# Combining data in Power Query
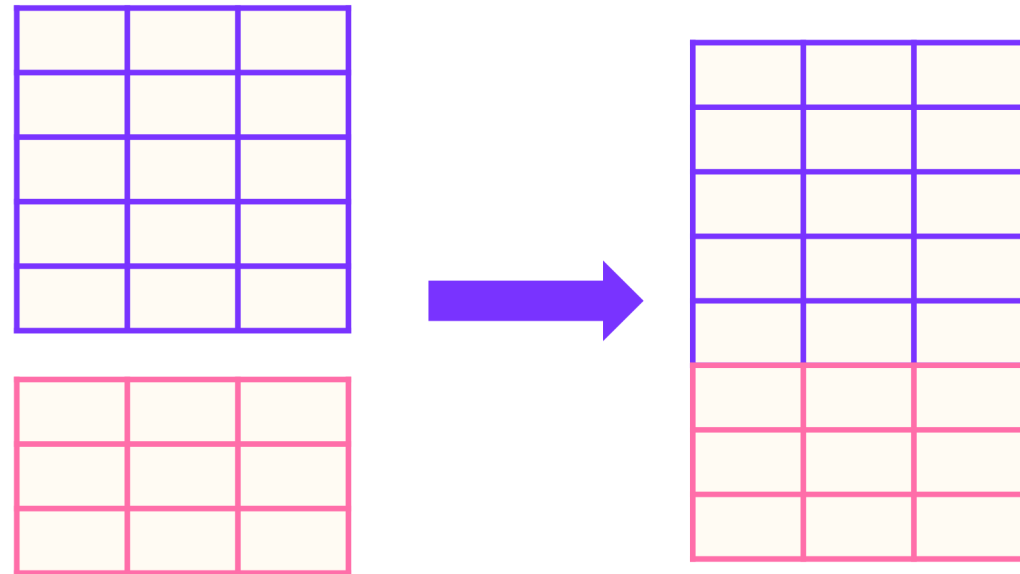
## DATA TRANSFORMATION IN POWER BI

**Khaled Choucri**
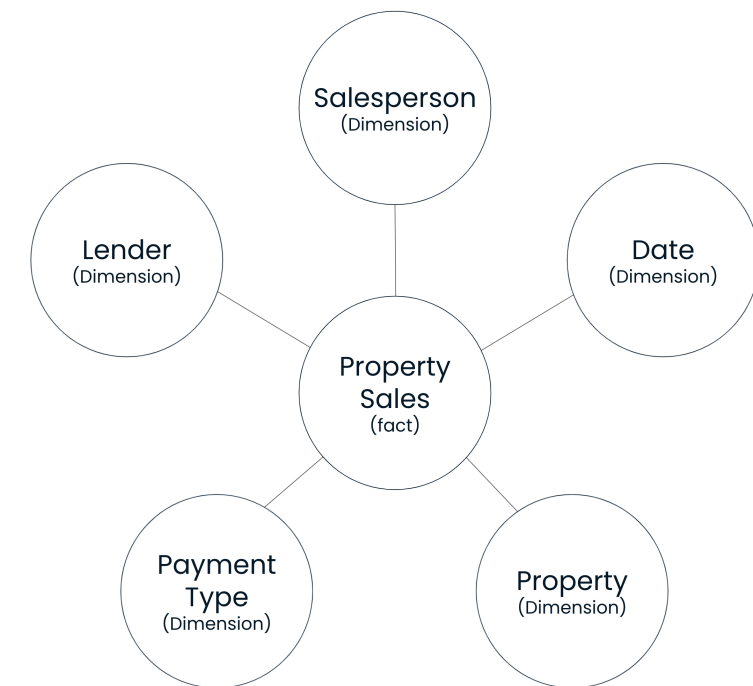Strategic Analyst - Trilogy

# Why combine data?

## Append Queries

- Many separate files with similar data

- Data is too large to store in one file

## Merge Queries

- Tables have relationships between one or more columns

- Tables can be combined to make a "flat" structure

# Appending data

- Append query will add rows to your table
  - "Vertically" combining queries

  - Column names must be the same

| | | |
|---|---|---|
| 2018 Q1 | | |
| 2018 Q2 | | |
| 2018 Q3 | | |
| 2018 Q4 | | |
| 2019 Q1 | | |

**...**

- Nulls will appear when there are different column names or number of columns

| Player A | Player B | Player C |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |

| Player A | Player B | Player D |
|---|---|---|
| 4 | 4 | 4 |
| 5 | 5 | 5 |

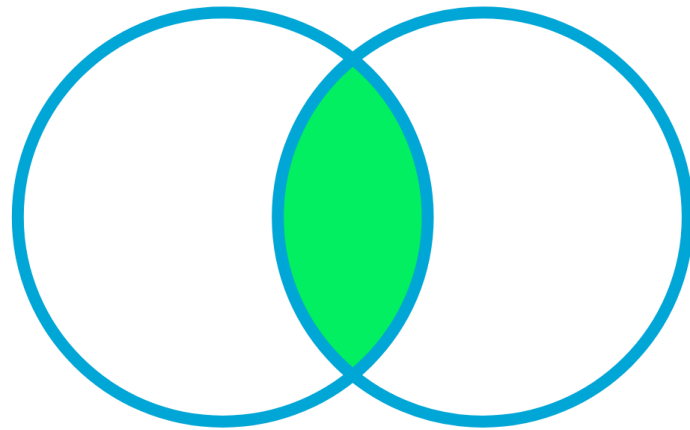| Player A | Player B | Player C | Player D |
|---|---|---|---|
| 1 | 1 | 1 | null |
| 2 | 2 | 2 | null |
| 3 | 3 | 3 | null |
| 4 | 4 | null | 4 |
| 5 | 5 | null | 5 |

# Merging data

- Merging queries will add columns to your table
  - "Horizontally" combining queries
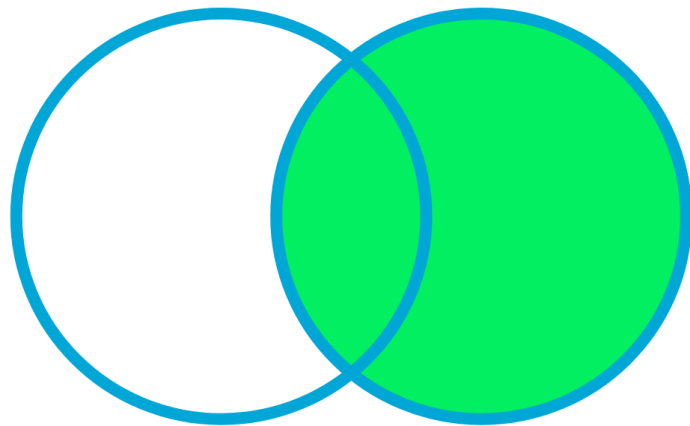  - Join tables through unique identifiers or keys
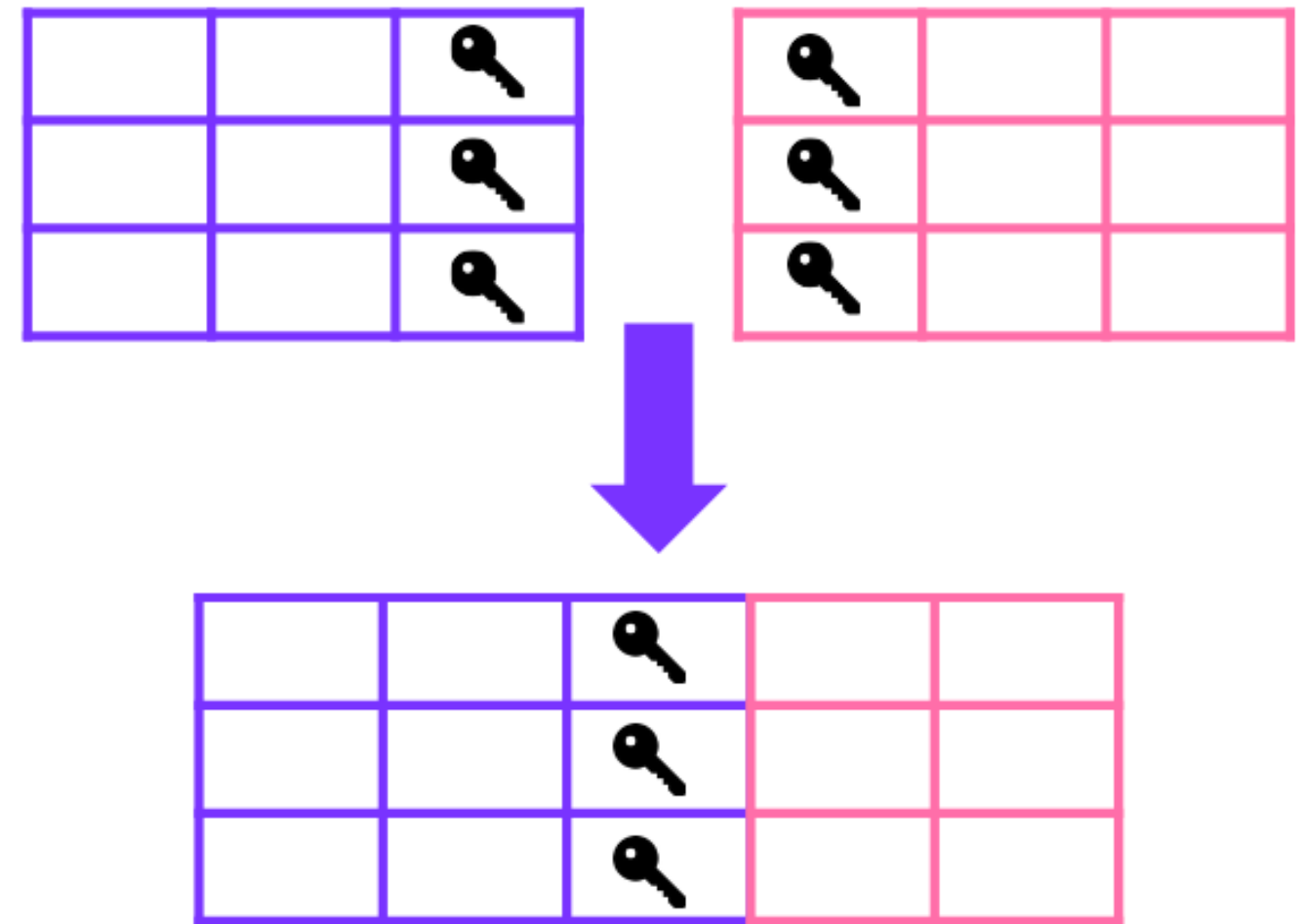
# Merging data: types of joins
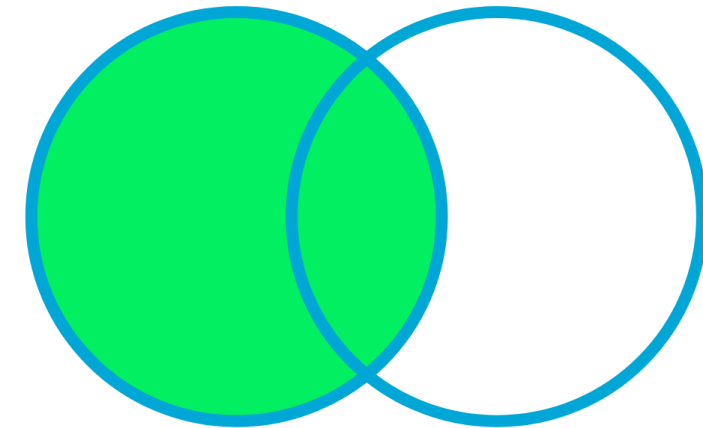
## Inner Join
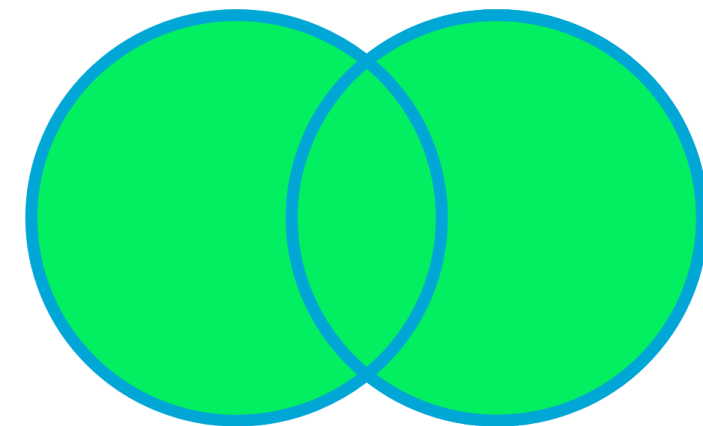


Returns matched rows only

## Right Join

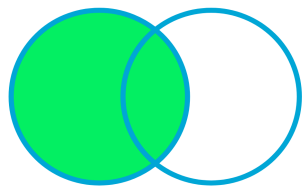

Returns matched rows and right table's rows

## Left Join



Returns matched rows and left table's rows

## Full Join
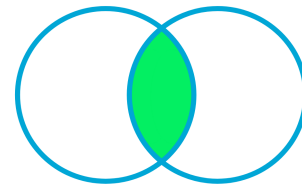


Returns matched rows and both tables' rows

DATA TRANSFORMATION IN POWER BI

# Merging data: example of a left join



| Sales Table | | |
|---|---|---|
| Customer_id | Value | **Product_id** |
| 1 | $80 | **123** |
| 2 | $5 | **456** |
| 3 | $500 | **789** |

| Product Table | | |
|---|---|---|
| **Product_id** | Category | Product |
| **123** | Shoes | Running Shoes |
| **456** | Clothing | Socks |

| Customer_id | Value | **Product_id** | Category | Product |
|---|---|---|---|---|
| 1 | $80 | **123** | Shoes | Running Shoes |
| 2 | $5 | **456** | Clothing | Socks |
| 3 | $500 | **789** | *null* | *null* |

**DATA TRANSFORMATION IN POWER BI**

# Merging data: example of an inner join

## Sales Table

| Customer_id | Value | Product_id |
|---|---|---|
| 1 | $80 | 123 |
| 2 | $5 | 456 |
| 3 | $500 | 789 |

## Product Table

| Product_id | Category | Product |
|---|---|---|
| 123 | Shoes | Running Shoes |
| 456 | Clothing | Socks |

| Customer_id | Value | Product_id | Category | Product |
|---|---|---|---|---|
| 1 | $80 | 123 | Shoes | Running Shoes |
| 2 | $5 | 456 | Clothing | Socks |

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# Let's practice!

## DATA TRANSFORMATION IN POWER BI

# Merging and appending queries in Power Query

## DATA TRANSFORMATION IN POWER BI

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# Let's practice!

## DATA TRANSFORMATION IN POWER BI