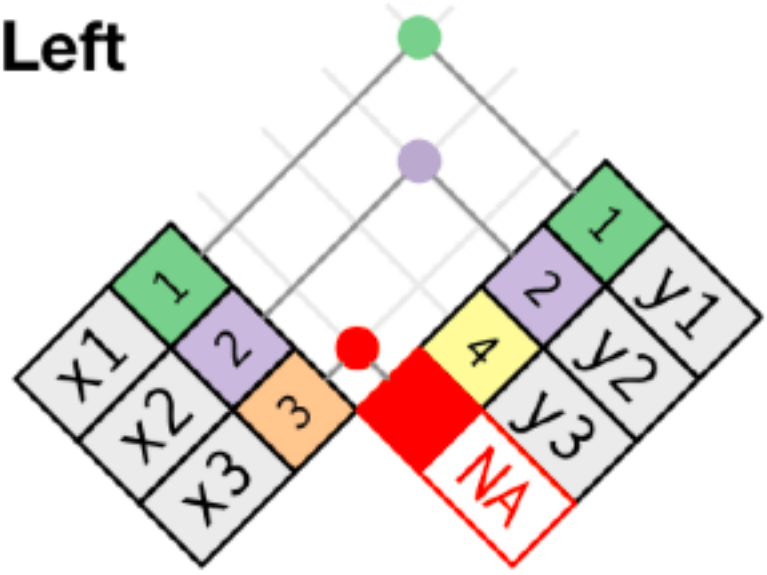
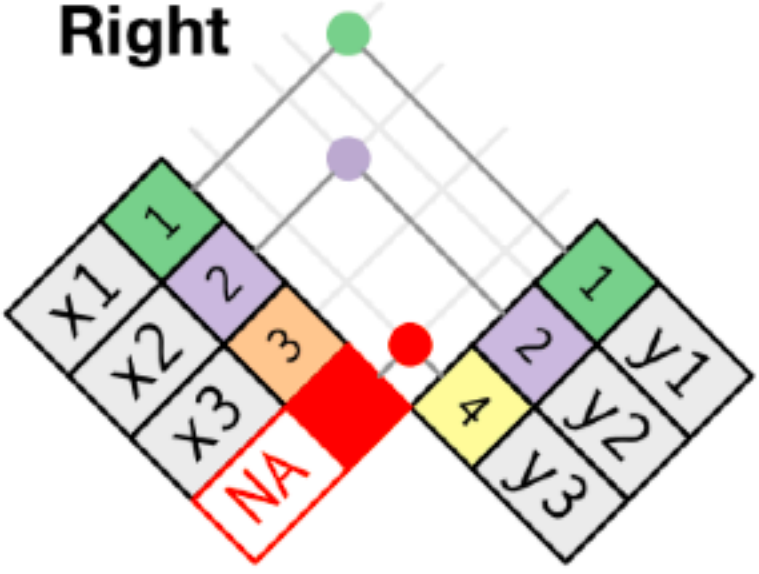
Outer joins versus inner joins

Left



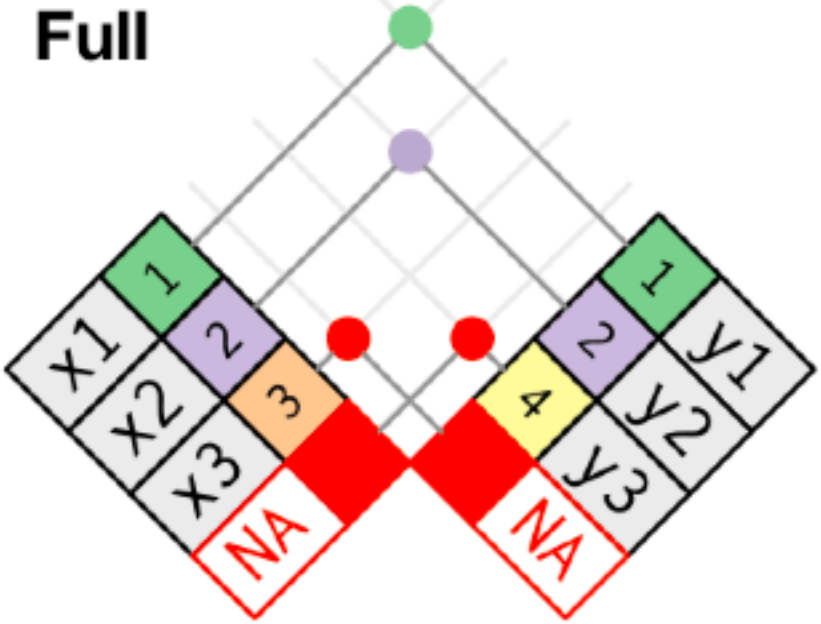
key	val_x	val_y
1	x1	y1
2	x2	y2
3	x3	NA

Right



key	val_x	val_y
1	x1	y1
2	x2	y2
4	NA	y3

Full



key	val_x	val_y
1	x1	y1
2	x2	y2
3	x3	NA
4	NA	y3

Three types of outer joins:

1. "**Left join**" keeps all observations in the left table
2. "**Right join**" keeps all observations in the right table
3. "**Full join**" keeps all observations in both tables

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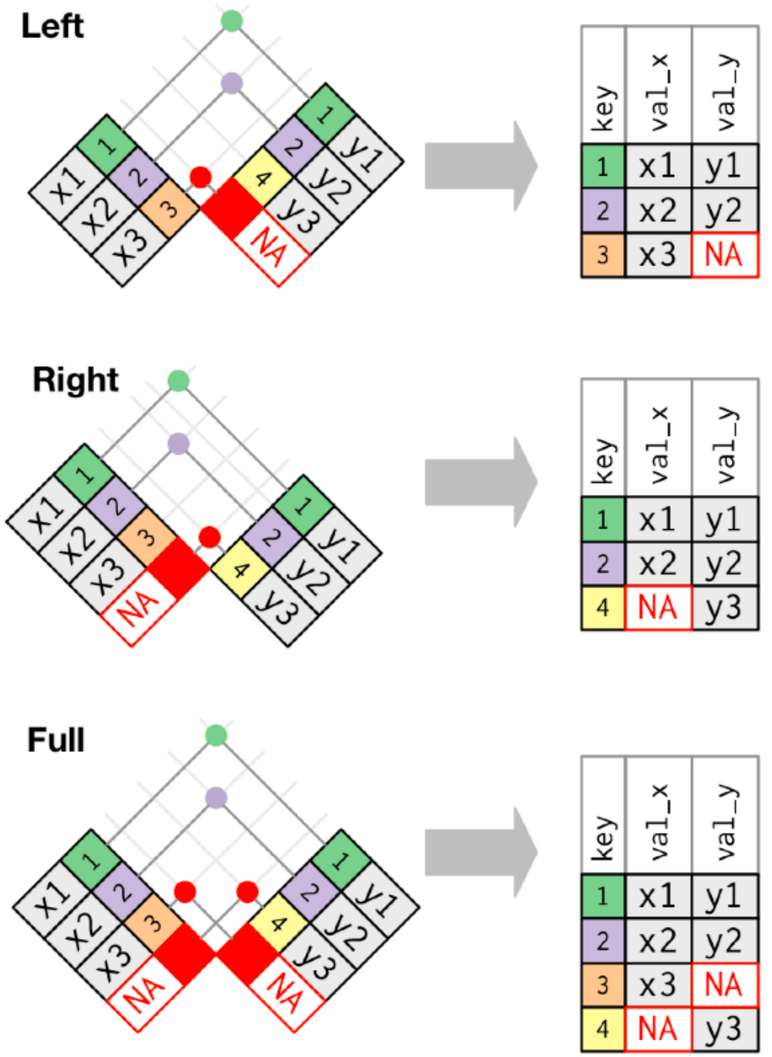
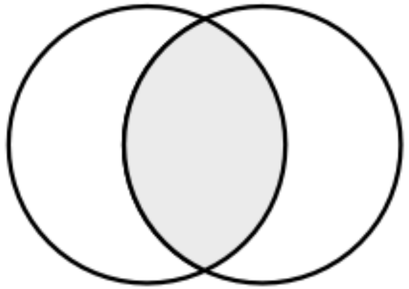
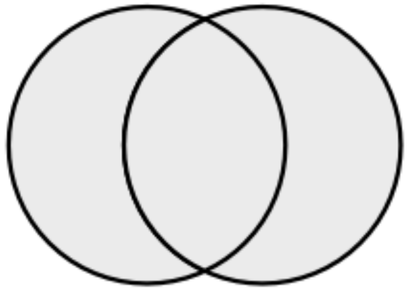


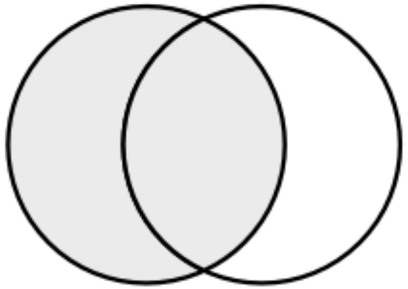
There are several types of join operations



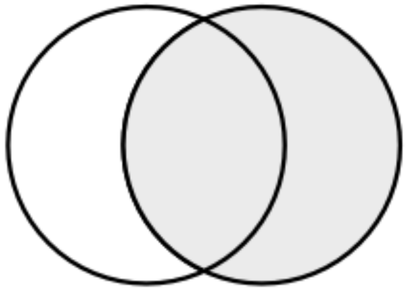
`inner_join(x, y)`



`full_join(x, y)`



`left_join(x, y)`



`right_join(x, y)`