Utfordring 3

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```
# Utfordirng 3.1.2

library(OECD)
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.1.2
```

```
## Warning in register(): Can't find generic 'scale_type' in package ggplot2 to
## register S3 method.
```

```
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.1.2
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v tibble  3.1.6     v dplyr   1.0.7
## v tidyr   1.1.4     v stringr 1.4.0
## v readr   2.1.1     v forcats 0.5.1
## v purrr   0.3.4
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(dplyr)
library(ggrepel)

#We want to create a graph that shows the correlation between minimum wages and unemployment.
#We need to search the OECD data frame for data on these topics.
#Search data set for minimum wages and unemployment statistics
dsets<-get_datasets()
search_dataset("wage",dsets)
```

```
## # A tibble: 10 x 2
##    id                title
##    <chr>             <chr>
##  1 MIN2AVE           Minimum relative to average wages of full-time workers
##  2 MW_CURP           Minimum wages at current prices in NCU
##  3 AV_AN_WAGE        Average annual wages
##  4 AWCOMP            Taxing Wages - Comparative tables
```

```
##  5 AEO2012_CH6_FIG3  Figure 3: Time Use by Country Income Level: In middle inco~
##  6 AEO2012_CH6_FIG31 Figure 31: Probability of being waged employed by educatio~
##  7 RMW               Real minimum wages
##  8 TABLE_I6          Table I.6. All-in average personal income tax rates at ave~
##  9 AGE_GAP           Wage gap by age
## 10 IMW               Incomes of minimum wage earners
```

```
search_dataset("unemployment",dsets)
```

```
## # A tibble: 12 x 2
##    id                   title
##    <chr>                <chr>
##  1 DUR_I                Incidence of unemployment by duration
##  2 DUR_D                Unemployment by duration
##  3 AVD_DUR              Average duration of unemployment
##  4 AEO2012_CH6_FIG4     Figure 4: Youth and adult unemployment
##  5 AEO2012_CH6_FIG29    Figure 29: Youth employment and unemployment by educati~
##  6 AEO2012_CH6_FIG19    Figure 19: The trade off between vulnerable employment ~
##  7 EAG_NEAC_DURUNE      Distribution of unemployed adults by duration of unempl~
##  8 PTRUB                PTR for families claiming Unemployment Benefits
##  9 MIG_NUP_RATES_GENDER Employment, unemployment, and participation rates by pl~
## 10 NRR                  Net replacement rate in unemployment
## 11 PTRCCUB              PTR for parents claiming Unemployment Benefits and usin~
## 12 EAG_TRANS_DURUNEMP   Percentage of young adults not in education and unemplo~
```

```
#Data on minimum wages is available in "MIN2AVE"
#Data on unemployment is available in "MIG_NUP_RATES_GENDER"

#MinWage
minwage <- get_dataset("MIN2AVE",
                       filter = "USA+CAN+FRA+GBR+DEU+NZL",
                       pre_formatted = TRUE)
#Selecting years and the min wage as a share of median wage
minwage2019 <- subset(minwage, Time < 2019 & Time >2007 & SERIES=="MEDIAN")
minwage2007_2019 <- subset(minwage2019, Time>2007)

#UnEmpl
unempl <- get_dataset("MIG_NUP_RATES_GENDER",
                      filter = "USA+CAN+FRA+GBR+DEU+NZL",
                      pre_formatted = TRUE)

#Selecting years, the unemployment rate of people born in the country, and both sexes
unempl2019 <- subset(unempl, Time<2019 & RATE=="U_RATE" & BIRTH=="NB" & GENDER=="TOT")
unempl2007_2019 <- subset(unempl2019, Time>2007)

#Combining datasets - we need to merge by both country and year to get the right number in the right pl
minwage_unempl <-left_join(minwage2007_2019, unempl2007_2019, by=c("COUNTRY","Time"))

#removing countries with missing data
complete_minwage_unempl <- na.omit(minwage_unempl)

#transforming the minimum wage and uneployment rate to numeric variables
#MinWage is between 0 and 1, I want to transform it to between 0 and 100 later, so I call it MinWage_0
```

```r
complete_minwage_unempl$MinWage_0 <-as.numeric(complete_minwage_unempl$ObsValue.x)
complete_minwage_unempl$UnEmpl <-as.numeric(complete_minwage_unempl$ObsValue.y)

#Transforming Minimum wage to percent
complete_minwage_unempl$MinWage <- complete_minwage_unempl$MinWage_0 * 100

view(complete_minwage_unempl)

#Code for the graph (you need to insert data and variable names)
# Put unemployment in percent on the x-axis and min wage as percent of median wage on y-axis
minwage_plot <-ggplot(data=complete_minwage_unempl,aes(x=UnEmpl,y=MinWage_0, group=COUNTRY, color=COUNTR
  geom_line(aes(group=COUNTRY), size=1) +
  geom_point(size=2.5)+
  labs(x = "Arbeidsledighet%" , y ="Minstelønn%")  +
  geom_label_repel(
    data=complete_minwage_unempl %>% group_by(COUNTRY) %>%
      filter(UnEmpl==min(MinWage_0)),
    aes(UnEmpl, MinWage_0, fill = factor(COUNTRY), label = sprintf('%s', COUNTRY)),
    color = "black",
    fill = "white")
minwage_plot+ theme_bw()
```