

Tibble / Data Frame

The type of R object that we will use to store tabular data is called a **tibble**, a special type of the more generic data frame.

Tibbles are what are created with functions with **read_csv**, passed around in many complex pipes (`%>%`), and fed into modelling and visualisation functions.

It will be useful to create tibbles inline in R, without reading from a CSV, both for short examples/exercises as well as later when doing doing scraping.

Creating a Tibble

We will create a tibble using the functions **tibble()** and **c()** (combine) to manually build a dataset with named features. Here is an example that describes the political divisions within five countries:

```
country_div <- tibble(  
  country = c("USA", "Canada", "France", "Germany", "China"),  
  division = c("state", "province", "département", "federated state", "province"),  
  number = c(50, 10, 101, 16, 23)  
)
```

Once we run this code, we can use **country_div** just like any other dataset.

NOTE: values of character features must be in quotes; and be careful of all the commas

Tibble + Plot = Fun !

the **col** geom produces one bar for each row of the dataset

```
country_div %>%  
  ggplot() +  
  geom_col(aes(x = country, y = number)) +  
  geom_text(aes(x = country, y = (number + 3), label = division))
```

you can apply functions and mathematical operations to features before passing them to aesthetics

