## TIDY DATA

#### tidy data

each variable is a column; each column is a variable.

each observation is a row; each row is an observation.

each value is a cell; each cell is a single value.

country	year	cases	population
Afghanistan	1999	745	19987071
Afghanistan	2000	2666	20595360
Brazil	1999	37737	172006362
Brazil	2000	80488	174504898

C	ountry	year	cases	population
Afgha	nistan	1999	745	19987071
Afgha	nistan	2000	2666	20595360
	Brazil	1999	37737	172006362
	Brazil	2000	80488	174504898

#### variables

country	year	cases	population
Afgitanistan	1000	745	<del>19</del> >7071
Afg <mark>itanistan</mark>	2000	2666	<del>20&gt;5</del> 360
<b>◆</b> Drazil	1999	37737	<del>172</del> >6362
<b>◆</b> Drazil	2000	00400	<del>174</del> >4898

#### observations

country	year	cases	population
Afgnaristan	<b>O</b> 1999	745	19987071
Afgnaristan	2000	2666	20595360
<b>O</b> 3razil	<b>O</b> 1999	7737	17(20)6362
<b>S</b> razil	2000	0488	17(450)4898

#### values

country	year	type	count
Afghanistan	1999	cases	745
Afghanistan	1999	population	19987071
Afghanistan	2000	cases	2666
Afghanistan	2000	population	20595360
Brazil	1999	cases	37737
Brazil	1999	population	172006362
Brazil	2000	cases	80488
Brazil	2000	population	174504898

## longer

country	year	type	count
Afghanistan	1999	cases	745
Afghanistan	1999	population	19987071
Afghanistan	2000	cases	2666
Afghanistan	2000	population	20595360
Brazil	1999	cases	37737
Brazil	1999	population	172006362
Brazil	2000	cases	80488
Brazil	2000	population	174504898

#### wider

country	cases_1999	cases_2000	pop_1999	pop_2000
Afghanistan	745	2666	19987071	20595360
Brazil	37737	172006362	80488	174504898



country	year	rate
Afghanistan	1999	745 / 19987071
Afghanistan	2000	2666 / 20595360
Brazil	1999	37737 / 172006362
Brazil	2000	80488 / 174504898

#### tidy

country	year	cases	population
Afghanistan	1999	745	19987071
Afghanistan	2000	2666	20595360
Brazil	1999	37737	172006362
Brazil	2000	80488	174504898

#### tidy

country	year	cases	population
Afghanistan	1999	745	19987071
Afghanistan	2000	2666	20595360
Brazil	1999	37737	172006362
Brazil	2000	80488	174504898

vector

### {{ tidyr }}

pivot\_wider()

pivot\_longer()

## STRINGS

### {{ stringr }}

```
str_trim()
str_squish()
```

# str\_ends() str\_detect()

str\_starts()

str\_starts(txt, "Anna")

str\_ends(txt, "Miller")

str\_detect(txt, "Mill")