

Welcome to the Carpentries Etherpad !

Post workshop survey: <https://carpentries.typeform.com/to/UgVdRQ?slug=2023-01-24-vuvumc>

Software Carpentry (Shell, Programming with R , Git)

Hosted by Vrije Universiteit Amsterdam

Tue-Wed, Jan 24-25, 2023

Welcome to **Software Carpentry** and the **Carpentries** <https://carpentries.org/>

Teaching computer skills to researchers. Software Carpentry is part of The Carpentries

Testimonials: <https://software-carpentry.org/testimonials/>

Your workshop is part of the many workshops around the globe

<https://software-carpentry.org/workshops/>

Hands-on Training

- This is a hands-on training :)
- It is **interactive**, which means your interaction and awareness will improve your learning
- Questions are always welcome!!!!

The Carpentries Etherpad!

We will use this **Etherpad** to share links, snippets of code, take notes, do exercises, ask and answer questions, and whatever else comes to mind.

This pad is **synchronized** as you type, so that everyone viewing this page sees the same text.

The Etherpad has **three major parts**:

- The *left side* holds today's notes
- The *top right* side shows the names of users who are logged in
- The *bottom right* is a real time chat window for asking questions of the instructor and your fellow learners.

*****Remember with big power come big responsibilities, do not delete parts of this etherpad.*****

Friendly, respectful and active participants!

Users are expected to follow our code of conduct: https://docs.carpentries.org/topic_folders/policies/code-of-conduct.html

Code of Conduct (the short version)

We are dedicated to providing a welcoming and supportive environment for all people, regardless of background or identity. By participating in this community, participants accept to abide by The Carpentries' Code of Conduct and accept the procedures by which any Code of Conduct incidents are resolved. Any form of behaviour to exclude, intimidate, or cause discomfort is a violation of the Code of Conduct. In order to foster a positive and professional learning environment we encourage the following kinds of behaviours in all platforms and events:

- Use welcoming and inclusive language
- Be respectful of different viewpoints and experiences
- Gracefully accept constructive criticism
- Focus on what is best for the community
- Show courtesy and respect towards other community members.

If you believe someone is violating the Code of Conduct, we ask that you report it to The Carpentries Code of Conduct Committee, who will take the appropriate action to address the situation. To report, use this form:

https://docs.google.com/forms/d/e/1FAIpQLSdi0wbplgdydl_6rkVtBIVWbb9YNOHQPxANDClmVNu0zs-w/viewform

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Public content page

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Use of this service is restricted to members of The Carpentries community; this is not for general purpose use (for that, try etherpad.wikimedia.org).

Twitter

@thecarpentries

@VU_RDM_Support

Instructors:

- Elisa Rodenburg

- Elise Groenen
- Koen Leuveld
- Sophie Arnoult

Helpers:

- Eduarda Centeno
- Max Paulus
- Tijmen Münker
- Peter Stol
- Nazda Dzinalija
- Elise Groenen
- Meron Vermaas
- Stephanie van de Sandt
- Senne Lageman

Host:

- Stephanie van de Sandt (s.van.de.sandt@vu.nl)
- Meron Vermaas (m.vermaas@vu.nl)
- Senne Lageman (s.b.lageman@student.vu.nl)

Pre-workshop survey:

Make you sure you have filled the Software Carpentry workshop pre-survey so we know what is your pre-knowledge before the workshop:

Pre-workshop survey: <https://carpentries.typeform.com/to/wi32rS?slug=2023-01-24-vuvumc>

Day 1 : Shell & R

Please add your name to the list of participants every day. This will help us to get credit points for your participation from the graduate schools.

Learners:

- Seyma d'Anjou, Social Sciences
- Maaïke Olivier, Health Sciences
- Maura De Coster, Faculty of Sciences
- Lina Asperl, Faculty of Sciences
- Lisa-Lee Brueske, ACTA
- Mohammadreza Mahaki, Human Movement Sciences department
- Juliette L  v  nez, Human Movement Science department
- Jorik Groen, Faculty of Religion & Theology
- Eila van Stipriaan, Faculty of Sciences
- Chantal Nielen, Health Sciences
- Kim Engels, Faculty of Science
- Yuanyuan Sun , ACTA
- Clyde A. Missier, Faculty of Religion
- Vera Kuhnke, Faculty of Science
- Moira van Leeuwen, Human Movement Sciences
- Bas Janssen, Health Sciences
- Daan Toben, Public & Occupational Health
- Maud Bouwman, Department of Anatomy and Neurosciences
- Peiyu Li, Vumc, Department medical oncology
- Lijie Xu, Vumc, Medical oncology
- Gengxu, Vumc, Medical oncology
- Min Wu, Vumc, Cancer Center Amsterdam
- Achmad Sulfikar, FSS VU, Communication Science
- Daisy Indira Yasmine, FSS VU, Social And Cultural Anthropology
- Tanaya Mandke, BETA

Shell (taught by Elisa)

Lesson material

Shell : <https://swcarpentry.github.io/shell-novice/>

Dataset for the Shell Lesson: <https://swcarpentry.github.io/shell-novice/data/shell-lesson-data.zip>

- **Feedback for the instructor:**

- Speed check, please vote by writing + (plus) sign below
- go-faster:
- go-slower: +++
- okay: ++++++

- **Notes & Questions?**

- `rm -i quotations.txt` (What does the `i` here do?)
 - The `-i` option tells `rm` to prompt the user for each given file before removing it. Because once you remove it is entirely gone (not moved to trash). So it is a way to be more careful with your `rm` commands

NOTE: `rm --help` will give you all the options that are available for the command. `--help` can be done in

combination with other commands as well!

On a Mac, the command for help is `man rm`. Help (or: `man` for manual) is not just applicable when you get stuck, but also when you want to explore what you can do with a command. You can also look stuff up online: <https://www.gnu.org/manual/manual.html> or just google the question and look at stackoverflow ;)

- What if we don't write the `-r` in `rm -r` thesis? (interesting!)
 - This will remove directories and everything in them (`-r` is recursive). So be careful with command, it permanently removes everything!
 - But what if `-r` is **not** written?
 - You can try this (on a non-important directory just to be sure ;). But, if you try to delete a directory without `-d` or `-r`, you get a message: "cannot remove '....' is a directory". `-d` will only work if the directory is empty, `-r` will remove a directory with all files in them.
- maybe a microphone would have been useful
 - Microphone is not possible here, hopefully standing helps enough!
- Wonderful! Maybe use a black or dark background on the tv for legibility
- Thanks, I wasn't expecting to learn anything but I already learned a lot. (my expectation was due to my lack of experience, not to you guys)

R (taught by Koen)

Lesson Material:

R : <http://swcarpentry.github.io/r-novice-inflammation/>

Lesson Data : <http://swcarpentry.github.io/r-novice-inflammation/data/r-novice-inflammation-data.zip>

Feedback for the instructor:

Speed check, please vote by writing + (plus) sign below

go-faster: ++++++

go-slower: +

okay: +++

Notes & Questions?

- Can you remind us why we do `header = TRUE` or `FALSE` sometimes?
 - Assigning the second argument, `header`, to be `FALSE` indicates that the data file does not have column headers.
 - "What happens if you forget to put `header = FALSE`? The default value is `header = TRUE`, which you can check with `?read.csv` or `help(read.csv)`. What do you expect will happen if you leave the default value? Before you run any code, think about what will happen to the first few rows of your data frame, and its overall size."
- when we say "head" how does it know how many lines it should bring us? -> it can actually be specified as a second argument, so `head(dat, 2)` would only give you the first two lines
- Remark regarding solution where we changed all F's to f's. The solution: `dat[dat$Gender == "F",]`

<- "f" seems to work when looking at the Gender column, however this statement overrides all other columns with "f" as well if the Gender column originally contained "F" on that row. It;s fixed in the code below

FEEDBACK:

What did you like?

-

What could be changed/improved?

-

code is here: https://github.com/kleuveld/programmin_in_r_2023

clone it by typing in git bash:

git clone https://github.com/kleuveld/programmin_in_r_2023.git

Day 2 : R & Git

Please add your name to the list of participants every day. This will help you to get credit points for your participation from the graduate schools.

Learners:

- Juliette Lévénez, Human Movement Science Department
- Jorik Groen (Faculty of Religion and Theology)
- Lijie Xu, VUMC, Medical Oncology
- Maud Bouwman, department of Anatomy and Neurosciences
- Mohammadreza Mahaki, Human Movement Sciences department
- Min Wu, Vumc, Cancer Center Amsterdam
- Clyde A. Missier (Faculty of Religion)
- Maaïke Olivier, Health Sciences
- Bas Janssen, Health Sciences
- Maura De Coster, Faculty of Sciences
- Kim Engels, Faculty of Science
- Chantal Nielen, Health Sciences
- Moira van Leeuwen, Human Movement Sciences
- Lisa-Lee Brueske, ACTA
- Vera Kuhnke, Faculty of Science

- Eila van Stipriaan, Faculty of Sciences
- Lina Asperl Faculty of Science
- Yuanyuan Sun, ACTA
- Daisy Indira Yasmine, Social and Cultural Anthropology
- Achmad Sulfikar, FSS VU, Communication Science
- Peiyu Li, Vumc, Department medical oncology
- Tanaya Mandke, BETA
- Seyma d'Anjou, Social Sciences
- GengXu, Vumc, Department medical oncology

R (part II)

Warm-up: what will you use R for?

- statistical analysis: Anova, plot
- Meta-analysis on scientific data
- Social media analysis, hate speech analysis on religion on Instagram
- Analysing biological/genomic data sets
- Analysing linguistic (semantic) patterns in Biblical Hebrew
- Analyzing facial landmarks and deal with csv files
- predicting/modeling of microbial interactions
- Analysing single cell RNA sequencing data
- Analysing/Visualising geochemical isotope data to reconstruct mobility in archaeological contexts
- Running for confirmatory factor analysis for survey data and social media data analysis: finding topics and themes
- Analysing proteomic data

Lesson material

R : <http://swcarpentry.github.io/r-novice-inflammation/>

Feedback for the instructor:

Speed check, please vote by writing + (plus) sign below

go-faster:

go-slower:

okay:+++

code is here: https://github.com/kleuveld/programmin_in_r_2023

clone it by typing in git bash:

git clone https://github.com/kleuveld/programmin_in_r_2023.git

Notes & Questions

- Could the script be posted here so that you can quickly catch up when you get lost along the way? :) we are going to post the code later, for now you can go through the lesson material: <http://swcarpentry.github.io/r-novice-inflammation/02-func-R/index.html>

Thanks, but a bit harder to catch up with the group that way

Good advice, we will test an auto-push function in the next workshop, that way you will have everything right away.

great, thank you :)

Git

Lesson material

Git : <https://swcarpentry.github.io/git-novice/>

Feedback for the instructor:

Speed check, please vote by writing + (plus) sign below

go-faster:

go-slower: +

okay:+

Notes & Questions

- For me, it would help to hear an explanation of what we are doing and why before typing all these things+
- Could you maybe explain what is the use of this for real-life research? What's the additional value over using R or even Microsoft Word? Maybe show an example of globally available code that researchers are working on together or something? It still feels a bit abstract to me++
 - It allows you old different versions of your work that you can always revert to. So if you decide work you did on a part of your code or paper isn't needed anymore, you can simply delete it, and trust that if you do want it back, it's still saved on github. No more paper_FINAL_REALLYFINAL_READYTOPRINT_NOWREALLYREADYTOPRINT.docx!
 - It allows you to collaborate with others
 - version control allows you to go back to a previous version, for example when your co-authors (or you) messed up your code
 - you can create a branch and test out how your altered code works without changing your

actual code. if you like it, you can merge it to your code. if you don't like it, your actual code remains unchanged.

- It's transparent (if you publish your git repo) so that others can see what you did
- When a researchers submits a publication, publishers often ask for supplementary data and code. You can share your code with the reviewers via GitHub for example.
- Here's a repo of a paper: <https://github.com/tdienlin/privacy-paradox-longitudinal>