Appending and merging queries

INTERMEDIATE POWER QUERY IN EXCEL

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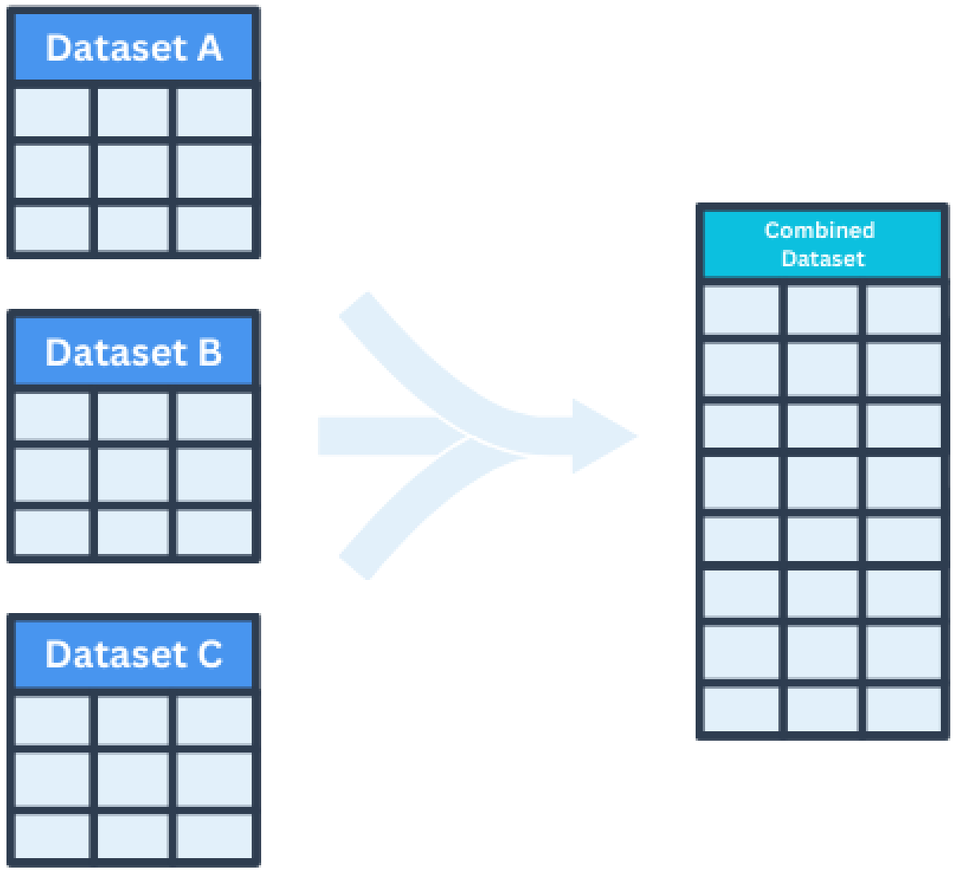
Combining datasets in Power Query

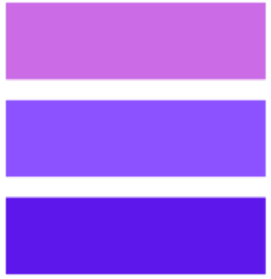


- Consolidates data from multiple sources
- Saves time by reducing manual manipulation (e.g., VLOOKUP)
- Enriches larger datasets by including additional columns from related tables

Principles of append vs. merge

Append

- Stacking datasets of a shared column structure vertically.



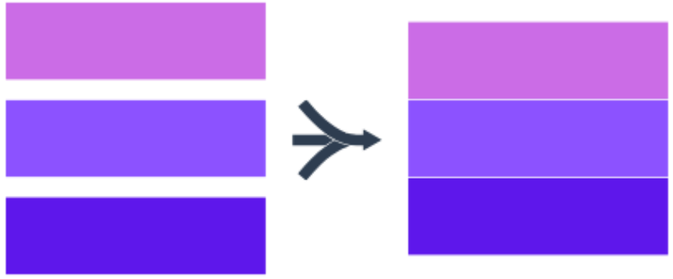
Merge

- Combining datasets horizontally based on common column(s).

Principles of append vs. merge

Append

- Stacking datasets of a shared column structure vertically.



Merge

- Combining datasets horizontally based on common column(s).

Append in practice

- Ensure that the columns in the tables being combined have the same:
  - Name
  - Data Type

Dataset A

Hospital	PatientID	A	B	C	F
A	1	0	0	10	0
A	2	10	1	10	0
A	3	10	0	0	1

Dataset B

Hospital	PatientID	A	B	C
B	4	10	1	10
B	5	0	1	1
B	6	1	10	1

Append in practice

- Ensure that the columns in the tables being combined have the same:
  - Name
  - Data Type

Append Output

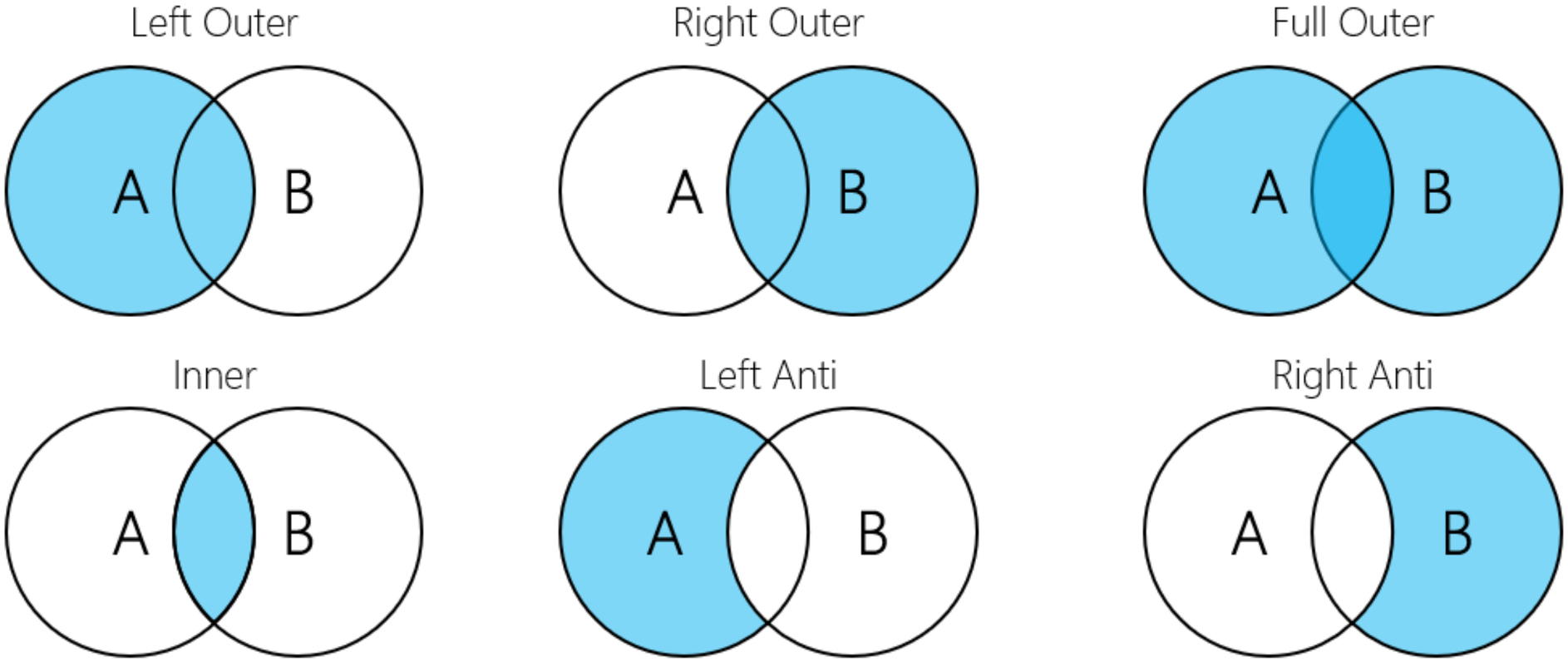
Hospital	PatientID	A	B	C	F
A	1	0	0	10	0
A	2	10	1	10	0
A	3	10	0	0	1
B	4	10	1	10	NULL
B	5	0	1	1	NULL
B	6	1	10	1	NULL

Diving deeper into the merge operation

- Merged data is relative to the current selected query
- Unmatched records may be included or excluded from output

Join types

- Type of join determines how records are combined or excluded based on matching criteria



Merge in practice: left outer join

- Ensure the shared column (key) to match on is of the same data type
- Preview the results to ensure that the merging logic is accurate

Dataset A

Hospital	PatientID	A	B	C	F
A	1	0	0	10	0
A	2	10	1	10	0
A	3	10	0	0	1

Dataset B

Hospital	PatientID	X	Y	Z
A	1	1	1	1
A	2	0	1	1
B	4	0	0	1
B	5	1	0	1

Merge in practice: left outer join

- Ensure the shared column (key) to match on is of the same data type
- Preview the results to ensure that the merging logic is accurate

Left Outer Join Output

Hospital	PatientID	A	B	C	F	X	Y	Z
A	1	0	0	10	0	1	1	1
A	2	10	1	10	0	0	1	1
A	3	10	0	0	1	*NULL*	*NULL*	*NULL*

Merge in practice: full outer join

- Ensure the shared column (key) to match on is of the same data type
- Preview the results to ensure that the merging logic is accurate

Full Outer Join Output

Hospital	PatientID	A	B	C	F	X	Y	Z
A	1	0	0	10	0	1	1	1
A	2	10	1	10	0	0	1	1
A	3	10	0	0	1	*NULL*	*NULL*	*NULL*
B	4	*NULL*	*NULL*	*NULL*	*NULL*	0	0	1
B	5	*NULL*	*NULL*	*NULL*	*NULL*	1	0	1

Special join conditions

- Exact Match: Identical matches between data elements
- Fuzzy Match: Allows for flexible and approximate matching

Dataset A

Department	A
Medicine	100
Surgery	50
Obstetrics	10

Dataset B

Department	B
Medicine	101
Med	95
medicine	100
OBS	8
Surgery	48
Med	99

Special join conditions

- Exact Match: Identical matches between data elements
- Fuzzy Match: Allows for flexible and approximate matching
  - Ignore case
  - Match by combining text parts

Dataset A

Department	A
Medicine	100
Surgery	50
Obstetrics	10

Dataset B

Department	B
Medicine	101
Med	95
medicine	100
OBS	8
Surgery	48
Med	99

Dataset

- Real-world hospital dataset (de-identified electronic health record data)
- Emergency department visits to the Yale New Haven Health System from March 2014 to July 2017
- Patient demographics and registration information, triage assessments, medications, and other related data

[1] journals.plos.org/plosone/article?id=10.1371/journal.pone.0201016

Let's practice!

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Combining queries with Power Query

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datacamp

Let's practice!

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