	10251	5	2
10	10251	6	8
11	10252	7	9
12	10252	8	9
13	10250	9	20
14	10249	9	4

12 rows in set (0.000 sec)

MariaDB [db5]> select * from orders where orderID Like '1_%%';

orderdetailsID	orderID	PID	quantity
2	10248	2	1
3	10248	3	15
5	10249	4	4
6	10249	5	6
7	10250	3	5
8	10250	4	18
9	10251	5	2
10	10251	6	8
11	10252	7	9
12	10252	8	9
13	10250	9	20
14	10249	9	4

12 rows in set (0.001 sec)

MariaDB [db5]> select * from orders where orderID Like '1_%%';

orderdetailsID	orderID	PID	quantity
2	10248	2	1
3	10248	3	15
5	10249	4	4
6	10249	5	6
7	10250	3	5
8	10250	4	18
9	10251	5	2
10	10251	6	8
11	10252	7	9
12	10252	8	9
13	10250	9	20
14	10249	9	4

12 rows in set (0.001 sec)

MariaDB [db5]> select * from orders where orderID Like '1__4%%';

orderdetailsID	orderID	PID	quantity
2	10248	2	1

3	10248	3	15
5	10249	4	4
6	10249	5	6
14	10249	9	4

+-----+-----+-----+-----+

5 rows in set (0.000 sec)

```

extint@extint-Inspiron-15-3511: ~
| p_id | p_name | Supplier_id | category_id | price |
+-----+-----+-----+-----+
| 1 | Chas | 1 | 1 | 18 |
| 3 | Syrup | 1 | 2 | 10 |
+-----+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [db5]> Select * from products where p_name IS NULL;
Empty set (0.000 sec)

MariaDB [db5]> Select * from products where p_name IS NOT NULL;
+-----+-----+-----+-----+
| p_id | p_name | Supplier_id | category_id | price |
+-----+-----+-----+-----+
| 1 | Chas | 1 | 1 | 18 |
| 2 | Chal | 1 | 1 | 19 |
| 3 | Syrup | 1 | 2 | 10 |
| 4 | Seasoning | 2 | 2 | 22 |
| 5 | Gumbo Mix | 2 | 2 | 21 |
| 6 | Berry Spread | 3 | 2 | 25 |
| 7 | Dried Pears | 3 | 7 | 30 |
| 8 | Sauce | 3 | 2 | 40 |
| 9 | Kobe Niku | 4 | 6 | 97 |
+-----+-----+-----+-----+
9 rows in set (0.001 sec)

MariaDB [db5]> Select p_id from products where exists (select * from orders where pid=1);
+-----+
| p_id |
+-----+
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
+-----+
9 rows in set (0.000 sec)

MariaDB [db5]> Select p_id from products where exists (select pid from orders where products.p_id=orders.PID and orders.quantity =1);
+-----+
| p_id |
+-----+
| 2 |
+-----+
1 row in set (0.001 sec)

MariaDB [db5]> delete from orders where exists (select * from products where products.p_id=orders.pid and products.p_name='chas');
Query OK, 2 rows affected (0.017 sec)

MariaDB [db5]> select * from orders
-> ;
+-----+-----+-----+-----+

```


Conclusion:

In conclusion, mastering SQL offers invaluable skills in data management and analysis, enabling efficient querying, manipulation, and retrieval of data from relational databases. Whether for business intelligence, software development, or data-driven decision-making, proficiency in SQL is essential in today's data-centric world.