



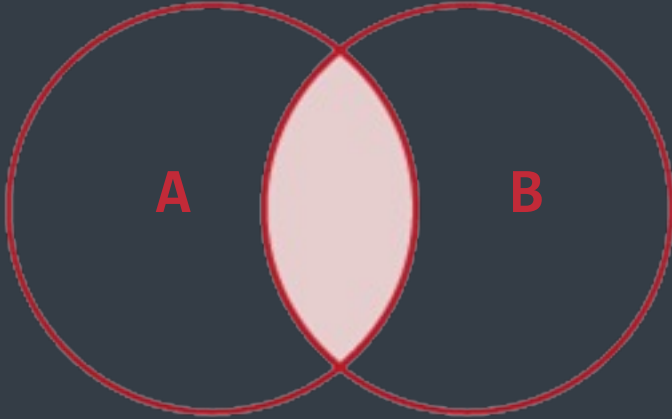
SQL – Junção

LABORATÓRIO DE BANCO DE DADOS

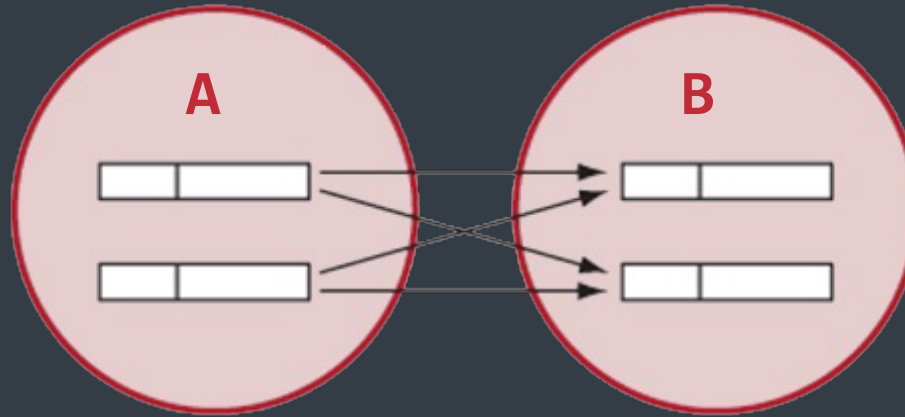


SELECT ... JOIN ...

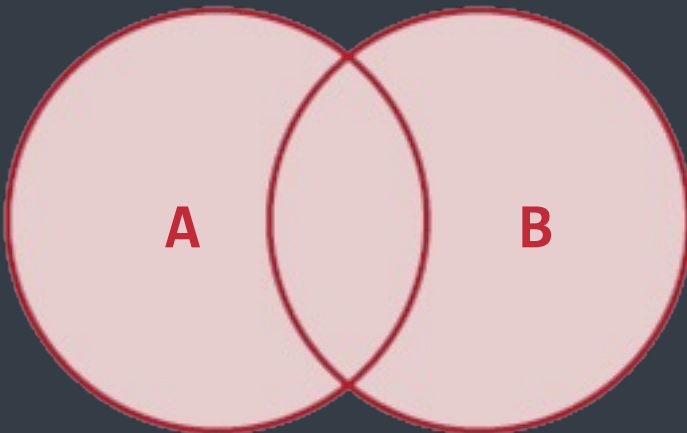
INNER JOIN



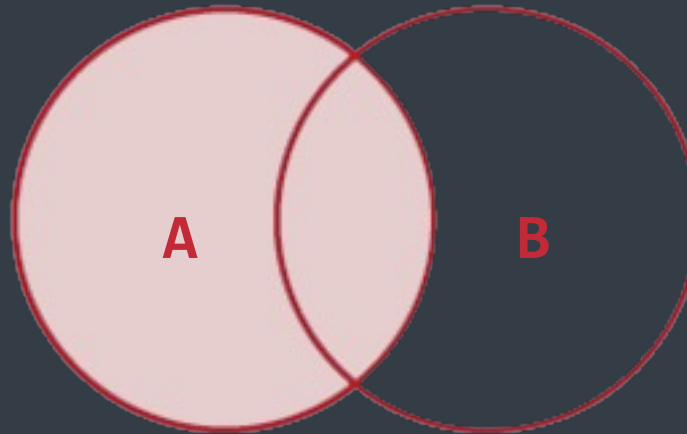
CROSS JOIN



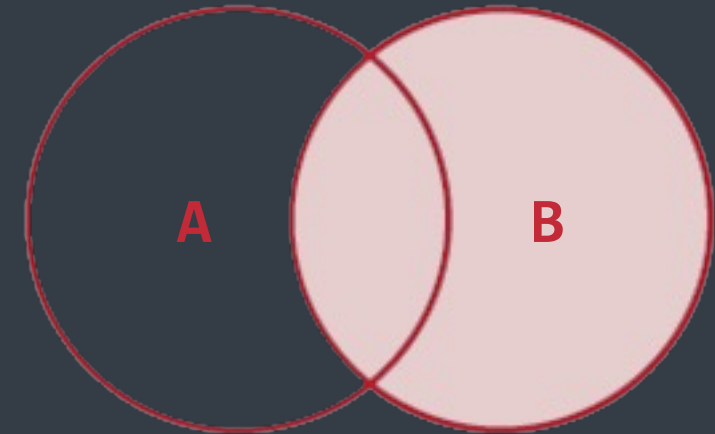
FULL [OUTER] JOIN



LEFT [OUTER] JOIN



RIGHT [OUTER] JOIN



Junção baseada em operadores

- Cláusulas **SELECT** e **WHERE**:
 - Especificam atributos com mesmo nome usando o nome da tabela e o nome do atributo (nome_tabela.nome_atributo)
- Cláusula **FROM**
 - Possui mais do que uma tabela
- Cláusula **WHERE**
 - Inclui as condições de junção

```
SELECT * FROM tabelaA , tabelaB  
WHERE tabelaA.name = tabelaB.name;
```

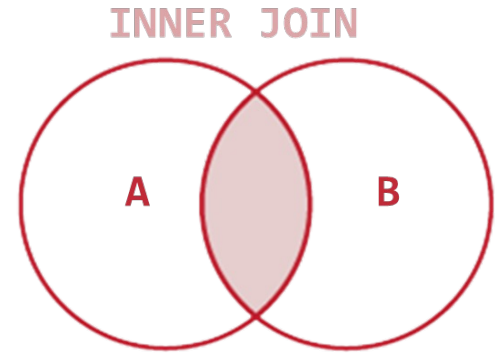


Tabela A

a_id	name
1	apple
2	orange
3	tomato
4	cucumber

Tabela B

b_id	name
A	apple
B	banana
C	cucumber
D	dill

a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
4	cucumber	C	cucumber

Junção Interna

INNER JOIN

- Deixa claro quais colunas vão participar da junção

```
SELECT * FROM TabelaA INNER JOIN TabelaB  
ON (TabelaA.name=TabelaB.name);
```

INNER JOIN

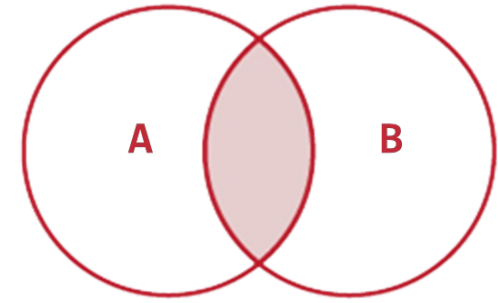


Tabela A

a_id	name
1	apple
2	orange
3	tomato
4	cucumber

Tabela B

b_id	name
A	apple
B	banana
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
4	cucumber	C	cucumber



Junção Interna

JOIN - USING

- Deixa claro quais colunas vão participar da junção

```
SELECT * FROM TabelaA  
JOIN TabelaB USING (C1);
```

INNER JOIN

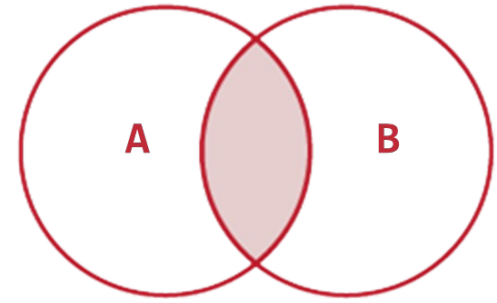


Tabela A

C1	C2
10	15
20	25

Tabela B

C1	C4
10	BB
15	DD



Junção de TabelaA
com TabelaB

C1	C2	C4
10	15	BB



Junção Interna

JOIN – NATURAL (equijoin)

- Na junção natural iguala-se **atributos de mesmo nome**
 - Cada par de atributos desse tipo é incluído apenas uma vez na relação resultante
 - Se os nomes dos atributos não forem os mesmos, é possível renomear os atributos de modo que eles combinem

```
SELECT * FROM TabelaA  
NATURAL JOIN TabelaB;
```

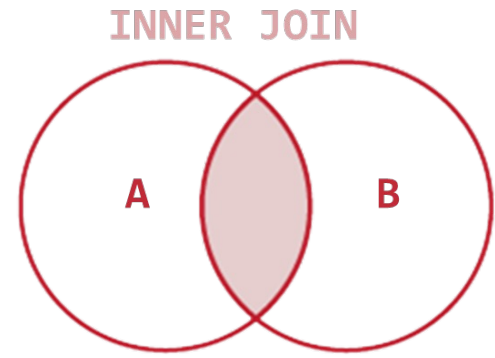


Tabela A

C1	C2
10	15
20	25

NATURAL
JOIN

Tabela B

C1	C4
10	BB
15	DD



Junção de TabelaA
com TabelaB

C1	C2	C4
10	15	BB



Junção externa

FULL OUTER JOIN

- Retorna todos os registros da Tabela A e da TabelaB

```
SELECT * FROM TabelaA  
FULL OUTER JOIN TabelaB On TabelaA.name = TabelaB.name;
```

FULL OUTER JOIN

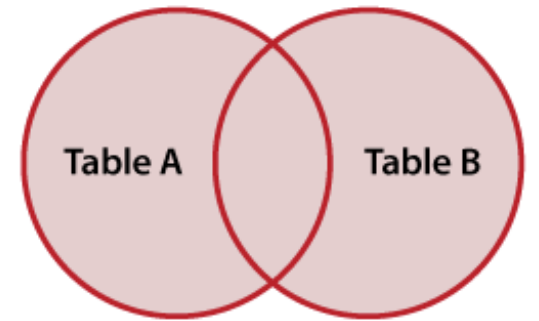


Tabela A

a_id	name
1	apple
<i>null</i>	<i>null</i>
2	orange
3	tomato
4	cucumber
<i>null</i>	<i>null</i>

Tabela B

b_id	name
A	apple
B	banana
<i>null</i>	<i>null</i>
<i>null</i>	<i>null</i>
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
<i>null</i>	<i>null</i>	B	banana
2	orange	<i>null</i>	<i>null</i>
3	tomato	<i>null</i>	<i>null</i>
4	cucumber	C	cucumber
<i>null</i>	<i>null</i>	D	dill



Junção externa

LEFT OUTER JOIN

- Retorna todos os registros da Tabela A (mesmo os que não estejam na Tabela B) e os registros da Tabela B que são comuns a Tabela A.

```
SELECT * FROM TabelaA  
LEFT OUTER JOIN TabelaB ON TabelaA.name = TabelaB.name;
```

LEFT OUTER JOIN

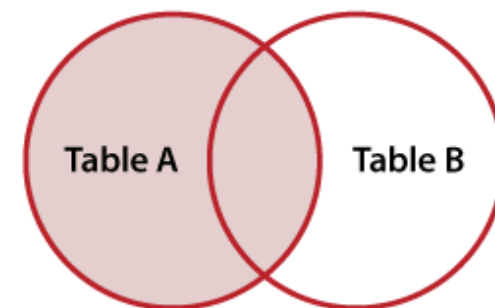


Tabela A

a_id	name
1	apple
2	orange
3	tomato
4	cucumber

Tabela B

b_id	name
A	apple
<i>null</i>	<i>null</i>
<i>null</i>	<i>null</i>
B	banana
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
2	orange	<i>null</i>	<i>null</i>
3	tomato	<i>null</i>	<i>null</i>
4	cucumber	C	cucumber



Junção externa

RIGHT OUTER JOIN

- Retorna os registros da Tabela B que são comuns a Tabela A e todos os registros da Tabela B (mesmo os que não estejam na Tabela A)

```
SELECT * FROM TabelaA  
RIGHT OUTER JOIN TabelaB ON TabelaA.name = TabelaB.name;
```

RIGHT OUTER JOIN

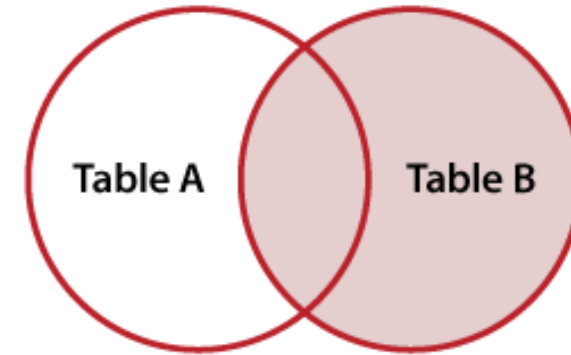


Tabela A

a_id	name
1	apple
null	null
2	orange
3	tomato
4	cucumber
null	null

Tabela B

b_id	name
A	apple
B	banana
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
null	null	B	banana
4	cucumber	C	cucumber
null	null	D	dill

Produto cartesiano CROSS JOIN

- Produto cartesiano das tabelas A e B

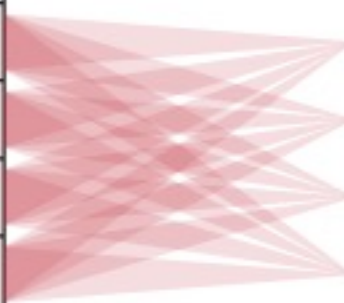
```
SELECT * FROM TabelaA CROSS JOIN TabelaB;
```

Tabela A

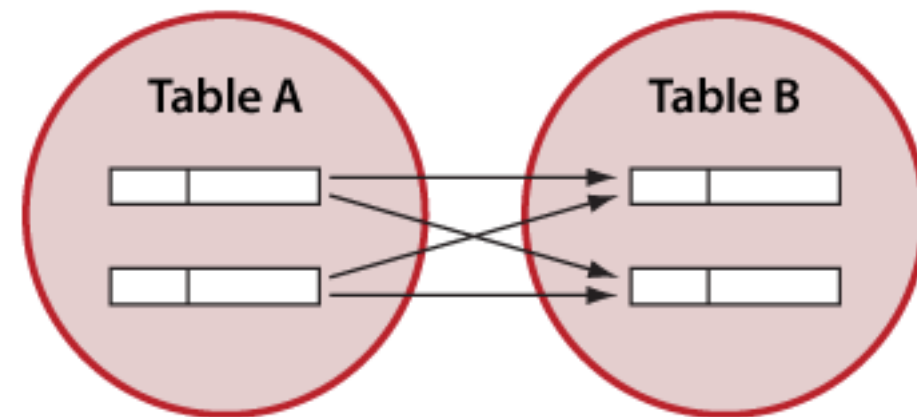
a_id	name
1	apple
2	orange
3	tomato
4	cucumber

Tabela B

b_id	name
A	apple
B	banana
C	cucumber
D	dill



CROSS JOIN



Produto cartesiano CROSS JOIN

Tabela A

a_id	name
1	apple
2	orange
3	tomato
4	cucumber

Tabela B

b_id	name
A	apple
B	banana
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
1	apple	A	apple
1	apple	B	banana
1	apple	C	cucumber
1	apple	D	dill
2	orange	A	apple
2	orange	B	banana
2	orange	C	cucumber
2	orange	D	dill
3	tomato	A	apple
3	tomato	B	banana
3	tomato	C	cucumber
3	tomato	D	dill
4	cucumber	A	apple
4	cucumber	B	banana
4	cucumber	C	cucumber
4	cucumber	D	dill



Junção externa

OUTER EXCLUDING JOIN

- Retorna os registros da Tabela A e da Tabela B, exceto aqueles que são comuns às duas tabelas.

```
SELECT * FROM TabelaA FULL OUTER JOIN TabelaB
ON TabelaA.name = TabelaB.name
WHERE TabelaA.name IS NULL OR TabelaB.name IS NULL
```

TabelaA	<i>null</i>
TabelaA.Chave = TabelaB.Chave	
<i>null</i>	TabelaB

OUTER EXCLUDING JOIN

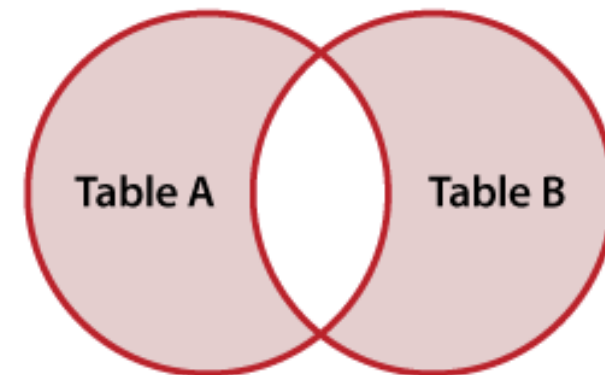


Tabela A

a_id	name
1	apple
<i>null</i>	<i>null</i>
2	orange
3	tomato
4	cucumber
<i>null</i>	<i>null</i>

Tabela B

b_id	name
A	apple
B	banana
<i>null</i>	<i>null</i>
<i>null</i>	<i>null</i>
C	cucumber
D	dill



a_id	TableA.name	b_id	TableB.name
<i>null</i>	<i>null</i>	B	banana
2	orange	<i>null</i>	<i>null</i>
3	tomato	<i>null</i>	<i>null</i>
<i>null</i>	<i>null</i>	D	dill



Links úteis

- <https://academy.vertabelo.com/blog/sql-joins/>

