Datenbank-Systeme

Datenabfragen über mehrere Tabellen

Internationaler Frauenstudiengang Informatik

Renzo Kottmann

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Wiederholung

Abfragen auf einer Tabelle

Und nun zu Abfragen mit `JOINS` :)

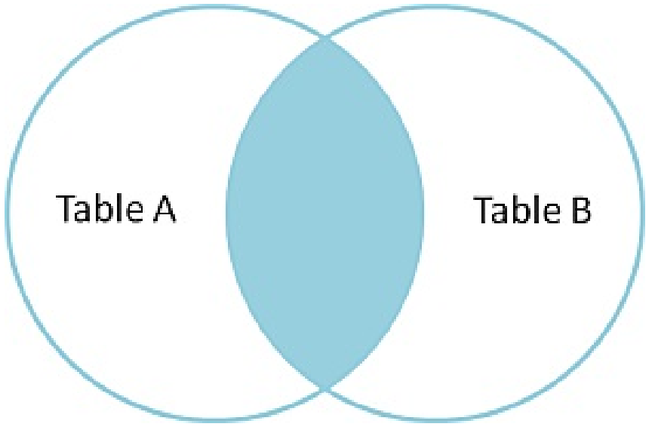
Beispiel-Tabellen

```
TabelleA      TabelleB
id name       id  name
-- ----       --  ----
1  Pirate     1   Rutabaga
2  Monkey     2   Pirate
3  Ninja      3   Darth Vader
4  Spaghetti  4   Ninja
```

INNER JOIN

```
SELECT *
  FROM TabelleA AS a
       INNER JOIN
       TabelleB as b
    ON a.name = b.name
```

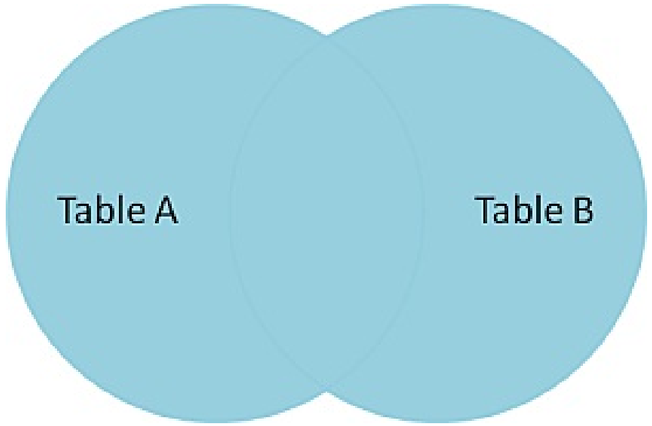
```
id  name       id   name
--  ----       --   ----
1   Pirate     2    Pirate
3   Ninja      4    Ninja
```



FULL OUTER JOIN

```
SELECT *
  FROM TabelleA as a
       FULL OUTER JOIN
       TabelleB as b
    ON a.name = b.name
```

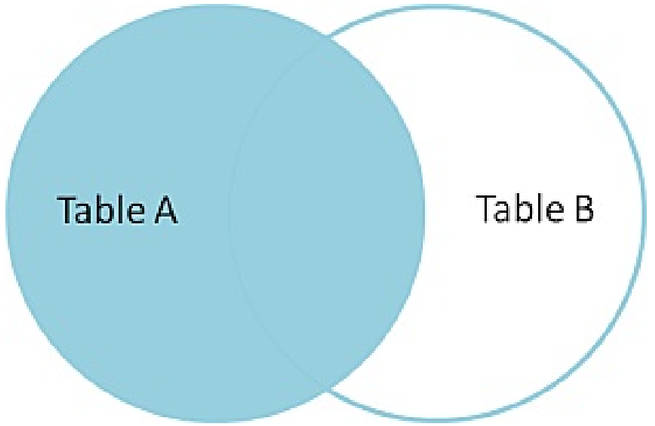
```
id    name       id    name
--    ----       --    ----
1     Pirate     2     Pirate
2     Monkey     null  null
3     Ninja      4     Ninja
4     Spaghetti  null  null
null  null       1     Rutabaga
null  null       3     Darth Vader
```



LEFT OUTER JOIN

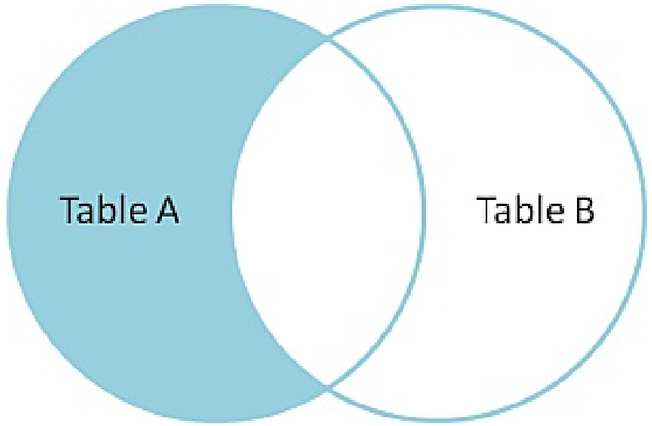
```
SELECT *
  FROM TabelleA AS a
       LEFT OUTER JOIN
       TabelleB AS b
    ON a.name = b.name
```

```
id  name       id    name
--  ----       --    ----
1   Pirate     2     Pirate
2   Monkey     null  null
3   Ninja      4     Ninja
4   Spaghetti  null  null
```



LEFT OUTER JOIN: nur Zeilen von TabelleA

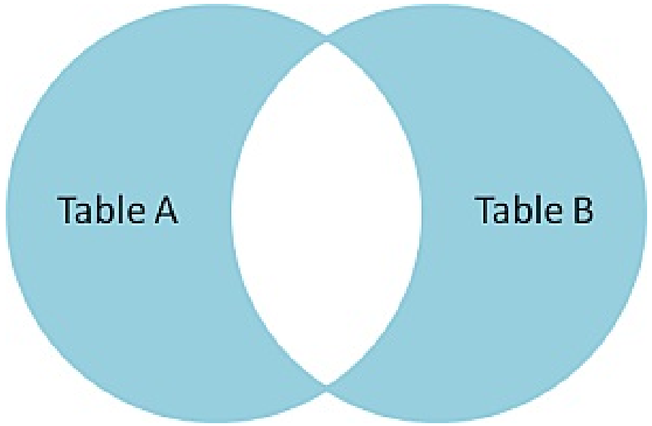
```
SELECT *
  FROM TabelleA AS a
       LEFT OUTER JOIN
       TabelleB AS b
    ON a.name = b.name
 WHERE b.id IS null
```



id	name	id	name
2	Monkey	null	null
4	Spaghetti	null	null

FULL OUTER JOIN: nur exklusive Zeilen

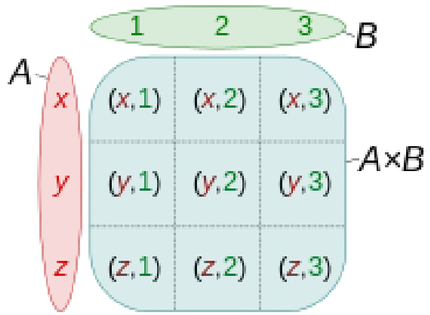
```
SELECT *
  FROM TabelleA AS a
       FULL OUTER JOIN
       TabelleB AS b
    ON a.name = b.name
 WHERE a.id IS null
       OR
       b.id IS null
```



id	name	id	name
2	Monkey	null	null
4	Spaghetti	null	null
null	null	1	Rutabaga
null	null	3	Darth Vader

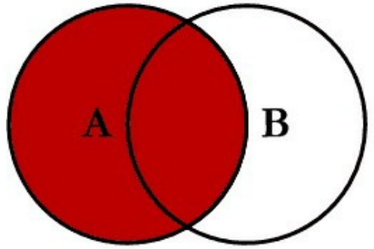
CROSS JOIN: Erzeugt kartesiches Produkt

```
SELECT *
  FROM TabelleA
       CROSS JOIN
       TabelleB
```

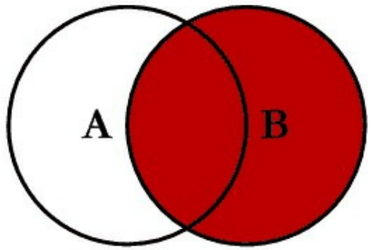


In einfachen Worten: Verbindet jede Zeile der TabelleA mit jeder Zeile der TabelleB

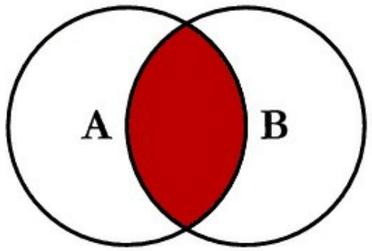
SQL JOINS



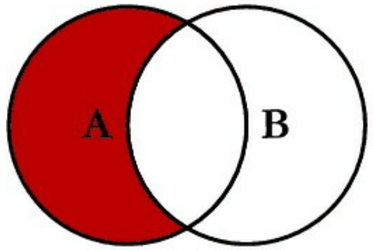

```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
```



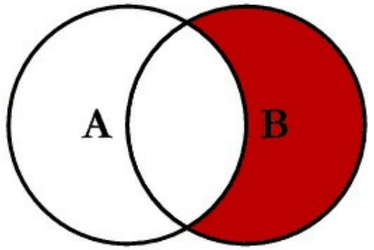

```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
```



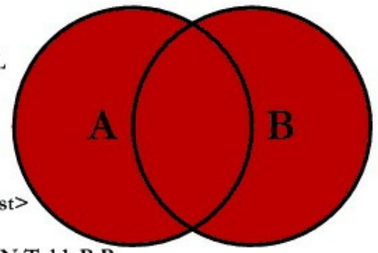

```
SELECT <select_list>
FROM TableA A
INNER JOIN TableB B
ON A.Key = B.Key
```



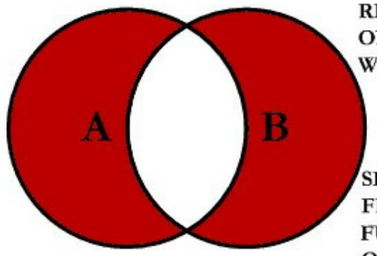

```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
WHERE B.Key IS NULL
```




```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
WHERE A.Key IS NULL
```




```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
```




```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
WHERE A.Key IS NULL
OR B.Key IS NULL
```

© C.L. Moffatt, 2008

Diskussion zu Visualisierung von SQL-joins

- Original Artikel mit Venn-Overview
- Diskussion und alternative Darstellung
- Kategorisierung nach JOIN-Typen

Danke für die Zusammenarbeit