Your computer and you

Grinnell College

March 24, 2026

Goals Today

Part 1:

- File systems and directories
- Paths and file names
- Types of files
- I/O Processing

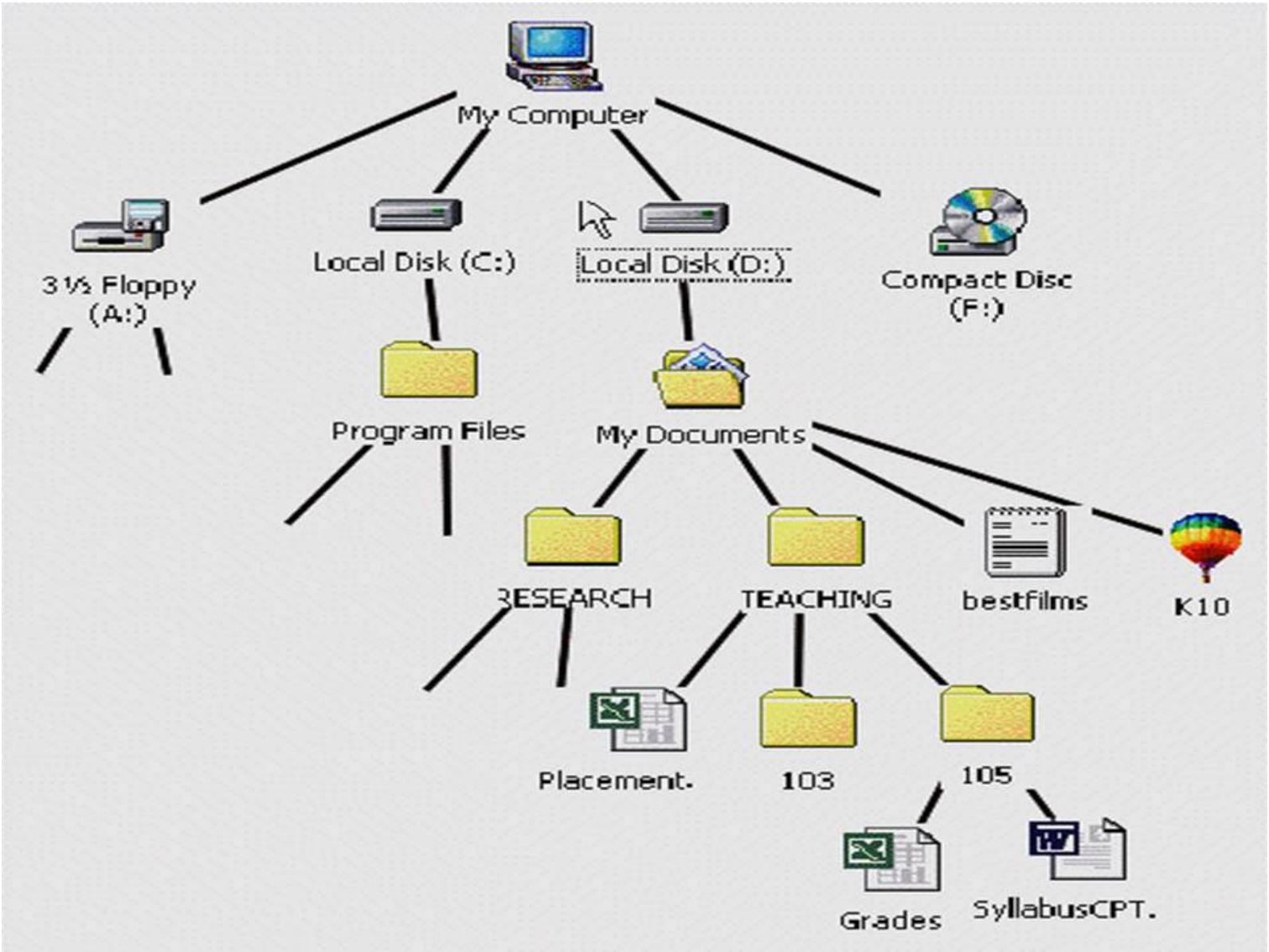
Part 2:

- Loops?

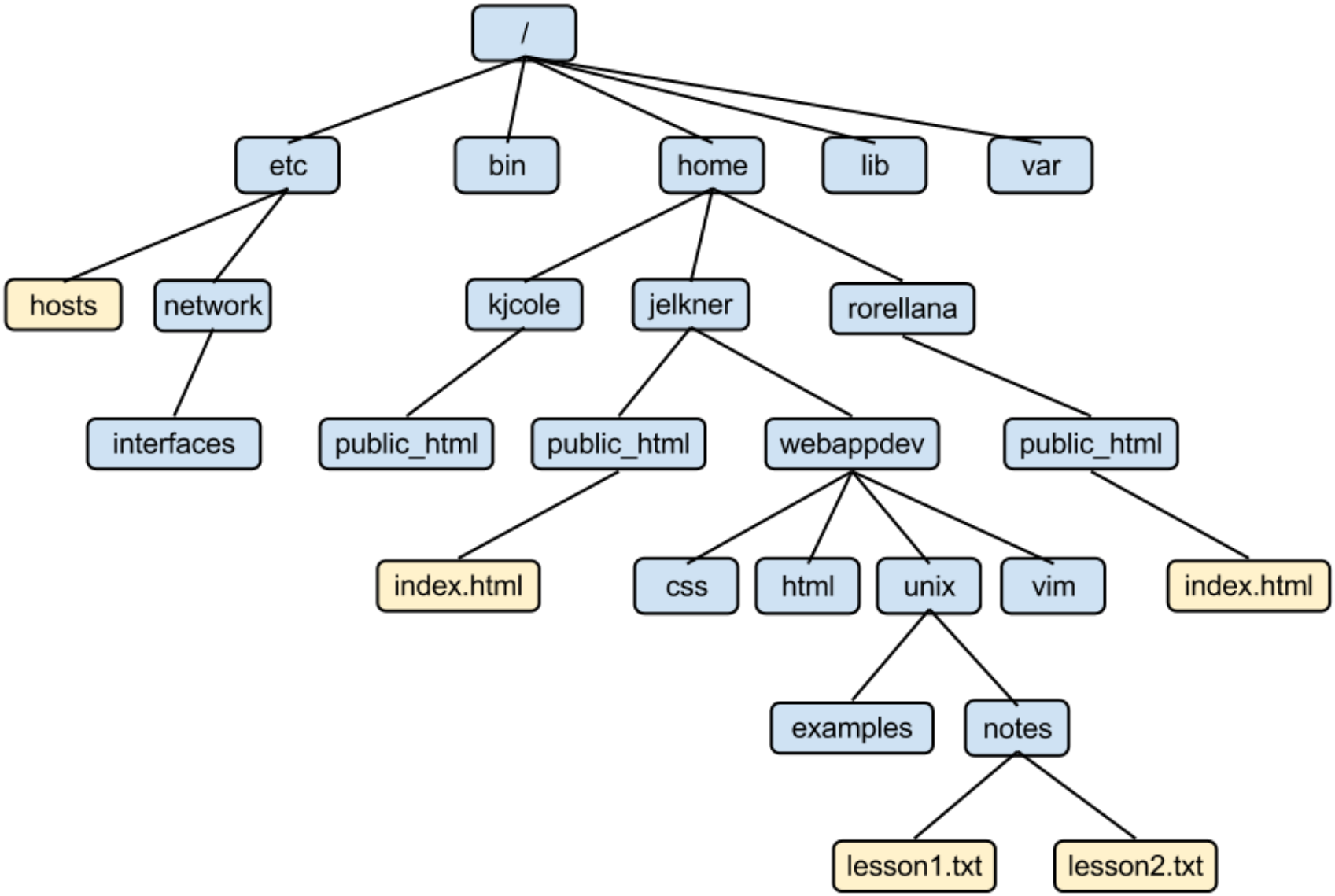
File Systems

Organization of file systems
Window vs unix based
Directory vs files

Typical Windows File System



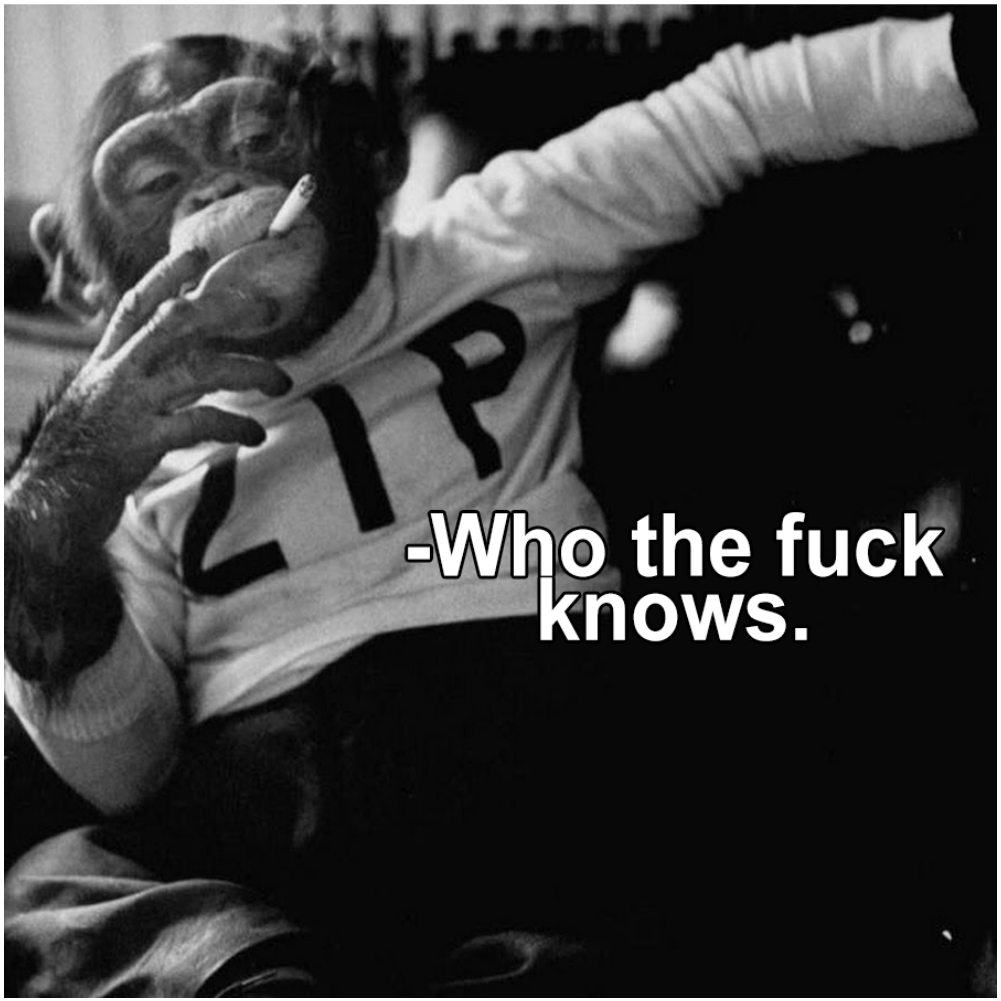
Unix and Unix-mauilike File Systems



Android: File saved successfully

Me: and where exactly it is saved?

Android:



Paths

Absolute and relative paths
Home directory
Working directory

Getting and Setting Working Directory in R

R commands for path and directory stuff

Getting and setting working directory

```
> getwd()
[1] "/home/collin/courses/sta230/s26"
> setwd("~/")
> getwd()
[1] "/home/collin"
```

Organization

How to organize project directory (data, reports, etc.)

```
> getwd()
[1] "/home/collin/courses/sta230/s26"
> setwd("~/")
> getwd()
[1] "/home/collin"
```

Files

File names, extensions, binary vs text
Everything is input and output to something else
do not use excel it dumb

R stuff for files

```
> ## Find working directory
> getwd()
[1] "/home/collin/courses/sta230/s26/lectures/06_files/dir"
>
> ## List files in directory
> list.files()
[1] "analysis" "data"     "reports"
>
> ## List files in data/ directory
> list.files("data")
[1] "clean_data.csv"    "original_data.csv" "subset_data.csv"
>
> ## Include full paths to read them
> list.files("data", full.names = TRUE)
[1] "data/clean_data.csv"    "data/original_data.csv"
"data/subset_data.csv"
```

R stuff for files

```
> list.files("data", full.names = TRUE)
[1] "data/clean_data.csv"    "data/original_data.csv"
"data/subset_data.csv"
>
## Error because this file not in working directory
> dat <- read.csv("clean_data.csv")
Error in file(file, "rt") : cannot open the connection
In addition: Warning message:
In file(file, "rt") :
  cannot open file 'clean_data.csv': No such file or directory

## Need full path to open file
> dat <- read.csv("data/clean_data.csv")
```

basename
list.files
list.dirs
read.csv, read.table

local vs cloud

One extra point worth mentioning: cloud vs local storage. It's actually very simple

```
## Stored on server at Github (cloud), doesn't exist on my computer
dat <- read.csv("https://collinn.github.io/data/college2019.csv")

## Stored on my hard drive (locally), I read directly from disk
dat <- read.csv("~/gitsite/data/college2019.csv")
```

Remember: if it ain't on your machine, you don't own it. Things in the cloud can change or disappear without notice

Loops

Loops