

Tutorial-07

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Exploratory Visualisation

Learning Objectives

- Collectively as a class perform an exploratory analysis to get insights about a data set.
- Practice iterating on your visualisation
- Practice writing about your plot

Preparation

- Install the R Package `gapminder`

```
if(!require(gapminder)){  
  install.packages("gapminder")  
}
```

Motivation

Sometimes your data sets will be too large to quickly visualise using functions like `ggairs` from the `Ggally` package.

The most important insights from your data might also require you to use more sophisticated plots than plot of just 1 or 2 dimensions.

In this tutorial we'll use other strategies to visualise and understand your data.

Exercise 1

In small groups, take a look at what variables are in the `gapminder` data set.

Scroll to the bottom of the help menu and run the examples. This will produce some basic plots that help you get started.

Also take a look at the [gapminder github page](#) for some other inspiration of what plots you can create with this data set. Note there is an specific colour scale you can use to visualise the different countries.

Exercise 2

Now, it's your turn. Decide at your tables what you think is important to visualise in this data set.

Remember you have options to:

- `select` - reduce the number of variables
- `filter` - reduce the size of the data to look at a smaller, more targetted data set
- `group_by` and `summarise` - create aggregates so you can get an broad overview
- `facet_wrap` and `facet_grid` so you can use small multiples

As a group decide what part of the data you want to visualise. Share what you plan to look at on the whiteboard or in the zoom chat.

Remember, this will likely be an iterative process. So what you start off trying to visualise might need to change as you go.

Exercise 3

Take some time to write up the insights you gain from your visualisation. This is to practice what we've learnt today about writing about your plots.

Finishing Up

Share the plots your group created on the discussion forum along with your explanation of what the plots show.

The goal here is that as a class we have performed an exploratory data analysis that gives us a better understanding of what is in this data set.