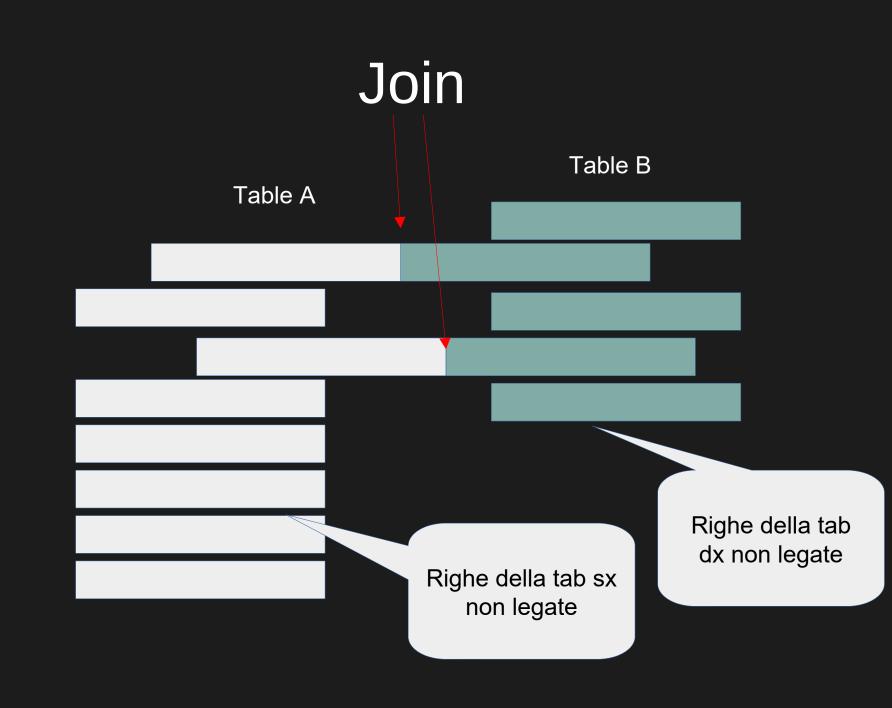
JOIN

INNER JOIN

- Ritorna solo le righe che fanno match.
- Il Match avviene sempre per tutte le tabelle.

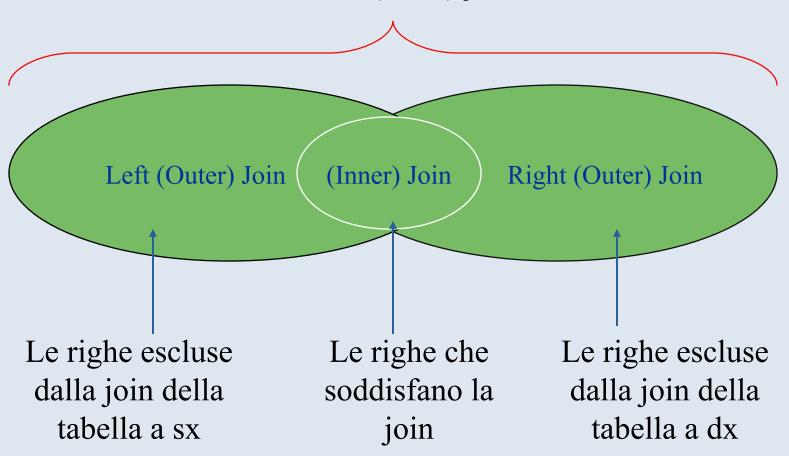
OUTER JOIN

- Ritorna tutte le righe di una tabella e le righe della seconda tabella che fanno match.
- Le colonne di comparazione devono essere le medesime su entrambe le tabelle.



Join

Full (outer) join



Cross Join

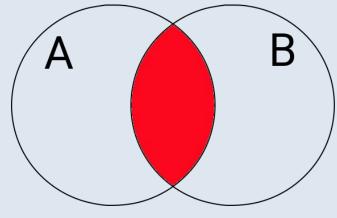
 select nome, cognome, data, valore from clienti a cross join ordini b;

Questo tipo di JOIN ritorna il **prodotto cartesiano** delle righe prese dalle tabelle in Join. Ritorna una table formata dai record combinazione di ogni riga della prima table con ogni riga della seconda tabella table.

Inner Join

 select a.nome, a.cognome, b.data,
b.valore from clienti a inner join ordini b on a.id_cliente = b.id_cliente;

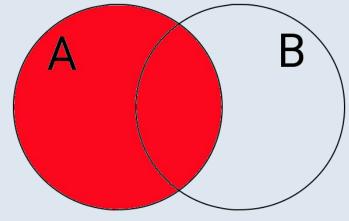
++ nome +	cognome	+	data	 	+ valore
Giuseppe Giacomo Gioacchino Giacomo	Verdi Puccini Rossini Puccini	 	2018-10-10 2017-12-31 2019-01-01 2018-11-24	00:00:00 00:00:00	345.67 176.00 33.88 4589.00



Left Join

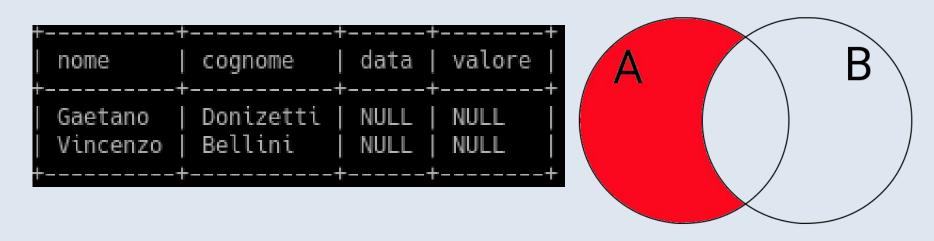
 select nome, cognome, data, valore from clienti a left join ordini b on a.id_cliente = b.id_cliente;

+ nome +	cognome	 data	++ valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL



Left Join nulls

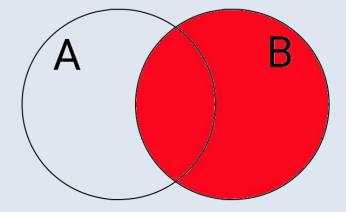
 select nome, cognome, data, valore from clienti a left join ordini b on a.id = b.id_cliente where b.data is null;



Right Join

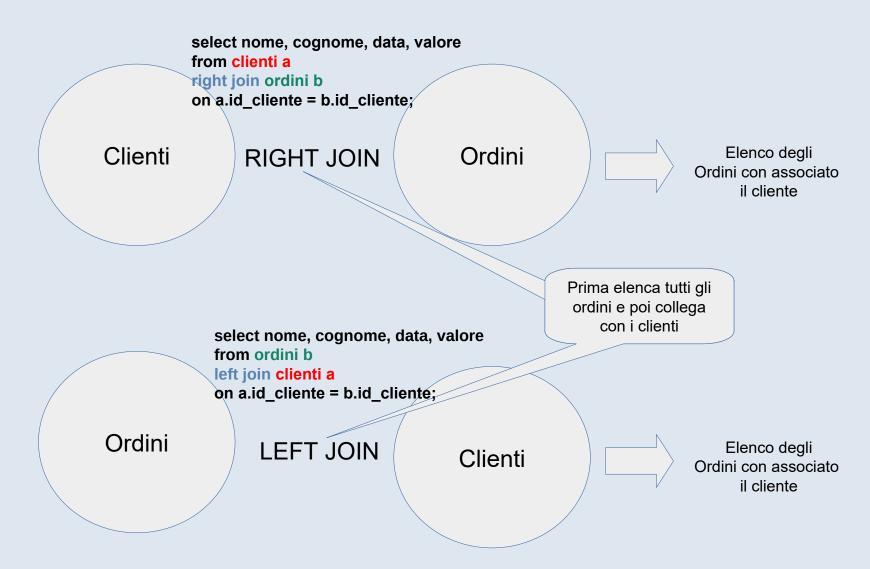
 select nome, cognome, data, valore from clienti a right join ordini b on a.id_cliente = b.id_cliente;

nome	cognome	data	valore
Giuseppe Gioacchino Giacomo Giacomo NULL NULL	Verdi Rossini Puccini Puccini NULL NULL	2018-10-10 00:00:00 2019-01-01 00:00:00 2017-12-31 00:00:00 2018-11-24 00:00:00 2018-07-13 00:00:00 2018-06-01 00:00:00	345.67 33.88 176.00 4589.00 230.00



Right Join by Left Join Inversion

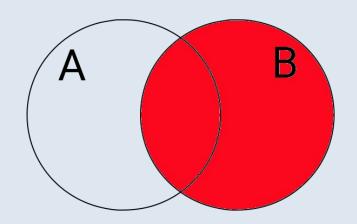
Mettere le tabelle sullo stesso piano, però partiamo dagli ordini



Right Join by Left Join Inversion

- select nome, cognome, data, valore from clienti a right join ordini b on a.id_cliente = b.id_cliente;
- select nome, cognome, data, valore from ordini b left join clienti a on a.id_cliente = b.id_cliente;

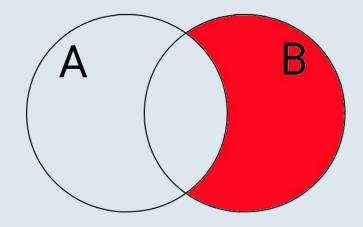
nome	cognome +	data	valore +
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



Right Join nulls

 select nome, cognome, data, valore from clienti a right join ordini b on a.id = b.id_cliente where a.nome is null;

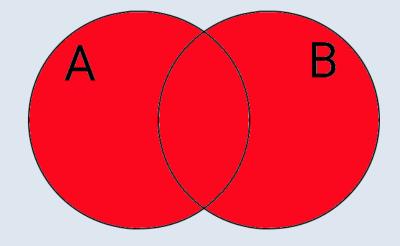
++ nome ++	cognome	data	valore
NULL NULL 	NULL NULL	2018-07-13 00:00:00 2018-06-01 00:00:00	230.00 144.00



Full Outer Join

select nome, cognome, data, valore from clienti a full join ordini b on a.id_cliente = b.id_cliente;

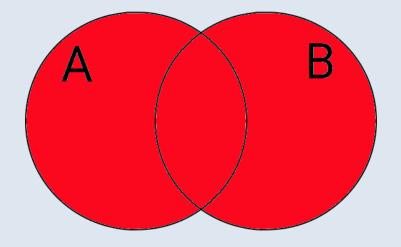
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



Full Outer Join

 select nome, cognome, data, valore from clienti a left join ordini b on a.id = b.id_cliente union select nome, cognome, data, valore from clienti a right join ordini b on a.id = b.id_cliente;

nome	cognome	data valore
Giuseppe	Verdi	2018-10-10 00:00:00 345.67
Giacomo	Puccini	2017-12-31 00:00:00 176.00
Gioacchino	Rossini	2019-01-01 00:00:00 33.88
Giacomo	Puccini	2018-11-24 00:00:00 4589.0
Gaetano	Donizetti	NULL NULL
Vincenzo	Bellini	NULL NULL
NULL	NULL	2018-07-13 00:00:00 230.00
NULL	NULL	2018-06-01 00:00:00 144.00

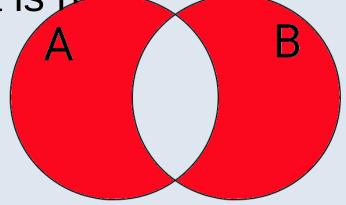


Full Join nulls

 select nome, cognome, data, valore from clienti a full join ordini b on a.id_cliente = b.id_cliente

where nome is null or data is pull-

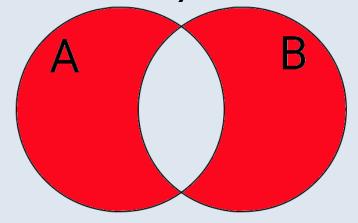
+	cognome	+	++
nome		data	valore
+		+	++
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



Full Join nulls

 select nome, cognome, data, valore from clienti a left join ordini b on a.id = b.id_cliente where b.data is null union select nome, cognome, data, valore from clienti a right join ordini b on a.id = b.id_cliente where a.nome is null;

+ nome +	cognome	+ data	+ valore
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



Right Join by Left join inversion

- select nome, cognome, data, valore from clienti a right join ordini b on a.id_cliente = b.id_cliente;
- select nome, cognome, data, valore from ordini b left join clienti a on a.id_cliente = b.id_cliente;

nome	cognome	data	valore
Giuseppe Gioacchino Giacomo Giacomo NULL NULL	Verdi Rossini Puccini Puccini NULL NULL	2018-10-10 00:00:00 2019-01-01 00:00:00 2017-12-31 00:00:00 2018-11-24 00:00:00 2018-07-13 00:00:00 2018-06-01 00:00:00	345.67 33.88 176.00 4589.00 230.00

