

Intro to the Shell

Data Science Initiative Workshop Series

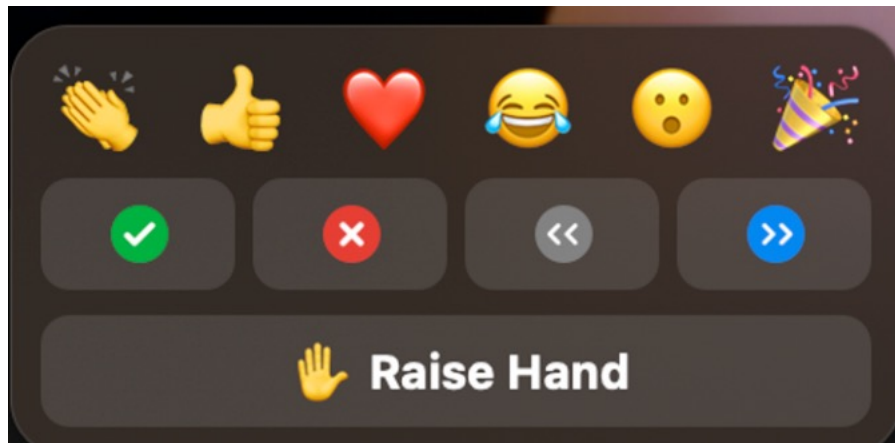
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UNIVERSITY OF
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Workshop nuts and bolts

- Code of Conduct
- Etherpad
- Course website
- Participatory live-coding
 - Use Zoom reactions:



What is the shell?

A screenshot of a terminal window. The title bar at the top shows three colored window control buttons (red, yellow, green) on the left, followed by a blue icon and the text 'laoki — -zsh — 80x24'. The terminal area has a black background with white text. The first line reads 'Last login: Tue Oct 5 17:03:28 on ttys001'. The second line shows the prompt 'laoki@U0-2002160 ~ %' followed by a cursor. The rest of the terminal area is empty.

```
laoki — -zsh — 80x24
Last login: Tue Oct 5 17:03:28 on ttys001
laoki@U0-2002160 ~ %
```

- A program where users type commands
- Terminology:
 - the command line
 - Terminal
 - (the) Bash (shell)
- Concise and fast
- Reduces error and improves reproducibility – especially for repetitive tasks

Why should I use the shell?

- Some computational analyses rely on the shell
 - Bioinformatics pipelines
 - Interacting with remote machines, high-performance computing
- Increasing use of big data across fields
- Sometimes the shell is the right tool
 - Git
 - Accessing data repositories

Resources to learn more

- Software Carpentries – basis for this tutorial, with additional content
 - <https://swcarpentry.github.io/shell-novice/>
 - <https://carpentries-incubator.github.io/shell-extras/>
- Data Carpentries also has lessons for using the command line specifically for genomics
 - <https://datacarpentry.org/shell-genomics/>
- Happy Git with R by Jenny Bryan (UBC) – a basic intro to using the shell for version control with Git
 - <https://happygitwithr.com/shell.html>
- OSU's Center for Quantitative Life Sciences teaches a term-long workshop on Intro to Unix and Command-line Data Analysis