

Visualize Danish Kings and other nifty data

For this Visualization assignment, you engage in **two** tasks and submit an rmarkdown document with a knitted result that collects the results of both tasks:

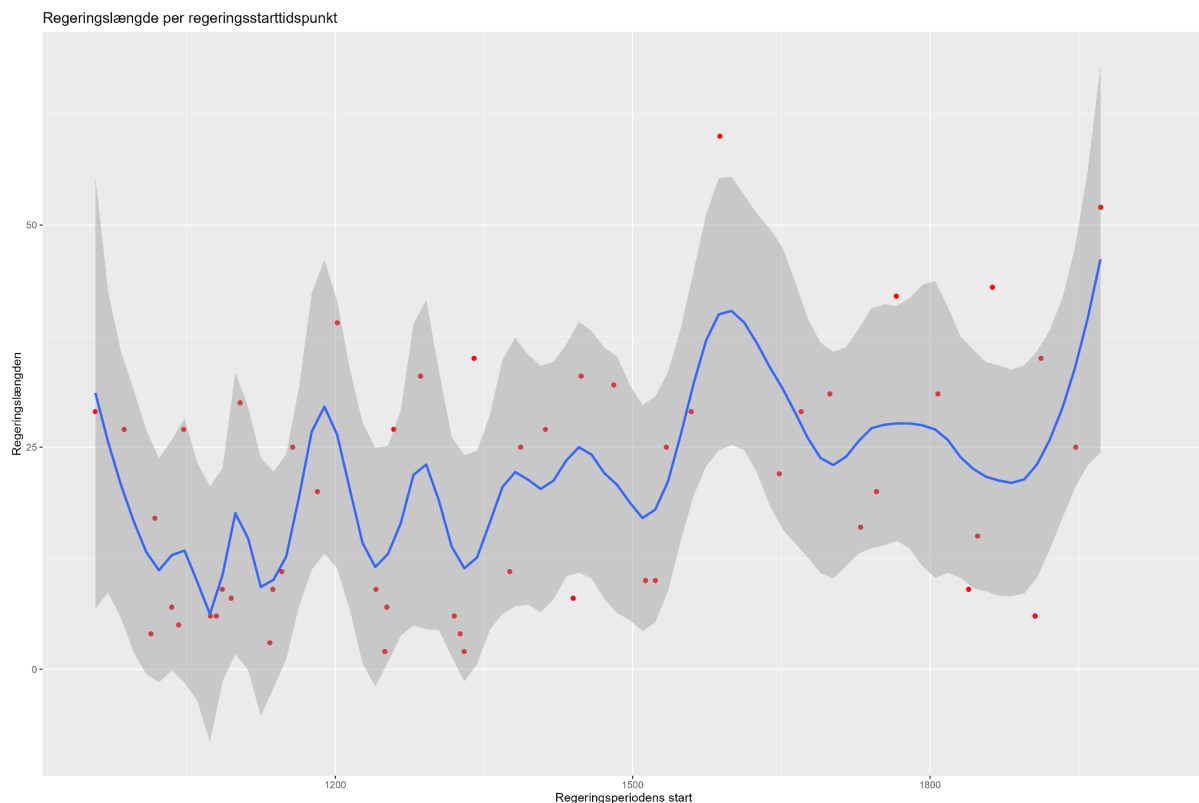
A: same for everyone: Visualize the duration of reign among Danish kings **through time** (showing the diachronic trend from ca 900 - today on the x axis) with **ggplot**. Use the dataset you/your group has created and submit both the script and the visualization, ideally as part of an rmarkdown and html document (for details see bottom of this page). Experiment with `geom_point()`, `geom_line()` or `geom_smooth()` functions for the geometry.

Koden:

```
library(tidyverse)
konger <- read_csv("data/konger.csv", na = "NA")
konger
#lav version uden monark navne:
konger_uden_navne <- subset(konger, select = -5)
konger_uden_navne[!is.na(konger_uden_navne)]
#udvælg kun søjle med regeringsår:
#subset søjler ud:
start <- konger_uden_navne[[3]]
slut <- konger_uden_navne[[4]]
#lav en ny matrix kun med disse to:
regeringstid_2 <- data.frame(start,slut)
regeringstid_2
#Træk hvert element i de to søjler fra hinanden og lav en ny søjle med disse:
regeringstid_2$C <- (regeringstid_2$slut - regeringstid_2$start)
regeringstid_2$C
#Lav plot med regeringstid pr. monark:
konger_navne <- subset(konger, select = 5)
konger_navne
#lav dataframe med disse variable:
plot_konger_2 <- data.frame(start, regeringstid_2$C)
plot_konger_2
#lav plottet:
filter(!is.na(plot_konger_2))
plot_uge_12 <- plot_konger_2 %>%
```

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```
ggplot(aes(x = start, y = regeringstid_2.C)) +  
  geom_point(color = 'red') +  
  geom_smooth(span = 0.2) +  
  labs(title = "Regeringslængde per regeringsstarttidspunkt",  
        x = "Regeringsperiodens start",  
        y = "Regeringslængden")  
ggsave("figures/plot_konger_2.png", plot_uge_12, width = 15, height = 10)
```



B: choose **one** of the two options below and follow the instructions in rmarkdowns. These have slightly different content depending on what you wish to practice. You can practice working with facets in ggplot or with producing data animations.

1) Historical homicide trends across Western Europe (ggplot practice)

<https://github.com/Digital-Methods-HASS/HomicideHistory>

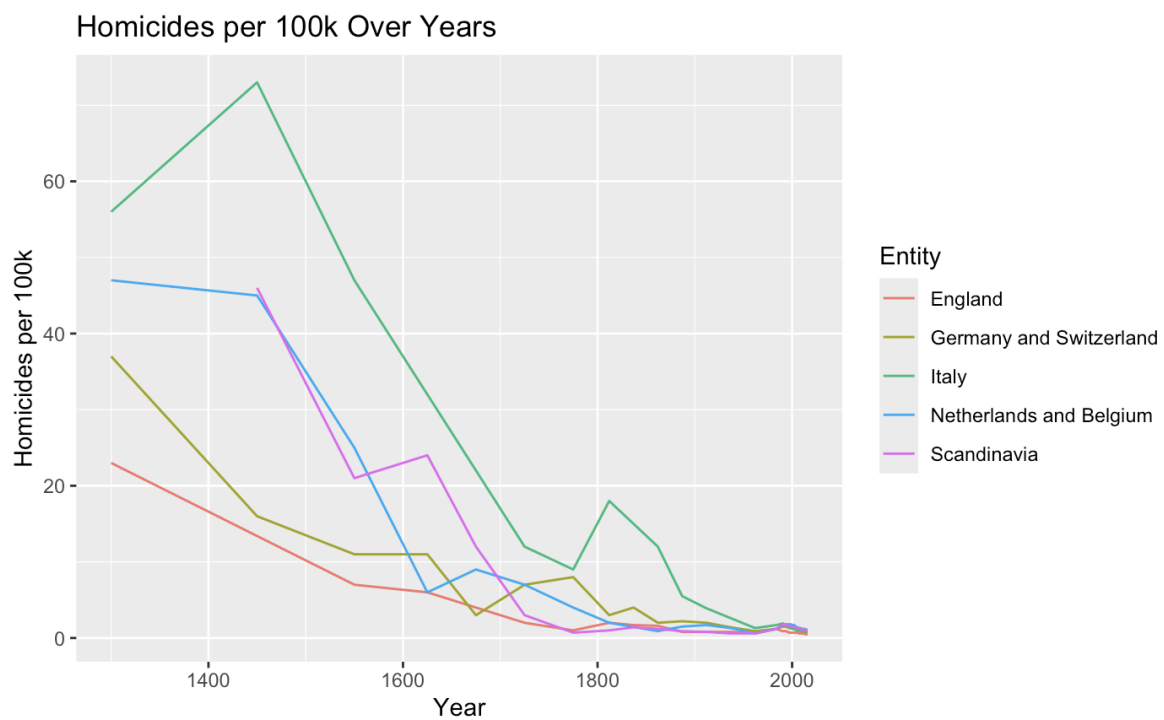
Koden:

```
names(Western_Europe2)[names(Western_Europe2) == "Homicide rate in Europe over  
long-term (per 100,000) (homicides per 100,000 people)"] <- "homicides_per_100k"
```

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Let's see what the long-term trend is in homicides

```
ggplot(data = Western_Europe) +  
  
  geom_line(aes(x = Year, y = homicides_per_100k, color = Entity)) +  
  
  ggtitle("Homicides per 100k Over Years") +  
  
  xlab("Year") +  
  
  ylab("Homicides per 100k")  
print(homicideFun)
```



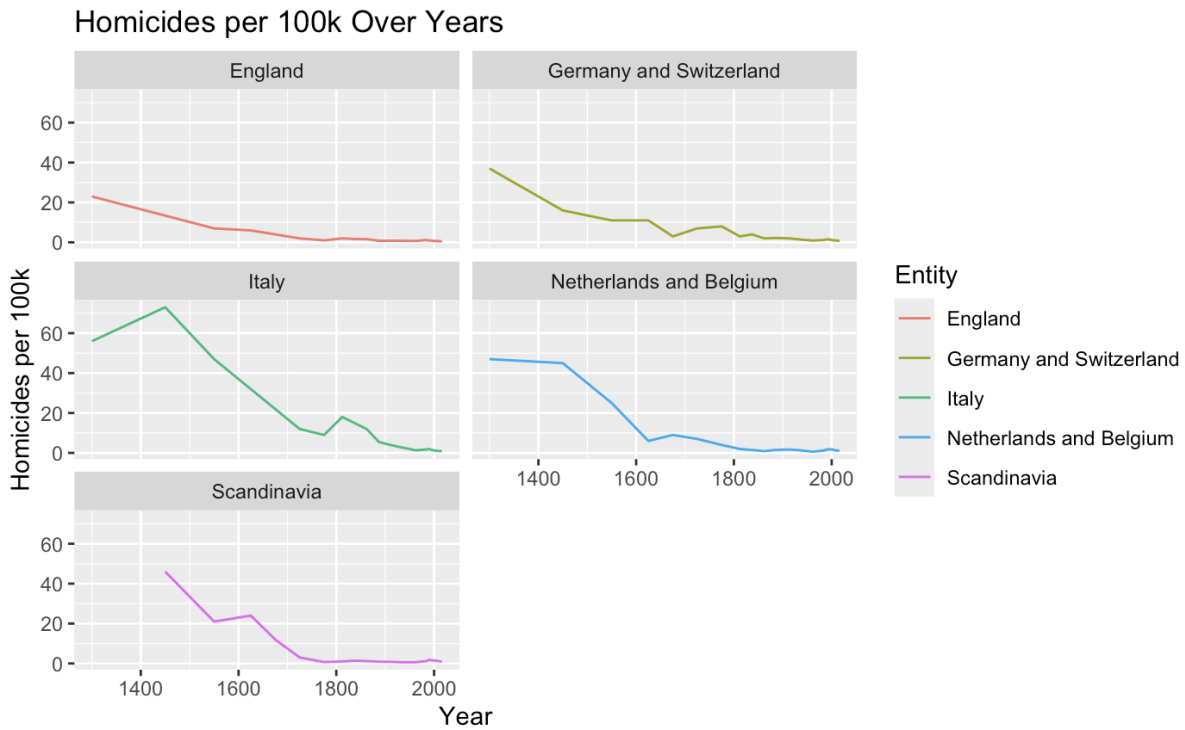
Uncouple the homicides of individual countries for easier view

```
ggplot(data = Western_Europe) +  
  
  geom_line(aes(x = Year, y = homicides_per_100k, color = Entity)) +  
  
  facet_wrap(~ Entity, ncol = 2) +  
  
  ggtitle("Homicides per 100k Over Years") +
```

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```
xlab("Year") +
```

```
ylab("Homicides per 100k")
```



Compare the trends in homicide with the pattern of reign duration among Danish rulers through time.

```
kings$Midyear <- kings$End_date - (kings$End_date - kings$Start_date) / 2
```

```
ggplot(data = kings) +
```

```
geom_smooth(aes(x = Midyear, y = Duration), method = "loess", se = FALSE) +
```

```
ggtitle("Duration of Reign of Danish Kings") +
```

```
xlab("Midyear of Reign") +
```

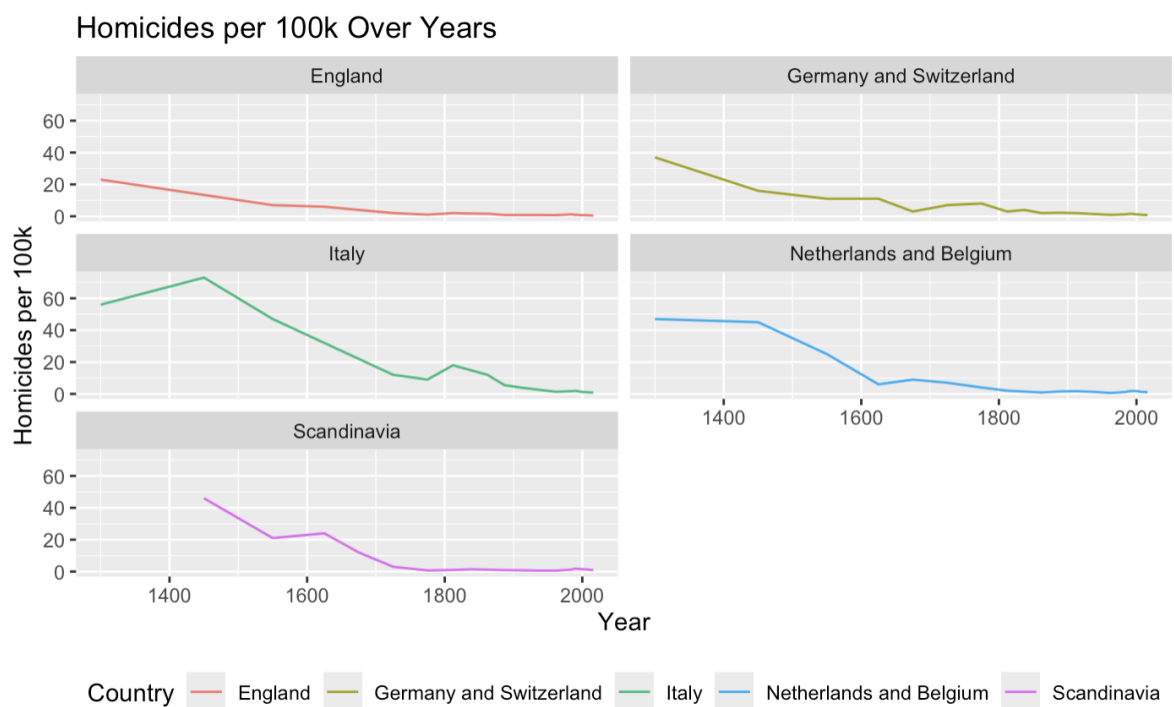
```
ylab("Duration of Reign (Years)")
```

Final tasks:

1.

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```
ggplot(data = Western_Europe) +  
  
  geom_line(aes(x = Year, y = homicides_per_100k, color = Entity)) +  
  
  facet_wrap(~ Entity, ncol = 2) +  
  
  ggtitle("Homicides per 100k Over Years") +  
  
  xlab("Year") +  
  
  ylab("Homicides per 100k") +  
  
  theme(legend.position = "bottom") +  
  
  guides(color = guide_legend(title = "Country"))
```



2) Rmarkdown:

- edit the author of the document, and convert 'Final Tasks' into heading #2 (like the other headings)

- add a 'floating table of contents' to your Rmarkdown document,

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- provide informative `chunk-names` and edit flags in your R chunks, and
- automatically generate a `timestamp` to show when the document was last updated. (Hint: check the Rmarkdown episode in our Data Carpentry tutorial)

3) Question: In <250 words articulate your answer on the basis of the data visualisations to the following question: are we more civilized today?

How to logistically complete this assignment:

I am asking you to work with assignments from Github and submit answers to Github. You can do so manually following steps in this guide:

Download the homework repository (click 'Code' button > 'download zip' button)

Look at the .html file to see the tasks

Edit the .Rmd file to complete the tasks (ie. create additional code chunks and comments in the text sections) and then press the Knit button to render the results as a new .html file the same way you did in Week 09 UN Votes exercise

Upload these via 'Upload File' button to your au##### folder in Digital-Methods-HASS organization. If you wish to create a folder, click 'create new file' and then in the blank enter the name of folder with a slash behind it, eg. "week12/" and it becomes a folder instead of a file.

Submit here a *link* to **your au#####** repository in <https://github.com/Digital-Methods-HASS> ... which leads directly to the place where you have posted your solution as **both .Rmd** and **.html**