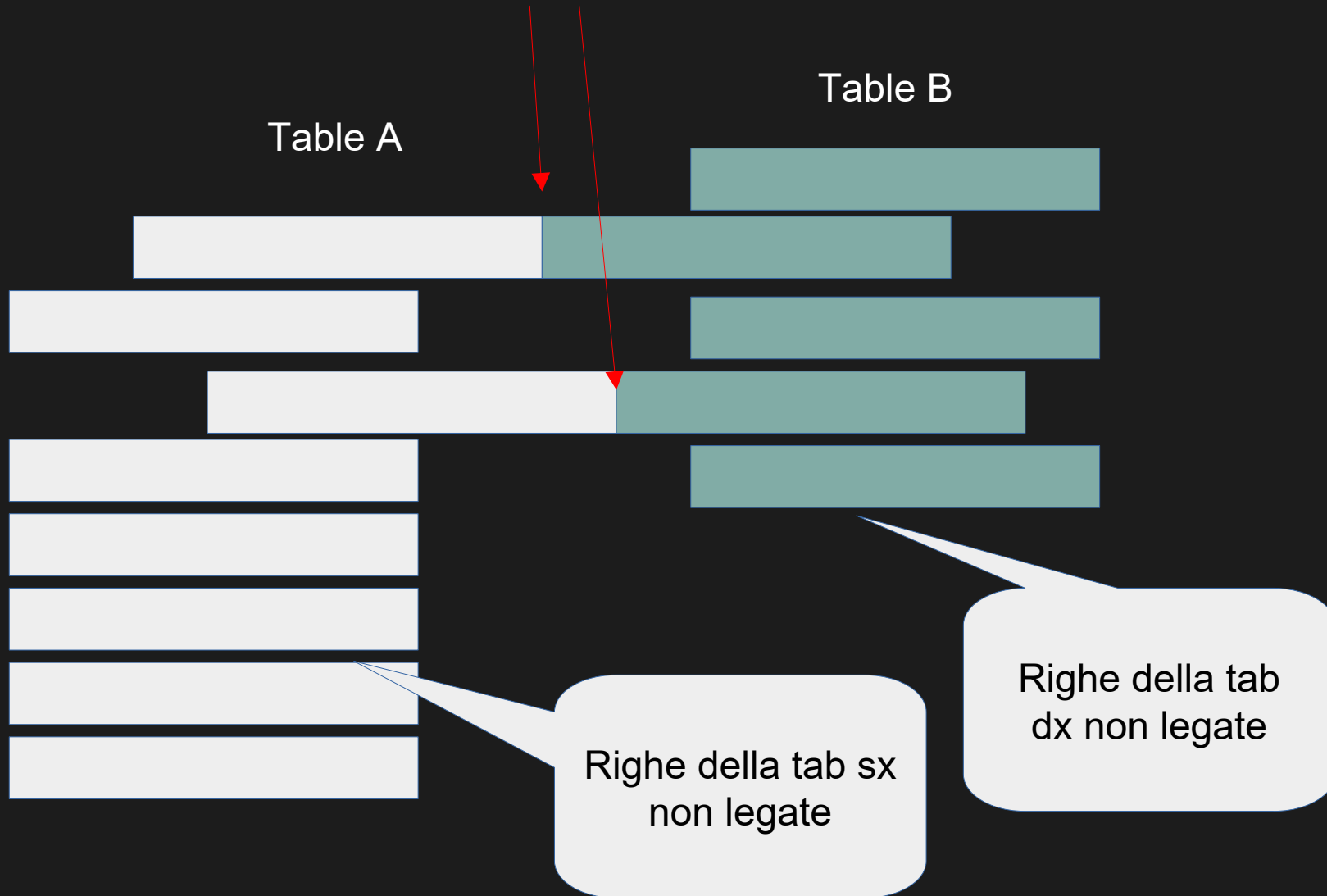


JOIN

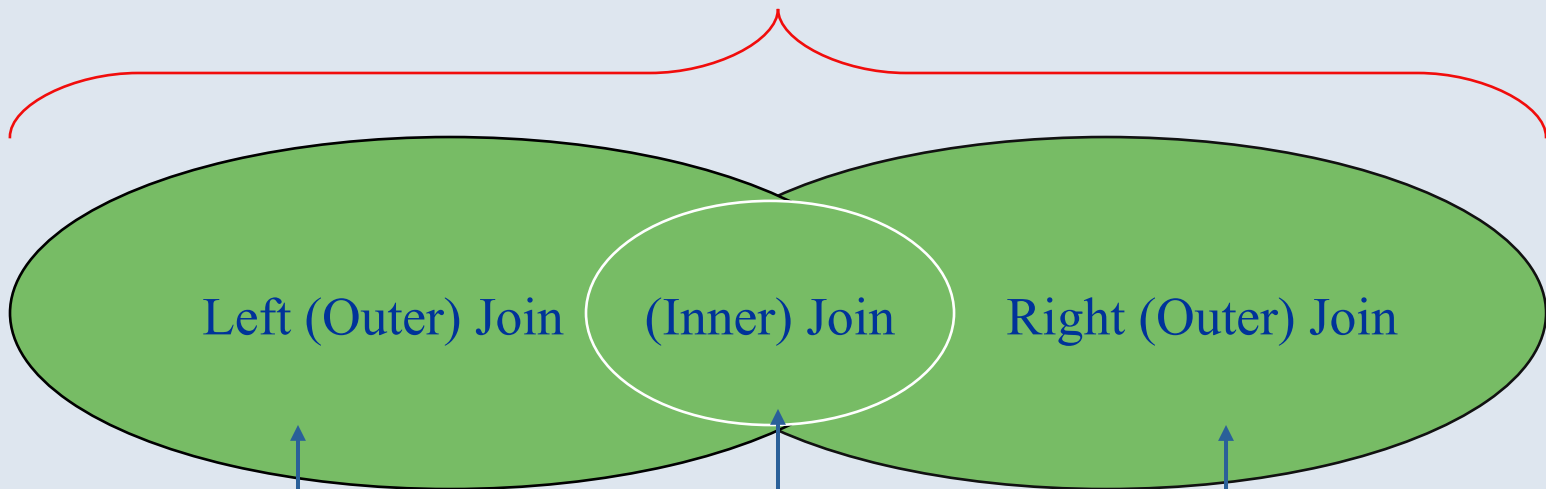
- INNER JOIN
 - Ritorna solo le righe che fanno match.
 - Il Match avviene sempre per tutte le tabelle.
- OUTER JOIN
 - Ritorna tutte le righe di una tabella e le righe della seconda tabella che fanno match.
 - Le colonne di comparazione devono essere le medesime su entrambe le tabelle.

Join



Join

Full (outer) join



Le righe escluse
dalla join della
tabella a sx

Le righe che
soddisfano la
join

Le righe escluse
dalla join della
tabella a dx

Cross Join

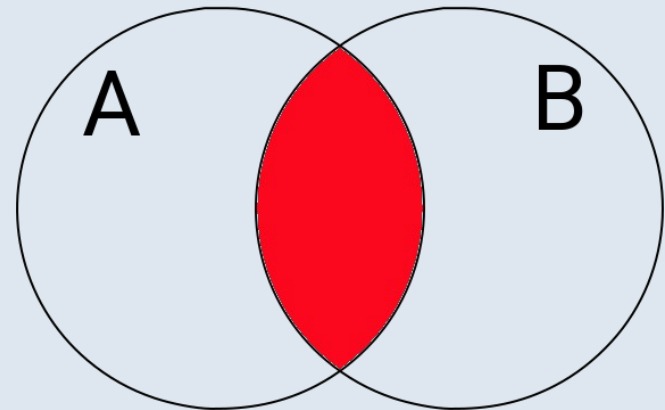
- **select nome, cognome, data, valore
from clienti a cross join ordini b;**

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;**

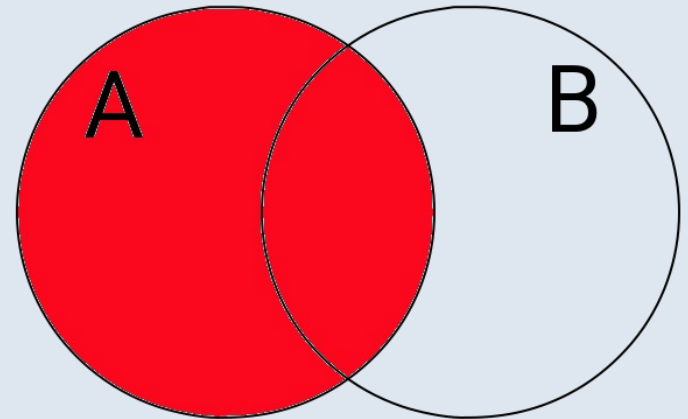
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00



Left Join

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

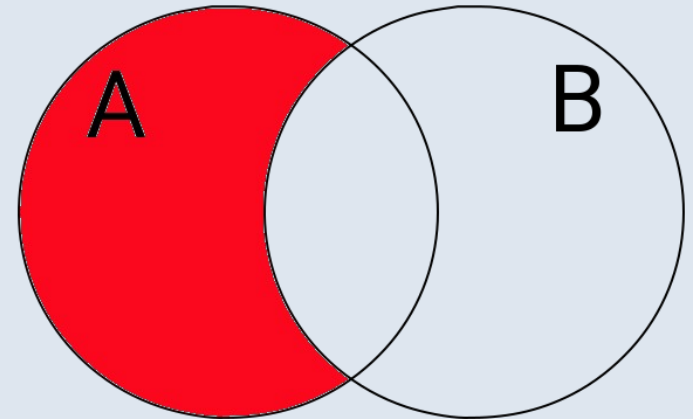
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL



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**;**

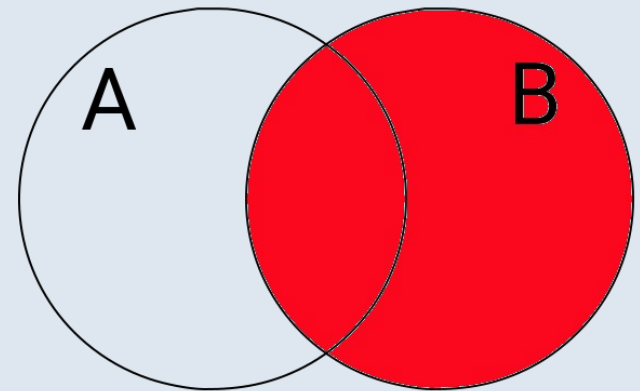
nome	cognome	data	valore
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL



Right Join

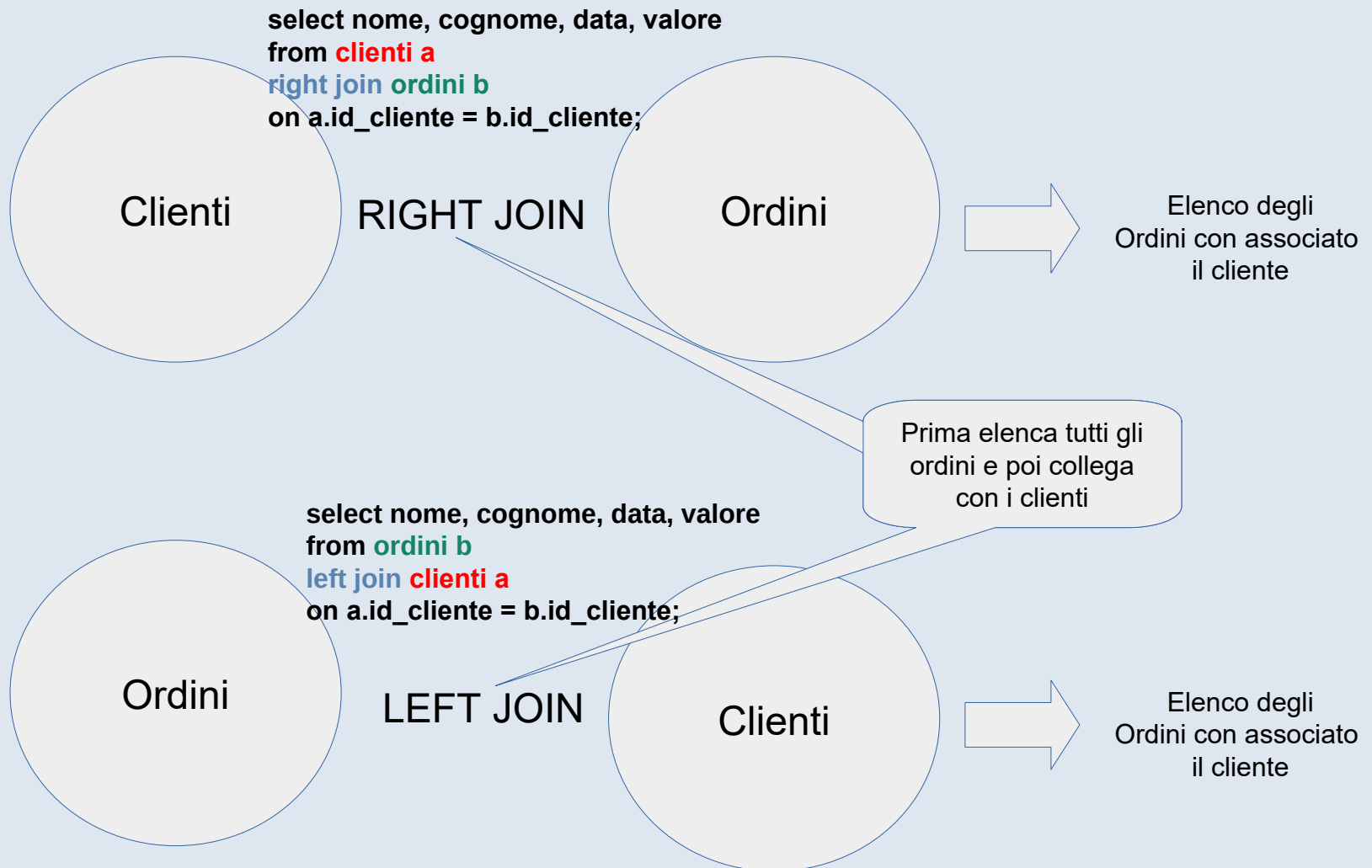
- **select nome, cognome, data, valore
from clienti a right join ordini b on
a.id_cliente = b.id_cliente;**

nome	cognome	data	valore
Giuseppe	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 by Left Join Inversion

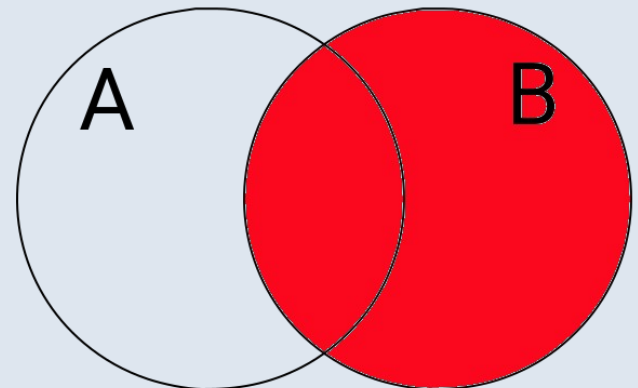
Mettere le tabelle sullo stesso piano, però partiamo dagli ordini



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;`

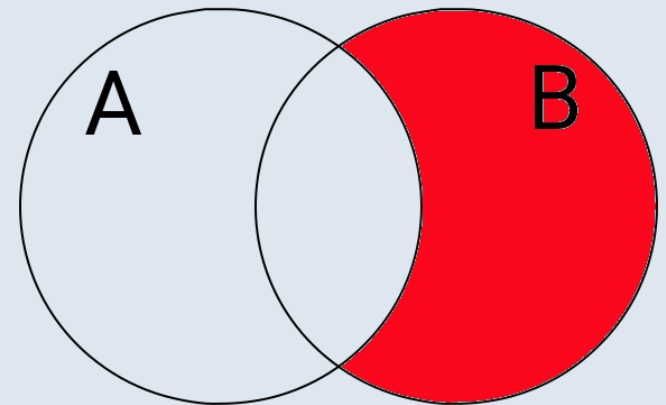
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



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;**

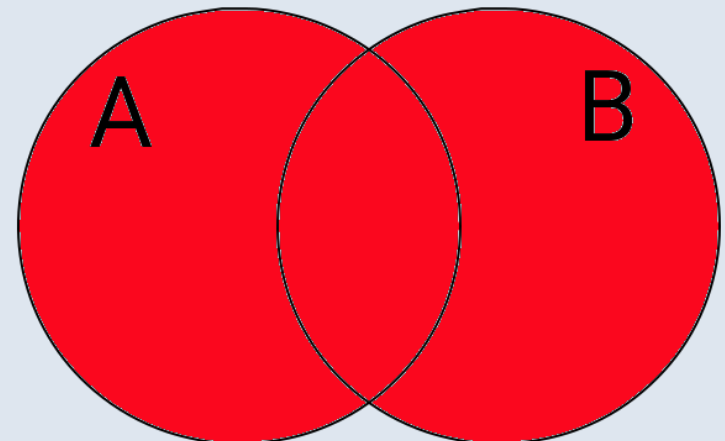
nome	cognome	data	valore
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



Full Outer Join

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

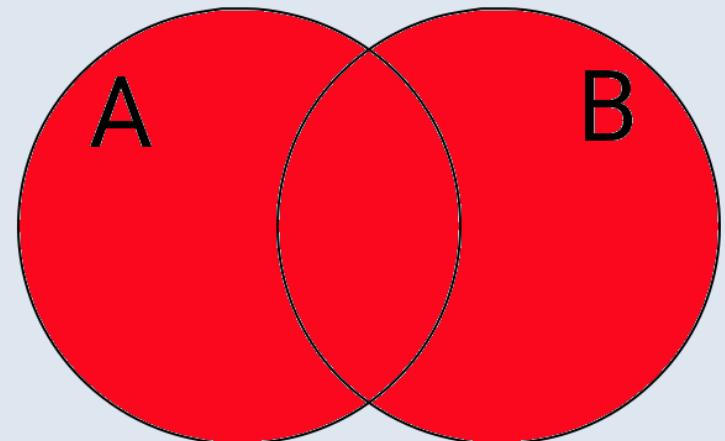
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL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

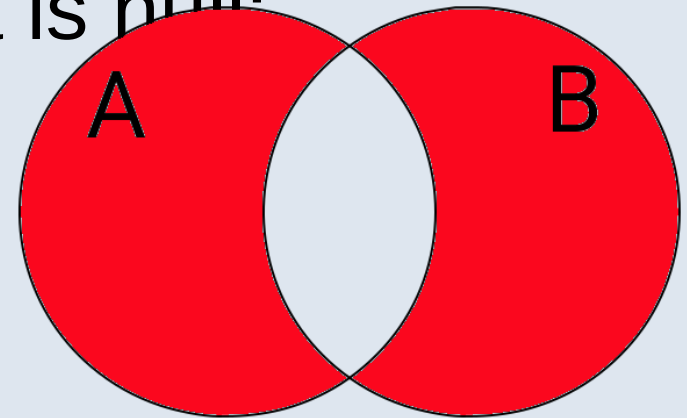
nome	cognome	data	valore
Giuseppe	Verdi	2018-10-10 00:00:00	345.67
Giacomo	Puccini	2017-12-31 00:00:00	176.00
Gioacchino	Rossini	2019-01-01 00:00:00	33.88
Giacomo	Puccini	2018-11-24 00:00:00	4589.00
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL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



Full 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 null;

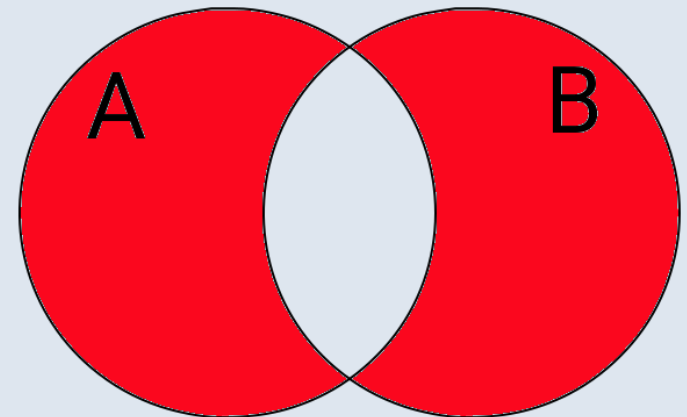
nome	cognome	data	valore
Gaetano	Donizetti	NULL	NULL
Vincenzo	Bellini	NULL	NULL
NULL	NULL	2018-07-13 00:00:00	230.00
NULL	NULL	2018-06-01 00:00:00	144.00



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	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

