



# EAR Reference Sheet - Joins

To collect data from more than one data source, you can "combine" data sources on one or more common fields using a "Join". The Join type governs the rules by which the data sources will be connected.

## Join Types

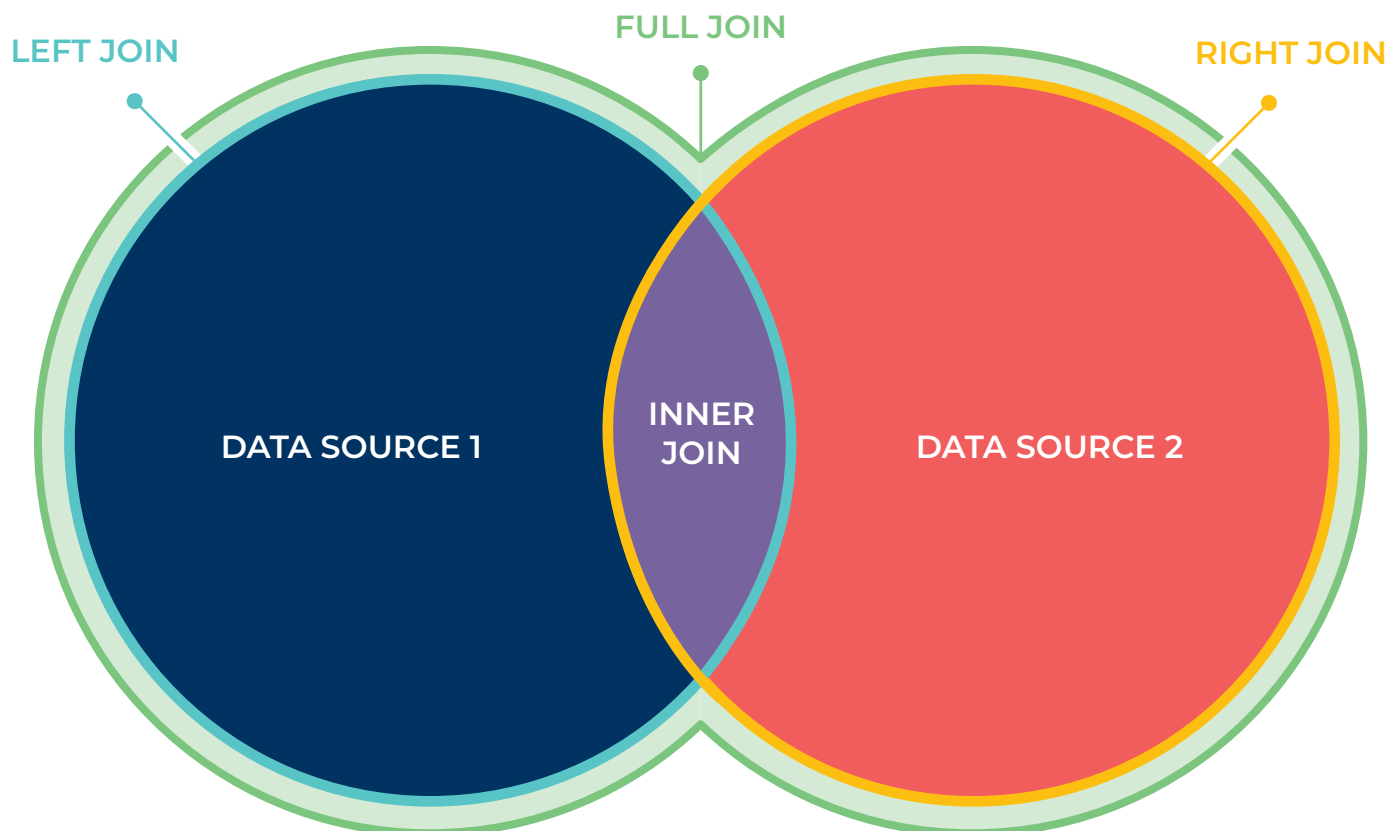
**Left Join:** Combines data source 1 and the intersecting data from source 2.

**Right Join:** Combines data source 2 and the intersecting data from source 1.

**Inner Join:** Results in only data that applies to both sources.

**Full Join:** Results where there is a match(es) on the field(s) joined in either one of the data sources.

**Cross Join:** Combines each record of the first data source with each record of the second, but does not need a common field.



## Example

Brianna is ordering four coffees for herself and her coworkers.



Information regarding the four coffees she has ordered are stored in multiple datasets. Dataset 1 describes the type of coffee, dataset 2 describes how much espresso and milk each coffee has, and dataset 3 describes the flavor shots put in each coffee.

COFFEE		DETAILS			FLAVORS	
id	type	coffee_id	espresso	milk	coffee_id	flavor shot
1	Latte	1	1 shot	3 shots	1	french vanilla
2	Macchiato	2	2 shots	1 shot	1	hazelnut
3	Cappuchino	3	1 shot	2 shots	2	mocha
4	Cortado	4	1 shot	1 shot	3	cinnamon

**SELECT \* from COFFEE INNER JOIN DETAILS ON COFFEE.ID = DETAILS.COFFEE\_ID**

id	type	coffee_id	espresso	milk
1	Latte	1	1 shot	3 shots
2	Macchiato	2	2 shots	1 shot
3	Cappuchino	3	1 shot	2 shots
4	Cortado	4	1 shot	1 shot

Here is an Inner Join for all data within the **COFFEE** and **DETAILS** tables. Note: The duplicate column for **coffee\_id** displays because it is included in both tables and all columns are selected.

**Note:** \* means “select all columns”

**SELECT type,espresso,milk from COFFEE INNER JOIN DETAILS ON COFFEE.ID = DETAILS.COFFEE\_ID**

type	espresso	milk
Latte	1 shot	3 shots
Macchiato	2 shots	1 shot
Cappuchino	1 shot	2 shots
Cortado	1 shot	1 shot

With this Inner Join, the resulting table displays information on the **type** of coffee, and the amount of **espresso** and **milk** in each cup. There is no duplicate column with the **coffee\_id** as seen in the previous table.



**SELECT \* from COFFEE INNER JOIN DETAILS ON COFFEE.ID = DETAILS.COFFEE\_ID  
INNER JOIN FLAVORS ON COFFEE.ID = FLAVORS.COFFEE\_ID**

id	type	coffee_id	espresso	milk	coffee_id	flavor shot
1	Latte	1	1 shot	3 shots	1	french vanilla
1	Latte	1	1 shot	3 shots	1	hazelnut
2	Macchiato	2	2 shots	1 shot	2	mocha
3	Cappuchino	3	1 shot	2 shots	3	cinnamon

This type of Inner Join displays data from all three tables, but excludes the **cortado** since it does not have any added **flavor shots**.



**SELECT \* from COFFEE INNER JOIN DETAILS ON COFFEE.ID = DETAILS.COFFEE\_ID  
LEFT JOIN FLAVORS ON COFFEE.ID = FLAVORS.COFFEE\_ID**

id	type	coffee_id	espresso	milk	coffee_id	flavor shot
1	Latte	1	1 shot	3 shots	1	french vanilla
1	Latte	1	1 shot	3 shots	1	hazelnut
2	Macchiato	2	2 shots	1 shot	2	mocha
3	Cappuchino	3	1 shot	2 shots	3	cinnamon
4	Cortado	4	1 shot	1 shot		

This Left Join would combine all three data sets and include the **cortado**.

