Setup software

2025-01-14

Contents

Homework

Homework Exercises:

- Install the following software on your computer:
  - R
  - `git`
  - RStudio

  and bring your computer to class Tuesday.

Notes on Homework:

On Tuesday, bring your computer to class and I will get you started using R, RStudio, and `git` software.

Before coming to class, install the software listed on this homework assignment. If you have any trouble, I will be able to help you either in class on Tuesday or at my office hours.

Install Software on Your Computer

Install R

- Download and install R

  - **Windows:**
    * Download and install the "base distribution" of R 4.4.2.
  - **MacOS:**
    * Download and install R version 4.4.2
  - **Linux:**
    * You should be able to install R from your Linux distribution's package manager:
      · `sudo apt-get install r-base r-base-dev` for Debian or Ubuntu
      · `sudo yum install R` or `sudo dnf install git` for Fedora, Red Hat, and related distributions.

Install `git`

- If your computer is a Mac or runs Linux, Git may already be installed. You can check by opening a terminal window and typing `which git`. If the computer responds with something like `/usr/bin/git`, then Git is already installed. Otherwise, follow the instructions below.
- For Windows and MacOS, you can download Git from https://git-scm.com/ and install it on your computer.
- If you use a software installation system like chocolatey (on Windows) or homebrew (on Mac), you can install `git` by opening a terminal window and typing "`choco install git`" or "`brew install git`"
- For Linux computers, you can install Git from a terminal window as follows:
  - For Debian or Ubuntu, `sudo apt-get install git`
  - For Fedora or other RedHat-type distributions, `sudo yum install git` or `sudo dnf install git`.

After you install Git, it is important to run two commands:

- Open a git command window:
  - On Windows, open the Start menu, go to "Git" and click on "Git Bash"
  - On a Mac, open a terminal window
- Run the two following commands:
  - `git config --global user.name "Your Name"` (using your own name instead of "Your Name")
  - `git config --global user.email "your.email.address@vanderbilt.edu"` (using your own email address)

Git uses information to keep track of who makes changes to a file. If you are editing a file on your computer and a friend is editing it on her computer, git uses this user information to keep track of who made each change. Then when you and your friend merge your changes, git will be able to tell you which of you edited what.

Install RStudio

- Go to the download page for the free desktop edition of {{< RSTUDIO >}} at https://posit.co/download/rstudio-desktop/ and download the installer for your operating system. Windows, MacOS, and several editions of Linux (Debian, Ubuntu, Fedora, RedHat, and openSUSE) are supported.

  There are other versions of {{< RSTUDIO >}} (an expensive professional edition and a server edition). You want the **free desktop edition**.
- Run the installer.
- After the installer finishes running, run {{< RSTUDIO >}}.

- When {{< RSTUDIO >}} starts up, the lower left part of the screen should have a window that displays the R version, saying something like this:

```
R version 4.4.2 (2024-10-31 ucrt) -- "Pile of Leaves"
Copyright (C) 2024 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
```

  The details will be different depending on your operating system, but if you see something like this, {{< RSTUDIO >}} correctly found R on your computer.

- Open the "Tools" menu, and click on the "Global Options" choice.
  - Go to the "Git/SVN" tab and click "enable version control interface for {{< RSTUDIO >}} projects". If {{< RSTUDIO >}} can find the git program on your computer, it will appear in the "git executable" field. If {{< RSTUDIO >}} can't find it, you can help it by browsing to the git program.
  - If you have installed {{< LATEX_LOGO >}} on your computer (remember that this is optional), click on the SWeave tab, and select "knitr" for weaving `.Rnw` files, and choose `pdfLaTeX` for typesetting {{< LATEX_LOGO >}} files into PDF.

Sign up for a free GitHub account

```
**Before class on Tuesday Jan 14** please sign up for a free account on GitHub at <https://github.com>.
at <https://education.github.com/students>. A student account gives you access to a bunch of free extras

We will use an educational feature of GitHub called GitHub Classroom to distribute the lab assignments a
```