Workshop4

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Exercise 1

Download the dataset : winequality-red.csv and show the summary.

Add the categorical variable "label" grouping the alcohol variable in the following way:

Light: alcohol < 9; Medium: $9 \leq$ alcohol < 12 ; Strong: alcohol ≥ 12

How many Light, Medium and Strong wines there are in the dataset?

Create a barplot of the 3 levels variable "label" where the color of bars depends on the level of the alcohol concentration, with title: "Alcohol concentration"

Show histograms for fixed.acidity by label

Create a density plot (`geom_density()`) showing the citric.acid of the three level of the variable "label"

Create a scatter plot quality and alcohol where the color of points varies depending on the following quality ranges $(2, 4], (4, 6], (6, 8]$. Add a dashed line for the median. Give a title to the plot and to the x and y axes

Use `geom_jitter()` instead of `geom_point()`

Exercise 2 - Dplyr recap

```
libarry(tidyverse) library(dplyr) library(gapminder)
```

Load the dataset gapminder from the package gapminder

Create a tibble 5×4 containing the number of observation per continent, the number of countries per continent and the average of life expectation.

What was the most populous European country in 1992?

Modify the population variable by dividing it by 10^6. Show the results sorted according to population in a descendent order.

Draw a scatterplot of gdpPercap and lifeExp where the color of points depends on the continent. Overall also a smooth line (*loess*) with it's confidence intervals. Give the plot a title and axis labels.

Hint: log scale x axis

Exercise 3

Instructions:

Select a dataset and variables to be used for clustering: - Iris dataset, variable Species not included. - mtcars dataset, considering only the following variables : 'mpg','disp', 'wt'. Indicate the desired number of clusters to be used and display the results in a scatterplot where colors depend on clusters.

Hint : add `runtime: shiny` to the YAML-Header.

Example :

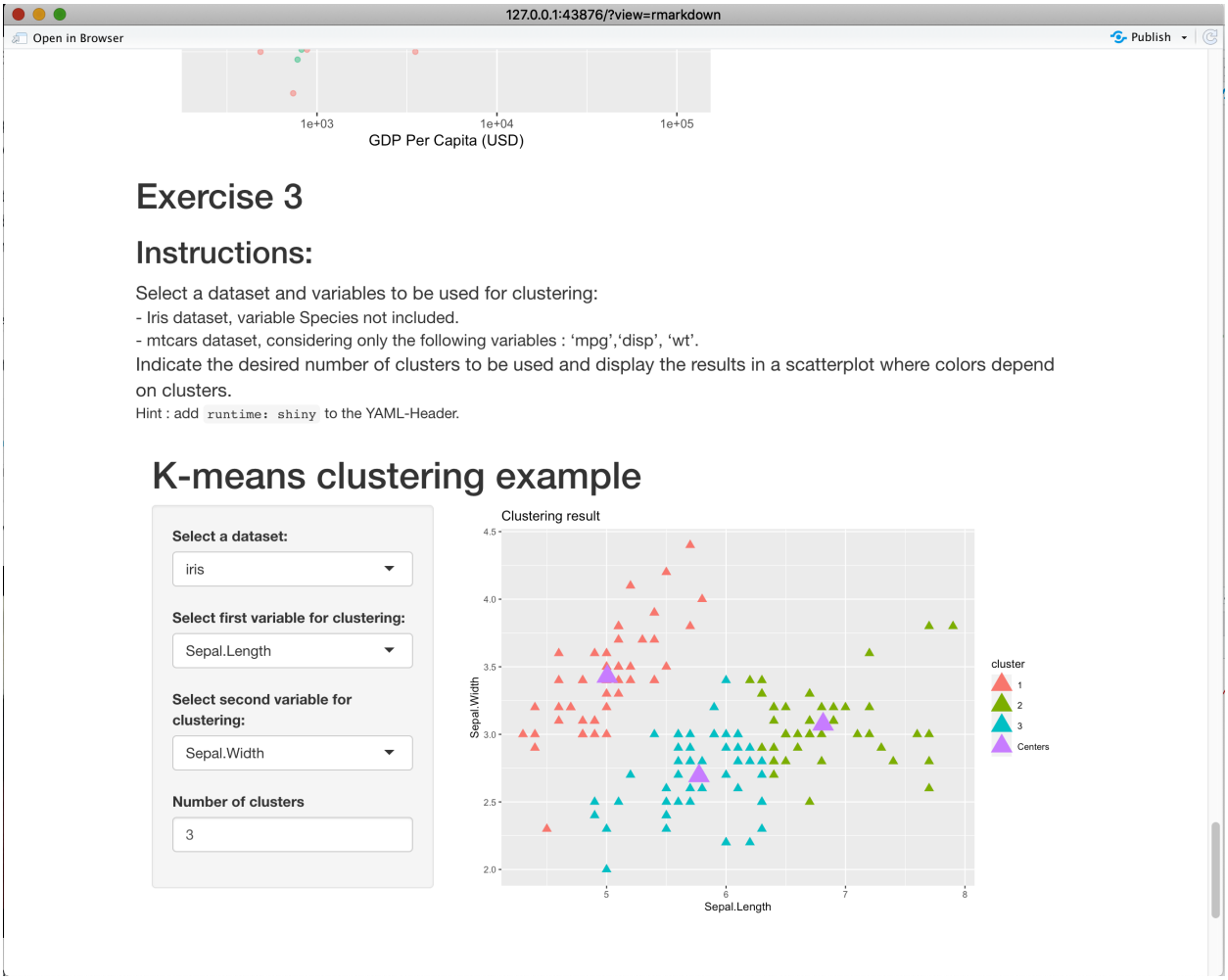

Figure 1: Example Image