File management for the aspiring programmer

Files for different purposes

Runnable, quality-controlled program files
- Preferably only one problem at a time
- Knit often
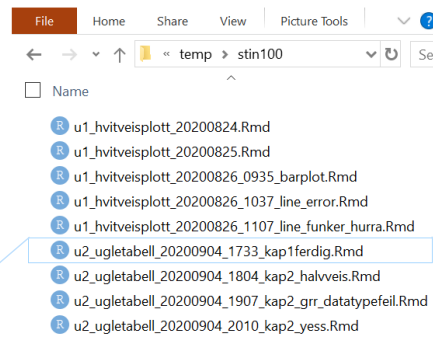- Full control

Code scrapbook
- Useful code fragments, not necessarily runnable in isolation
- Reminders of what you have learned

Free-form notes
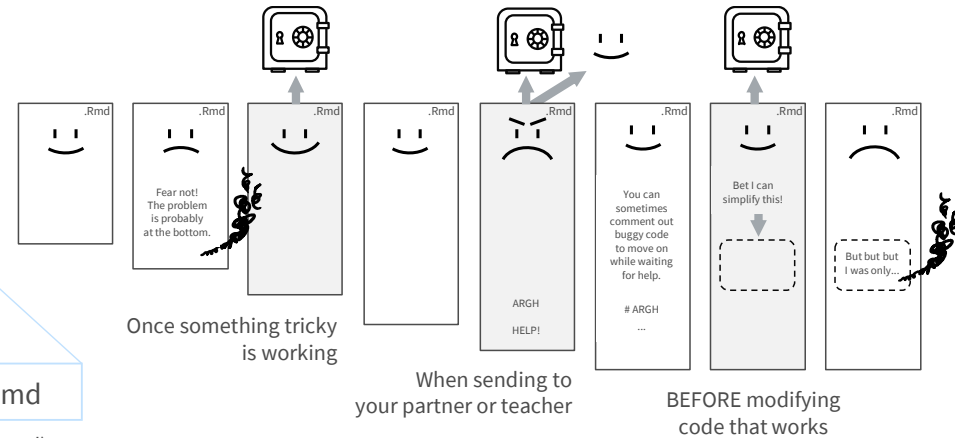- Concepts, overviews
- Pen and paper may be useful

Version control for lazy people

File   Home   Share   View   Picture Tools

« temp » stin100

Name

- u1_hvitveisplott_20200824.Rmd
- u1_hvitveisplott_20200825.Rmd
- u1_hvitveisplott_20200826_0935_barplot.Rmd
- u1_hvitveisplott_20200826_1037_line_error.Rmd
- u1_hvitveisplott_20200826_1107_line_funker_hurra.Rmd
- u2_ugletabell_20200904_1733_kap1ferdig.Rmd
- u2_ugletabell_20200904_1804_kap2_halvveis.Rmd
- u2_ugletabell_20200904_1907_kap2_grr_datatypefeil.Rmd
- u2_ugletabell_20200904_2010_kap2_yess.Rmd

w2_owl_table_20200904_1733_ch1finished.Rmd

fixed "main" name   YYYYMMDD   HHMM   note to self (optional)
date   time (optional)
so that alphabetical order equals chronological order

When to make a backup copy

Once something tricky is working

Fear not! The problem is probably at the bottom.

You can sometimes comment out buggy code to move on while waiting for help.

ARGH
HELP!

ARGH
...

When sending to your partner or teacher

Bet I can simplify this!

But but but I was only...

BEFORE modifying code that works

Know where you are

"Folder" and "directory" are synonyms.

File names for reading and writing in R are always seen in relation to your "current working directory".

Life is easiest when this folder is the same as...
- Your RStudio *project directory*
- The folder shown in the Files pane (Files Pane location)
- The folder your R and Rmd files reside in (source file location = document directory)
- Where your HTML reports get generated (Knit directory)

However, sometimes it's useful to spread your work across multiple directories, typically to read data from another project, or look at programs you've written before.

You will know when you need this, but then you need to be extra mindful of what you're doing.

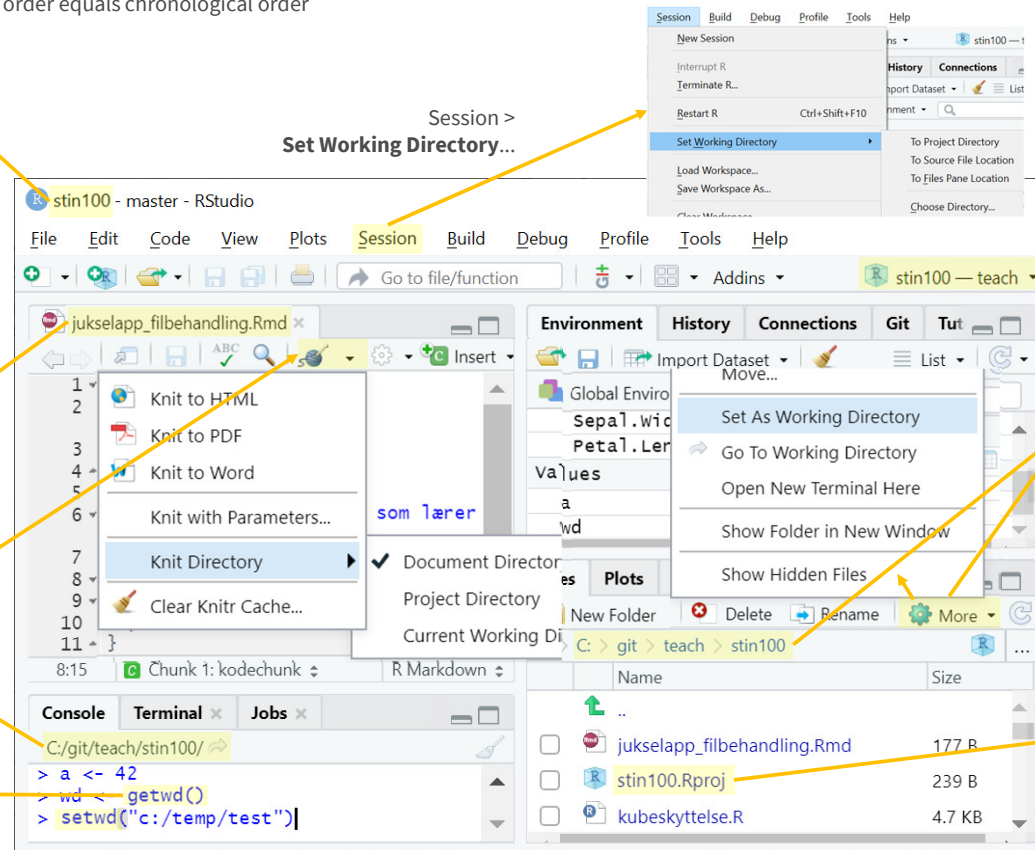The tangle at right can help you with that.

the RStudio project you're in (**project directory**)

mouse over for tooltip with **source file location** (= **document directory**)

C:/git/teach/stin100/ jukselapp_filbehandling.Rmd

knit directory can be set from the knit button's dropdown menu

Session >
Set Working Directory...

Session   Build   Debug   Profile   Tools   Help
New Session
Interrupt R
Terminate R...
Restart R   Ctrl+Shift+F10
Set Working Directory
Load Workspace...
Save Workspace As...

To Project Directory
To Source File Location
To Files Pane Location
Choose Directory...

stin100 - master - RStudio

File   Edit   Code   View   Plots   Session   Build   Debug   Profile   Tools   Help

Go to file/function   Addins   stin100 — teach

jukselapp_filbehandling.Rmd

title: "Jukselapp om filbehandling"

Knit to HTML
Knit to PDF
Knit to Word
Knit with Parameters...
Knit Directory
Clear Knitr Cache...

Document Director
Project Directory
Current Working Di

som lærer

Environment   History   Connections   Git   Tut
Import Dataset   List

Global Enviro
Sepal.Wi
Petal.Ler
Values
a
wd

Move...
Set As Working Directory
Go To Working Directory
Open New Terminal Here
Show Folder in New Window
Show Hidden Files

Chunk 1: kodechunk   R Markdown

Console   Terminal   Jobs

C:/git/teach/stin100/

```
> a <- 42
> wd <- getwd()
> setwd("c:/temp/test")
```

current **working directory**

old school getting/setting working directory

current RStudio project

Files pane location

es   Plots
New Folder   Delete   Rename   More
C: > git > teach > stin100

Name   Size
..
jukselapp_filbehandling.Rmd   177 B
stin100.Rproj   239 B
kubeskyttelse.R   4.7 KB

A folder is an RStudio project if it contains a .Rproj file. You can double-click it in your file manager to have RStudio open the project.

Examples of file paths

Windows:

If your working directory is c:\stin100\u1, then...

fish_weight.xlsx	means c:\stin100\u1\fish_weight.xlsx	a file in your working directory
fish\length.csv	means c:\stin100\u1\fish\length.csv	a file in a subdirectory to your working directory
..\salad.dat	means c:\stin100\salad.dat	a file in the directory above your working directory
..\chicken	means c:\stin100\chicken	a directory next to your working directory (or, rarely, a filename with no extension)
..\..\stat100\test.Rmd	means c:\stat100\test.Rmd	a file in a folder next to the one above your current working directory

Backslash \ is tricky. It serves both as folder separator on Windows (as shown above) and to indicate special control characters in R strings.

For example, inside R text strings (data type `character`) `\t` means tabulator and `\n` means newline. To write an actual backslash, you must "escape" it with an extra backslash: `\\`

Telling R about a Windows file path might look like e.g. `read.csv("fish\\length.csv")`.

(Entering `read.csv("fish\length.csv")` gives `Error: '\l' is an unrecognized escape in character string starting ""fish\l".)`

Fortunately, you can use forward slashes / instead. This is what's used on Mac og Linux, see below.

Mac and Linux:

The tilde ~ means your "home directory", often an alias for something like /home/users/thorvald/.

If your current working directory is ~/stin100/u1, then...

fish_weight.xlsx	means ~/stin100/u1/fish_weight.xlsx	a file in your working directory
fish/length.csv	means ~/stin100/u1/fish/length.csv	a file in a subdirectory to your working directory
../salad.dat	means ~/stin100/salad.dat	a file in the directory above your working directory
../chicken	means ~/stin100/chicken	a directory next to your working directory (or, rarely, a filename with no extension)
../../stat100/test.Rmd	means ~/stat100/test.Rmd	a file in a folder next to the one above your current working directory

RStudio offers tab completion of file paths.

In our example above, you might type `read.table("`
and press **Tab**, and a box pops up where you can use the arrow keys to pick the desired file name.

Suggestions will be limited to match what you've typed so far, e.g. `read.table("fi` + Tab.