

# Making data sets longer or wider

We'll be discussing two functions:

- `pivot_longer()` — make a wide table long
- `pivot_wider()` — make a long table wide



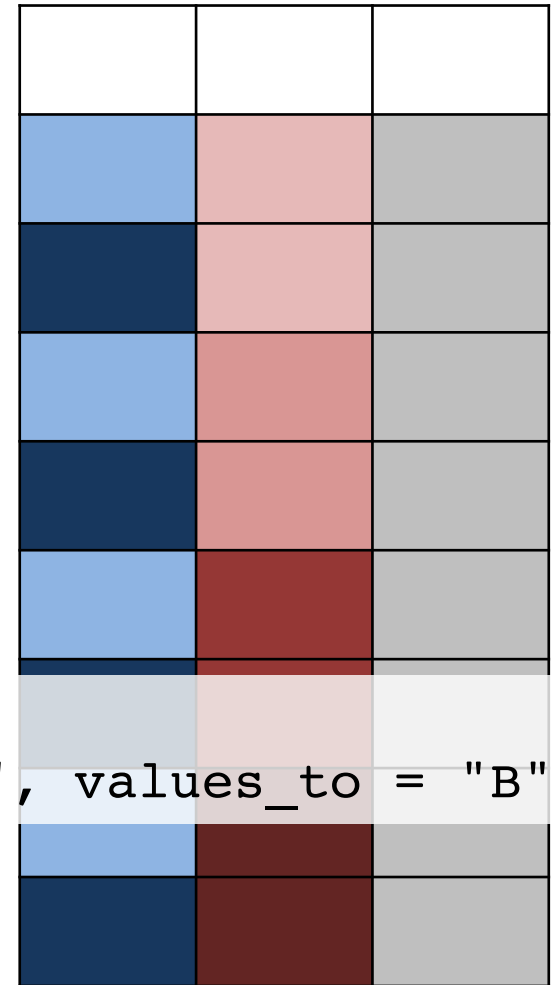
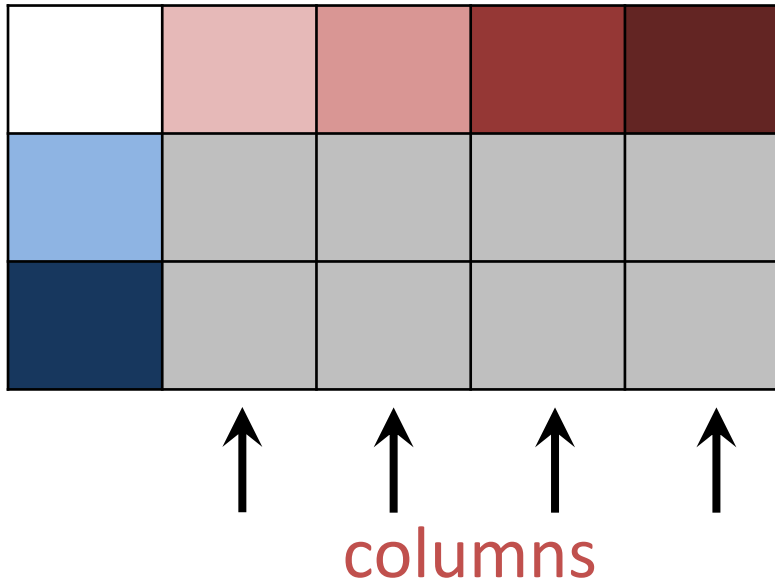
# pivot\_longer()





```
data %>%  
  pivot_longer(cols, names_to = "A", values_to = "B")
```

# pivot\_longer()



```
data %>%  
  pivot_longer(cols, names_to = "A", values_to = "B")
```

# pivot\_longer()

A





```
data %>%  
  pivot_longer(cols, names_to = "A", values_to = "B")
```

# pivot\_longer()





```
data %>%  
  pivot_longer(cols, names_to = "A", values_to = "B")
```

# Example: Let's recreate the sitka data from a wide table

```
> head(sitka_wide)
  tree treat t152 t174 t201 t227 t258
1     1 ozone 4.51 4.98 5.41 5.90 6.15
2     2 ozone 4.24 4.20 4.68 4.92 4.96
3     3 ozone 3.98 4.36 4.79 4.99 5.03
4     4 ozone 4.36 4.77 5.10 5.30 5.36
5     5 ozone 4.34 4.95 5.42 5.97 6.28
6     6 ozone 4.59 5.08 5.36 5.76 6.00
```

# Example: Let's recreate the sitka data from a wide table

```
> head(sitka_wide)
  tree treat t152 t174 t201 t227 t258
1     1 ozone 4.51 4.98 5.41 5.90 6.15
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5     5 ozone 4.34 4.95 5.42 5.97 6.28
6     6 ozone 4.59 5.08 5.36 5.76 6.00
```

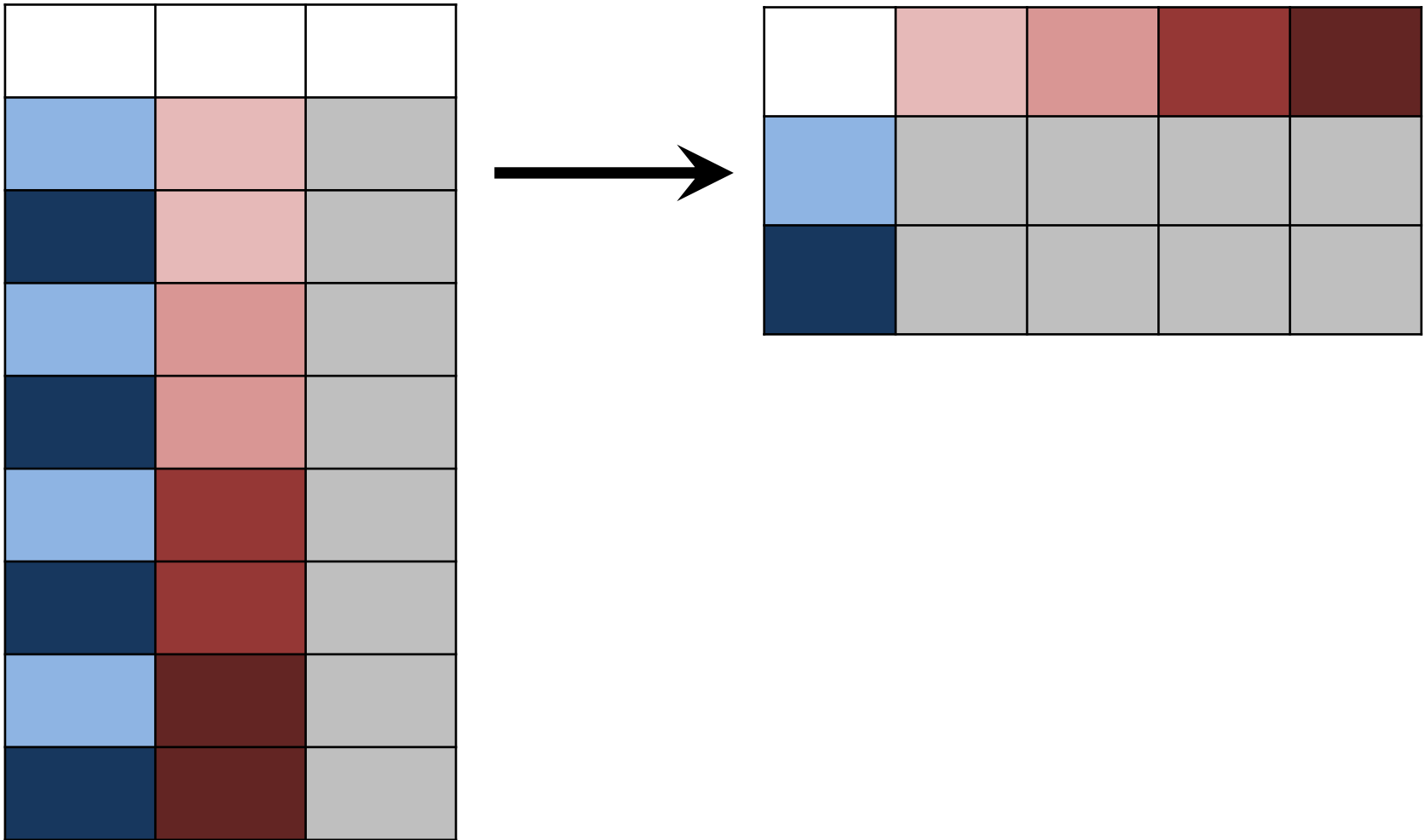
```
sitka_wide %>%
  pivot_longer(
    t152:t258, names_to = "time", values_to = "size"
  )
```



# Example: Let's recreate the sitka data from a wide table

```
> sitka_wide %>%  
  pivot_longer(  
    t152:t258, names_to = "time", values_to = "size"  
  )  
# A tibble: 395 x 4  
   tree treat time    size  
   <int> <fct> <chr> <dbl>  
1     1  ozone t152    4.51  
2     1  ozone t174    4.98  
3     1  ozone t201    5.41  
4     1  ozone t227    5.9  
5     1  ozone t258    6.15  
6     2  ozone t152    4.24  
7     2  ozone t174    4.2  
8     2  ozone t201    4.68  
9     2  ozone t227    4.92  
10    2  ozone t258    4.96
```

`pivot_wider()`



# `pivot_wider()`

light blue	light red	gray
dark blue	light red	gray
light blue	light red	gray
dark blue	light red	gray
light blue	light red	gray
dark blue	dark red	gray
light blue	dark red	gray
dark blue	dark red	gray



	light red	light red	dark red	dark red
light blue	gray	gray	gray	gray
dark blue	gray	gray	gray	gray

```
data %>%
```

```
  pivot_wider(names_from = "A", values_from = "B")
```

# `pivot_wider()`

A

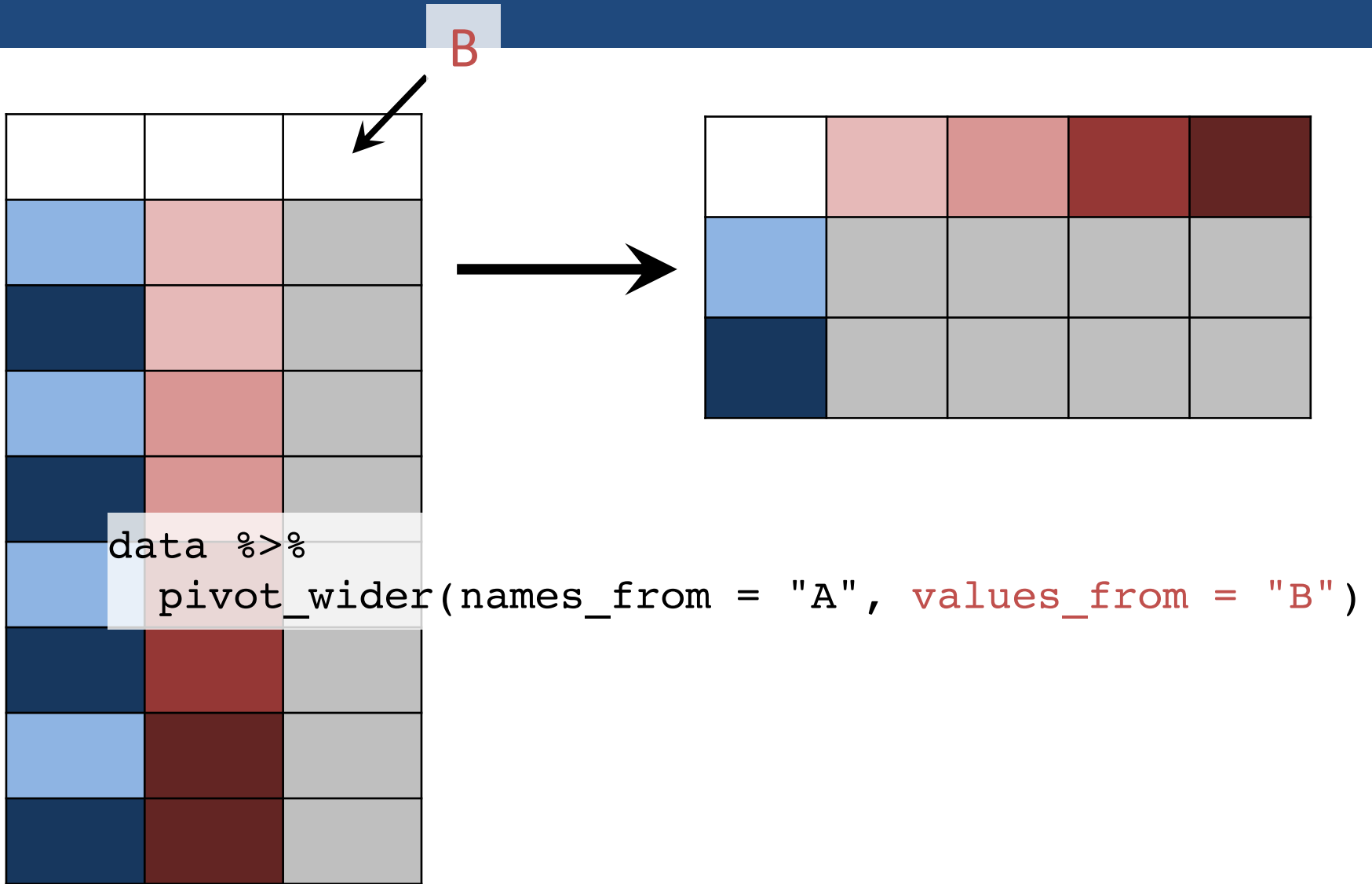
light blue	light red	grey
dark blue	light red	grey
light blue	light red	grey
dark blue	light red	grey
light blue	light red	grey
dark blue	dark red	grey
light blue	dark red	grey
dark blue	dark red	grey

```
data %>%  
  pivot_wider(names_from = "A", values_from = "B")
```



	light red	light red	dark red	dark red
light blue	grey	grey	grey	grey
dark blue	grey	grey	grey	grey

# pivot\_wider()



# Example: Let's turn the sitka data into a wide table

```
> head(sitka)
  size Time tree treat
1 4.51  152    1 ozone
2 4.98  174    1 ozone
3 5.41  201    1 ozone
4 5.90  227    1 ozone
5 6.15  258    1 ozone
6 4.24  152    2 ozone
```

```
sitka %>%
  pivot_wider(names_from="Time", values_from="size")
```

# Example: Let's turn the Sitka data into a wide table

```
> sitka %>%  
  pivot_wider(names_from="Time", values_from="size")  
  
# A tibble: 79 x 7  
  tree treat `152` `174` `201` `227` `258`  
  <int> <fct> <dbl> <dbl> <dbl> <dbl> <dbl>  
1     1  ozone  4.51  4.98  5.41  5.9   6.15  
2     2  ozone  4.24  4.2   4.68  4.92  4.96  
3     3  ozone  3.98  4.36  4.79  4.99  5.03  
4     4  ozone  4.36  4.77  5.1   5.3   5.36  
5     5  ozone  4.34  4.95  5.42  5.97  6.28  
6     6  ozone  4.59  5.08  5.36  5.76  6  
7     7  ozone  4.41  4.56  4.95  5.23  5.33  
8     8  ozone  4.24  4.64  4.95  5.38  5.48  
9     9  ozone  4.82  5.17  5.76  6.12  6.24  
10    10  ozone  3.84  4.17  4.67  4.67  4.8  
# ... with 69 more rows
```