cm011

```
library("tidyverse")
## -- Attaching packages ----- tidyverse 1.2.1 --
## v ggplot2 3.2.1
                    v purrr 0.3.2
## v tibble 2.1.3
                   v dplyr 0.8.3
## v tidyr
           1.0.0
                    v stringr 1.4.0
## v readr
            1.3.1
                     v forcats 0.4.0
## Warning: package 'ggplot2' was built under R version 3.5.2
## Warning: package 'tibble' was built under R version 3.5.2
## Warning: package 'tidyr' was built under R version 3.5.2
## Warning: package 'purrr' was built under R version 3.5.2
## Warning: package 'dplyr' was built under R version 3.5.2
## Warning: package 'stringr' was built under R version 3.5.2
## Warning: package 'forcats' was built under R version 3.5.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()
                   masks stats::lag()
library("gapminder")
library("tidyverse")
library("tidyr")
library("dplyr")
```

file export/import

```
write_csv(gapminder, './gapminder.csv') # '.' means current directory
View(gapminder)

gapminder_sum <- gapminder %>%
    group_by(continent) %>%
    summarize(ave_lifeExp = mean(lifeExp))

View(gapminder_sum)
write_csv(gapminder_sum, './gapminder_sum.csv')

gapminder_csv <- read_csv('./gapminder_sum.csv')

## Parsed with column specification:
## cols(
## continent = col_character(),
## ave_lifeExp = col_double()
## )
View(gapminder_csv)
ls()</pre>
```

```
## [1] "gapminder_csv" "gapminder_sum"

#detach all the variables attached
list=ls()
remove(list=ls())
ls()

## character(0)

here::here()

gapminder_sum <- gapminder %>%
    group_by(continent) %>%
    summarize(ave lifeExp = mean(lifeExp))
```

readxl: importing excel file

```
library(readxl)

## Warning: package 'readxl' was built under R version 3.5.2

philanthropists <- read_excel(here::here("Greatestgivers.xls"), trim_ws = TRUE)
View(philanthropists)
library("here")</pre>
```