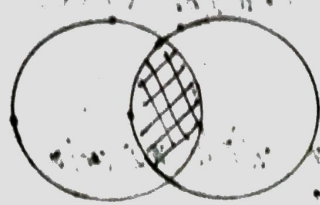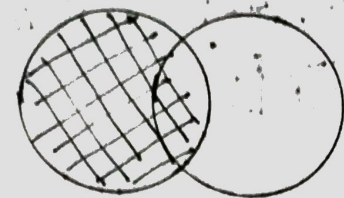# Basic Join Types

There are four basic JOIN types in SQL
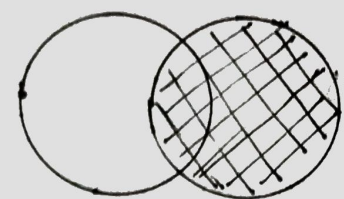
INNER JOIN — Returns records that exists in BOTH tables, and excludes unmatched records from either tables
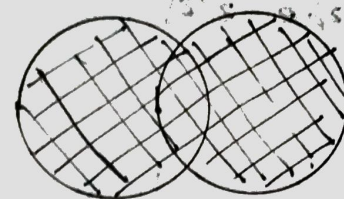
LEFT JOIN — Returns ALL records from the LEFT table and any matching records from the RIGHT table

RIGHT JOIN — Returns ALL records from the RIGHT table and any matching records from the LEFT table

FULL OUTER JOIN — Returns ALL records from both tables, including non-matching records

- In real scenarios, Inner and Left joins are used more often

- Right joins are used less often because dbas often switch the tables and use a LEFT JOIN instead

- While INNER and LEFT JOINs are supported in all RDBMs RIGHT and FULL OUTER JOIN are not - for example SQLite does not support RIGHT JOINs, and both MySQL and SQLite does not support FULL OUTER JOINs

Basic Joins - Example

LEFT (5 rows)

country	happiness_score
Canada	6.961
China	5.818
India	4.036
Mexico	6.330
United States	6.894

Right (3 rows)

country	Continent
Australia	Oceania
Brazil	South America
United State	North America

a) Inner Join   n = 1

the only country that both tables have in common:

country	happiness_score	country	continent
United States	6.984	United Sta.	North America

b) Left Join

n = 5

Contains all the data from the Left table and anything that matches a country on the right table. Anything that does not exist on the right table is filled with null values

country	happiness_score	country	continent
Canada	6.961	NULL	NULL
China	5.818	NULL	NULL
India	4.036	NULL	NULL
Mexico	6.330	NULL	NULL
United State	6.894	United States	North America

c) RIGHT JOIN

n=3

The opposite of the LEFT JOIN: Everything from the right table is displayed. Values that do not exist will show up as null values

Country	happiness_score	Country	continent
NULL	NULL	Australia	Oceania
NULL	NULL	Brazil	South America
United States	6.884	United States	North America

d) FULL OUTER JOIN

n=7

We display all the data from both the left and the right table. The result first lists everything only on the left table, then everything on the right table, then finally lists everything that exists on both tables

Country	happiness_score	Country	continent
Canada	6.981	NULL	NULL
China	5.818	NULL	NULL
India	4.036	NULL	NULL
Mexico	6.330	NULL	NULL
NULL	NULL	Australia	Oceania
NULL	NULL	Brazil	South America
United States	6.894	United States	North America