

# Reshaping

Country	1999	2000
A	1.7m	1.8m
B	2.5m	2.4m
C	100k	150k

longer (cols = c(1999, 2000))  
 (names.to = "year")  
 values.to = "pop"  
 values.drop.na = FALSE

Country	year	pop
A	1999	1.7m
A	2000	1.8m
B	1999	2.5m
B	2000	2.4m
C	1999	100k
C	2000	150k

Pivot\_wider (names.from = year)  
 values.from = pop

	1999	2000
A	1.7	1.8
B	2.5	2.4
C	100	150

# Joins

left\_data > join(right)

left	right
x y	x z
1 a	2 10
2 b	3 20

left\_join():

x	y	z
1	a	NA
2	b	10

inner\_join():

x	y	z
2	b	10

Semi\_join(): like inner but only data from left

Roll\_join():

x	y	z
1	a	NA
2	b	10
3	NA	20

Anti\_join():

x	y
1	a

mutate(y=y+2)

	z
1	12
2	14

mutate(z=x+y)

	z
1	17
2	17

select(y,z) or select(-x)

	z
1	17
2	17

filter(z==17)

arrange(desc(y))

	z
2	17
1	17

	z
2	17
1	17

# Wrangling