SQL Workshop (Dec):
Intermediate SQL – Day 1
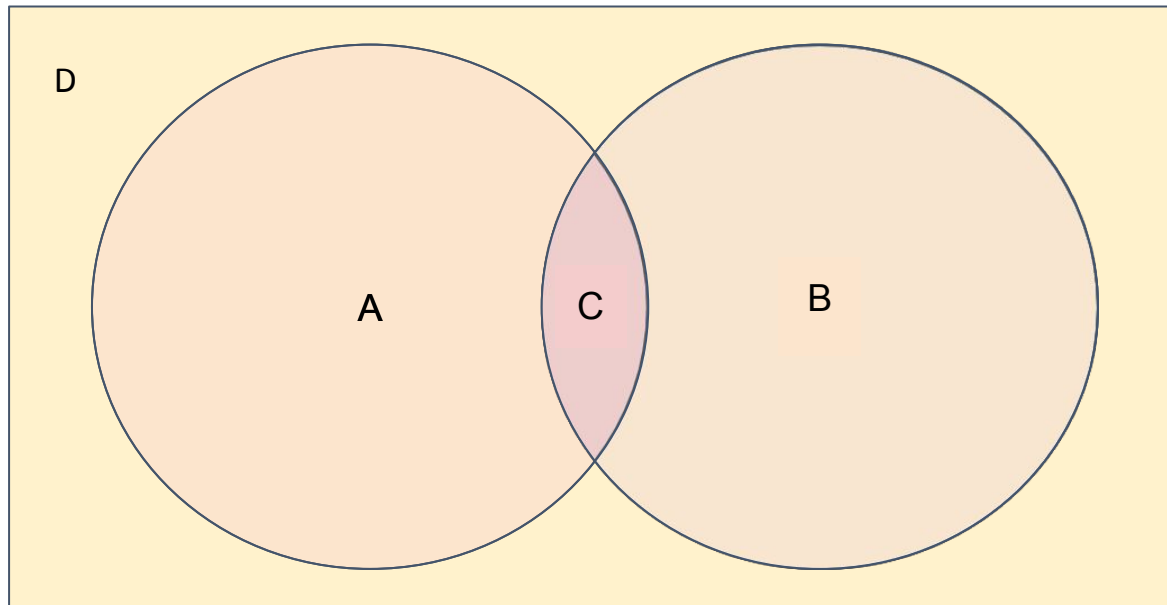
Syntax Order

SELECT [column(s)]
FROM [table]
JOIN [table]
ON [condition]
WHERE [condition(s)]
GROUP BY [column(s)]
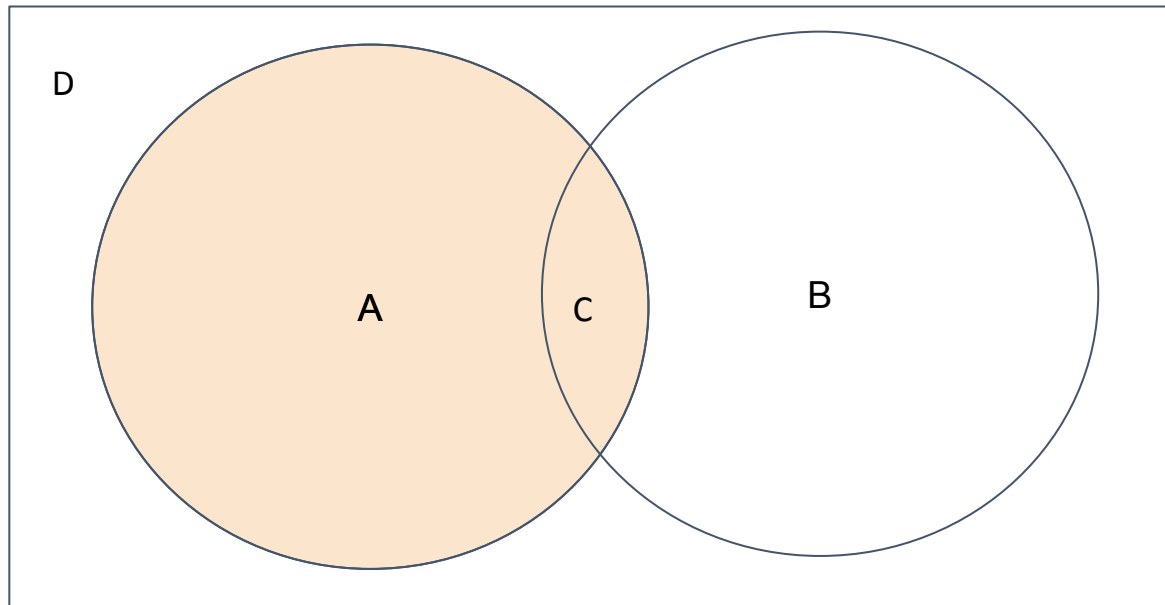ORDER BY [column(s)]
LIMIT [row(s)]

SQL JOINs

- LEFT JOIN
- RIGHT JOIN
- INNER JOIN
- OUTER JOIN

LEFT JOIN

- A + C
- Always return all values on the left table
- Match values to the right table, return *NULL* value if not matched

LEFT JOIN

Unique keys that cannot be repeated

SELECT c.customer_id, c.cust_name, o.order_date FROM customer c LEFT JOIN order o ON c.customer_id = o.customer_id

LEFT table (customer table)

Primary Key	Foreign Key	Foreign Key
customer_id	cust_name	cust_contact
1	...	...
2	...	...
3	...	...
4	...	...
5	...	...
...	...	...

RIGHT table (order table)

Primary Key	Foreign Key	Foreign Key
order_id	customer_id	order_date
1	2	...
2	2	...
3	1	...
4	4	...
5	6	...
...	...	...

Allows multiple same records

JOIN table (returned table)

customer_id	cust_name	order_date
1	...	...
2	...	...
2	...	...
3	...	NULL
4	...	...
...	...	...

Assuming this table have no customer_id = 3 and customer_id = 5

RIGHT JOIN

- B + C
- Always return all values from the right table
- Match values to the left table, return *NULL* value if not matched
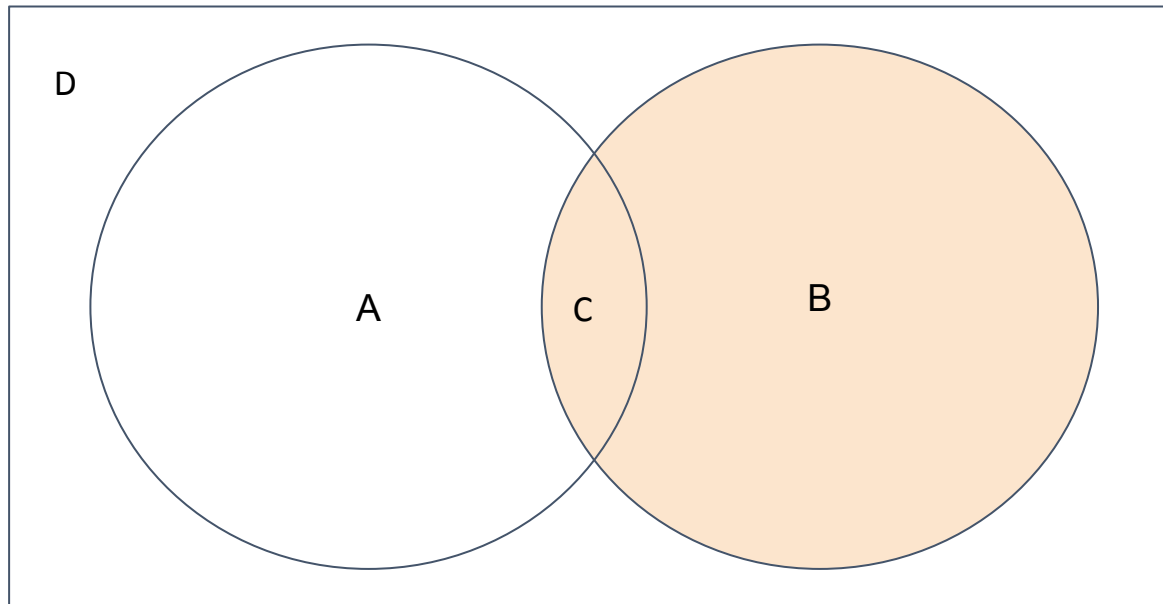
RIGHT JOIN

Unique keys that cannot be repeated

SELECT c.customer_id, c.cust_name, o.order_date FROM order o RIGHT JOIN customer c ON o.customer_id = c.customer_id

Allows multiple same records

LEFT table (order table)

Primary Key	Foreign Key	Foreign Key
order_id	customer_id	order_date
1	2	...
2	2	...
3	1	...
4	4	...
5	6	...
...	...	

RIGHT table (customer table)

Primary Key	Foreign Key	Foreign Key
customer_id	cust_name	cust_contact
1	...	...
2	...	...
3	...	...
4	...	...
5	...	...
...	...	...

JOIN table (returned table)

customer_id	cust_name	order_date
1	...	...
2	...	...
2	...	...
3	...	NULL
4	...	...
...	...	...

Assuming this table have no customer_id = 3 and customer_id = 5

INNER JOIN

- ONLY C
- **ONLY** returns values from **both** tables that are **matched**
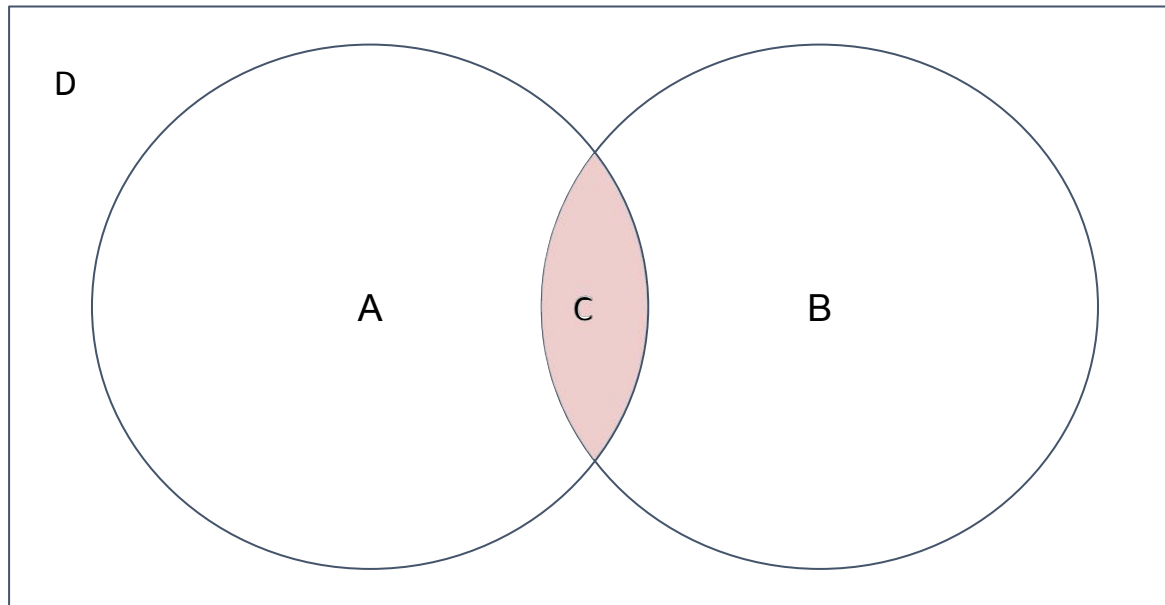
INNER JOIN

Unique keys that cannot be repeated

Allows multiple same records

SELECT c.customer_id, c.cust_name, o.order_date FROM customer c INNER JOIN order o ON c.customer_id = o.customer_id

Left table (customer table)		
Primary Key	Foreign Key	Foreign Key
customer_id	cust_name	cust_contact
1	...	...
2	...	...
3	...	...
4	...	...
5	...	...
...	...	...

Right table (order table)		
Primary Key	Foreign Key	Foreign Key
order_id	customer_id	order_date
1	2	...
2	2	...
3	1	...
4	4	...
5	6	...
...	...	...

JOIN table (returned table)		
customer_id	cust_name	order_date
1	...	...
2	...	...
2	...	...
4	...	...
6	...	...
...	...	...

Assuming this table have no customer_id = 3 and customer_id = 5

OUTER JOIN

- A + C + B
- Always return **ALL** values from both tables regardless of match
- Return *NULL* value for unmatched rows
- Known as a "FULL JOIN"

FULL JOIN

Unique keys that cannot be repeated

Allows multiple same records

Display all rows from both LEFT and RIGHT tables, *NULL* value for unmatched

LEFT table (customer table)

Primary Key	Foreign Key	Foreign Key
customer_id	cust_name	cust_contact
1	...	...
2	...	...
3	...	...
4	...	...
5	...	...
...	...	...

RIGHT table (order table)

Primary Key	Foreign Key	Foreign Key
order_id	customer_id	order_date
1	2	...
2	2	...
3	1	...
4	4	...
5	6	...
...	...	...

JOIN table (returned table)

customer_id	cust_name	order_date
1	...	...
2	...	...
2	...	...
3	...	*NULL*
4	...	...
...	...	...

ADDITIONAL RESOURCES

Aggregation and Group By:

https://www.w3schools.com/sql/sql_groupby.asp

Joins:

https://www.geeksforgeeks.org/sql-join-set-1-inner-left-right-and-full-joins/

END OF DAY 1!

Any questions? Feel free to clarify now.

Or you can reach us at:

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