Mappeoppg 4 RMD

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Loading packages

```
rm(list=ls())

library(rvest)
library(tidyverse)
```

```
## -- Attaching packages -------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.4     v dplyr   1.0.7
## v tidyr   1.1.3     v stringr 1.4.0
## v readr   2.0.1     v forcats 0.5.1
```

```
## -- Conflicts ----------------------------------------- tidyverse_conflicts() --
## x dplyr::filter()         masks stats::filter()
## x readr::guess_encoding() masks rvest::guess_encoding()
## x dplyr::lag()            masks stats::lag()
```

```
library(rlist)
library(purrr)
```

Gathering URLs and putting them in a list, then naming them appropriately.

```
url_list <-
  list("https://timeplan.uit.no/emne_timeplan.php?sem=22v&module%5B%5D=SOK-1005-1&week=1-20&View=list",
       "https://timeplan.uit.no/emne_timeplan.php?sem=22v&module%5B%5D=SOK-1006-1&week=1-20&View=list",
       "https://timeplan.uit.no/emne_timeplan.php?sem=22v&module%5B%5D=SOK-1016-1&week=1-20&View=list")

names(url_list) <- c("SOK-1005", "SOK-1006", "SOK-1016")
```

Creating a function for scraping web pages to make a table showing my schedule.

```
schedule <- function(url) {
  page <- read_html(url)
  table <- html_nodes(page, 'table')
  table <- html_table(table, fill=TRUE)
  dframe <- list.stack(table)
  colnames(dframe) <- dframe[1,]
  dframe <- dframe %>% filter(!Dato=="Dato")
  dframe <- dframe %>% separate(Dato,
```

```r
                                into = c("Dag", "Dato"),
                                sep = "(?<=[A-Za-z])(?=[0-9])")
  dframe <- dframe[-length(dframe$Dag),]
  dframe$Dato <- as.Date(dframe$Dato, format="%d.%m.%Y")
  dframe$Uke <- strftime(dframe$Dato, format = "%V")
  dframe <- dframe %>% select(Dag,Dato,Uke,Tid,Rom)
  return(dframe)
}
```

Using the function to show the schedule for each of my classes.

```r
map(url_list, schedule)
```

```
## Column 1 ['Uke 3'] of item 2 is missing in item 1. Use fill=TRUE to fill with NA (NULL for list colu
```

```
## Column 1 ['Uke 4'] of item 2 is missing in item 1. Use fill=TRUE to fill with NA (NULL for list colu
```

```
## Warning: Expected 2 pieces. Missing pieces filled with 'NA' in 5 rows [7, 13,
## 19, 20, 29].
```

```
## Column 1 ['Uke 3'] of item 2 is missing in item 1. Use fill=TRUE to fill with NA (NULL for list colu
```

```
## Warning: Expected 2 pieces. Missing pieces filled with 'NA' in 2 rows [31, 34].
```

```
## $`SOK-1005`
##         Dag       Dato Uke       Tid                          Rom
## 1  Torsdag 2022-01-13  02 14:15-16:00 VIRTUELT _Digital undervisning
## 2  Torsdag 2022-01-20  03 14:15-16:00 VIRTUELT _Digital undervisning
## 3  Torsdag 2022-01-27  04 14:15-16:00 VIRTUELT _Digital undervisning
## 4  Torsdag 2022-02-03  05 14:15-16:00               HHT 01.202AUD
## 5  Torsdag 2022-02-10  06 14:15-16:00               HHT 01.202AUD
## 6  Torsdag 2022-02-17  07 14:15-16:00               HHT 01.202AUD
## 7  Torsdag 2022-02-24  08 14:15-16:00               HHT 01.202AUD
## 8  Torsdag 2022-03-03  09 14:15-16:00               HHT 01.202AUD
## 9  Torsdag 2022-03-10  10 14:15-16:00               HHT 01.202AUD
## 10 Torsdag 2022-03-17  11 14:15-16:00               HHT 01.202AUD
## 11 Torsdag 2022-03-24  12 14:15-16:00               HHT 01.202AUD
## 12 Torsdag 2022-03-31  13 14:15-16:00               HHT 01.202AUD
## 13 Torsdag 2022-04-07  14 14:15-16:00               HHT 01.202AUD
## 14 Torsdag 2022-04-21  16 14:15-16:00               HHT 01.202AUD
## 15 Torsdag 2022-04-28  17 14:15-16:00               HHT 01.202AUD
## 16 Torsdag 2022-05-05  18 14:15-16:00               HHT 01.202AUD
##
## $`SOK-1006`
##         Dag       Dato  Uke       Tid                          Rom
## 1  Tirsdag 2022-01-18   03 12:15-13:00               HHT 01.202AUD
## 2   Onsdag 2022-01-19   03 12:15-16:00 VIRTUELT _Digital undervisning
## 3  Torsdag 2022-01-20   03 09:15-14:00 VIRTUELT _Digital undervisning
## 4  Tirsdag 2022-01-25   04 14:15-17:00         HARSTAD_HG5 AUD_GRØNT
## 5   Onsdag 2022-02-16   07 12:15-16:00                 MH U6.SAUD
## 6  Torsdag 2022-02-17   07 08:15-10:00           TEO-H6 6.303-AUD3
```

```
## 7                 <NA> <NA> 12:15-14:00            TEO-H6 6.303-AUD3
## 8   Torsdag 2022-02-24   08 11:15-14:00            TEO-H1 1.820-AUD1
## 9    Mandag 2022-02-28   09 10:15-12:00                   HHT 02.217
## 10   Onsdag 2022-03-02   09 10:15-12:00                   HHT 02.217
## 11   Mandag 2022-03-14   11 10:15-12:00                   HHT 02.217
## 12   Onsdag 2022-03-16   11 10:15-12:00                   HHT 02.217
## 13                 <NA> <NA> 12:15-16:00            TEO-H6 6.303-AUD3
## 14   Mandag 2022-03-21   12 10:15-12:00                   HHT 02.217
## 15   Onsdag 2022-03-23   12 10:15-12:00                   HHT 02.217
## 16   Mandag 2022-03-28   13 10:15-12:00                   HHT 02.217
## 17  Tirsdag 2022-03-29   13 16:00-18:00            TEO-H6 6.303-AUD3
## 18   Onsdag 2022-03-30   13 09:15-11:00                  FARM F1.101
## 19                 <NA> <NA> 10:15-12:00                   HHT 02.217
## 20                 <NA> <NA> 12:15-14:00                  FARM F1.101
## 21   Mandag 2022-04-04   14 10:15-12:00                   HHT 02.217
## 22   Onsdag 2022-04-06   14 10:15-12:00                   HHT 02.217
## 23  Torsdag 2022-04-07   14 11:15-14:00            TEO-H1 1.820-AUD1
## 24  Tirsdag 2022-04-19   16 12:15-14:00                   HHT 02.217
## 25   Onsdag 2022-04-20   16 10:15-12:00                   HHT 02.217
## 26   Fredag 2022-04-22   16 09:15-12:00            TEO-H1 1.836-AUD2
## 27   Mandag 2022-04-25   17 10:15-12:00                   HHT 02.217
## 28   Onsdag 2022-04-27   17 10:15-12:00                   HHT 02.217
## 29                 <NA> <NA> 12:15-16:00            TEO-H1 1.836-AUD2
## 30  Torsdag 2022-04-28   17 09:15-14:00            TEO-H1 1.820-AUD1
## 31   Mandag 2022-05-02   18 10:15-12:00                   HHT 02.217
## 32   Onsdag 2022-05-04   18 10:15-12:00                   HHT 02.217
## 33   Mandag 2022-05-09   19 10:15-12:00                   HHT 02.217
## 34   Onsdag 2022-05-11   19 10:15-12:00                   HHT 02.217
## 35   Mandag 2022-05-16   20 10:15-12:00                   HHT 02.217
## 
## $`SOK-1016`
##         Dag       Dato  Uke        Tid                             Rom
## 1    Onsdag 2022-01-12   02 14:15-16:00 VIRTUELT _Digital undervisning
## 2   Tirsdag 2022-01-18   03 10:15-12:00 VIRTUELT _Digital undervisning
## 3   Torsdag 2022-01-27   04 12:15-14:00 VIRTUELT _Digital undervisning
## 4    Fredag 2022-02-11   06 12:15-14:00            TEO-H1 1.836-AUD2
## 5   Tirsdag 2022-02-15   07 12:15-14:00            TEO-H1 1.836-AUD2
## 6    Fredag 2022-02-25   08 12:15-14:00            TEO-H1 1.836-AUD2
## 7    Mandag 2022-02-28   09 12:15-14:00            TEO-H1 1.836-AUD2
## 8   Tirsdag 2022-03-01   09 12:15-14:00                   HHT 02.218
## 9    Onsdag 2022-03-02   09 14:15-16:00                   HHT 02.218
## 10  Tirsdag 2022-03-15   11 10:15-12:00            TEO-H1 1.836-AUD2
## 11   Onsdag 2022-03-16   11 14:15-16:00                   HHT 02.218
## 12   Fredag 2022-03-18   11 12:15-14:00                   HHT 02.218
## 13  Tirsdag 2022-03-22   12 10:15-12:00            TEO-H1 1.836-AUD2
## 14   Onsdag 2022-03-23   12 14:15-16:00                   HHT 02.218
## 15   Fredag 2022-03-25   12 10:15-12:00                   HHT 02.218
## 16   Onsdag 2022-03-30   13 14:15-16:00                   HHT 02.218
## 17   Fredag 2022-04-01   13 12:15-14:00                   HHT 02.218
## 18  Tirsdag 2022-04-05   14 12:15-14:00            TEO-H1 1.836-AUD2
## 19   Onsdag 2022-04-06   14 14:15-16:00                   HHT 02.218
## 20   Fredag 2022-04-08   14 12:15-14:00                   HHT 02.218
## 21  Tirsdag 2022-04-19   16 10:15-12:00            TEO-H1 1.836-AUD2
## 22   Onsdag 2022-04-20   16 14:15-16:00                   HHT 02.218
```

```
## 23 Torsdag 2022-04-21    16 12:15-14:00                         HHT 02.218
## 24 Tirsdag 2022-04-26    17 10:15-12:00            TEO-H1 1.836-AUD2
## 25  Onsdag 2022-04-27    17 14:15-16:00                         HHT 02.218
## 26 Torsdag 2022-04-28    17 12:15-14:00                         HHT 02.218
## 27 Tirsdag 2022-05-03    18 10:15-12:00            TEO-H1 1.836-AUD2
## 28  Onsdag 2022-05-04    18 14:15-16:00                         HHT 02.218
## 29 Torsdag 2022-05-05    18 12:15-14:00                         HHT 02.218
## 30  Onsdag 2022-05-11    19 08:15-10:00            TEO-H1 1.836-AUD2
## 31              <NA> <NA> 14:15-16:00                         HHT 02.218
## 32 Torsdag 2022-05-12    19 12:15-14:00                         HHT 02.218
## 33  Onsdag 2022-05-18    20 08:15-10:00            TEO-H1 1.836-AUD2
## 34              <NA> <NA> 14:15-16:00                         HHT 02.218
```