

Who Am I?



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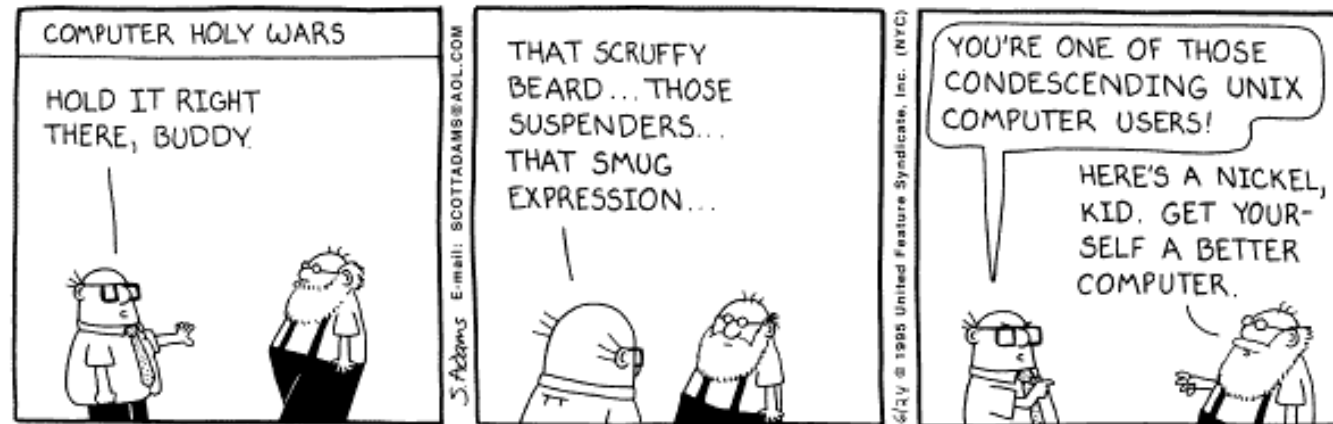
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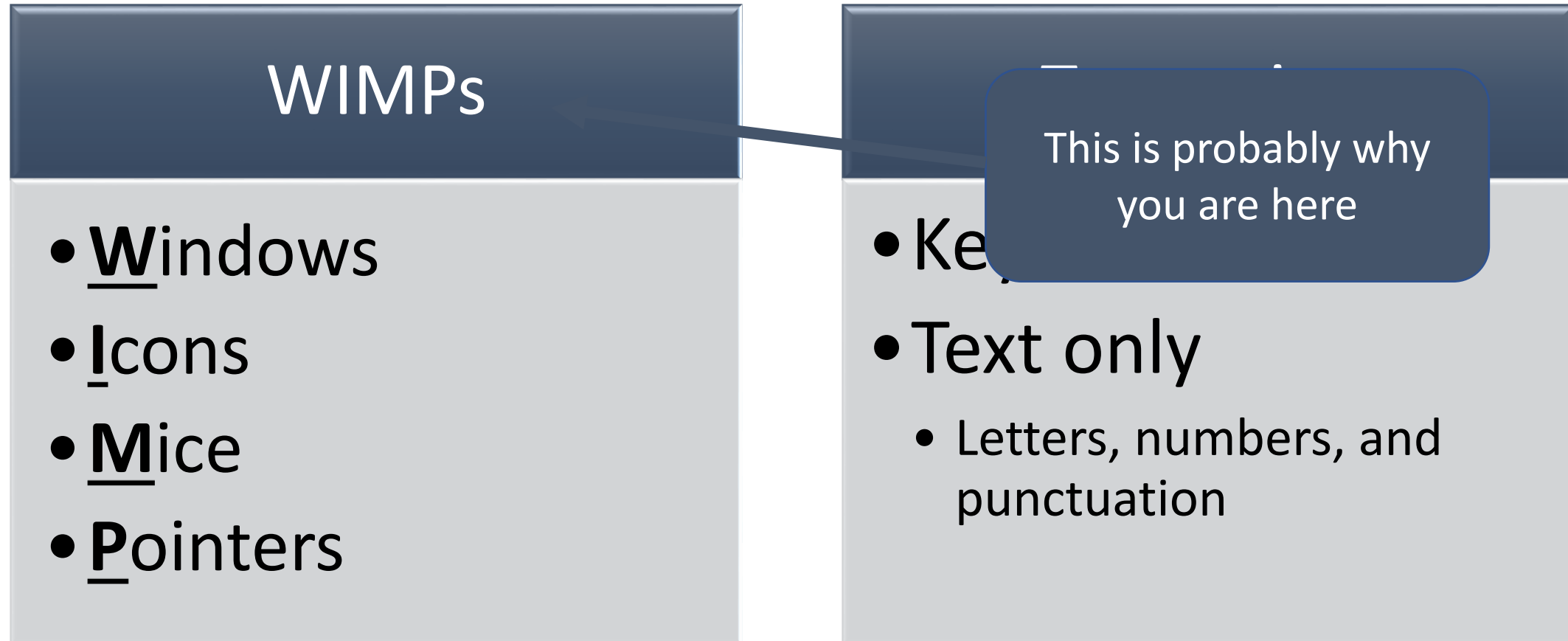
The Command Line

a.k.a The terminal

a.k.a. 'My worst nightmare' (but really?)



Interacting with a computer

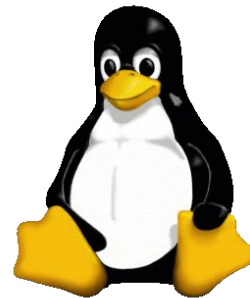
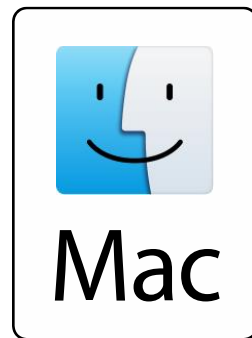


Session Goals

What is the command line interface (CLI)?

Learn fundamental commands of a UNIX operating system

- Basis for Mac and Linux operating systems

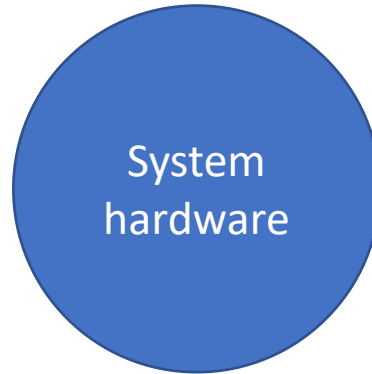


What is UNIX?

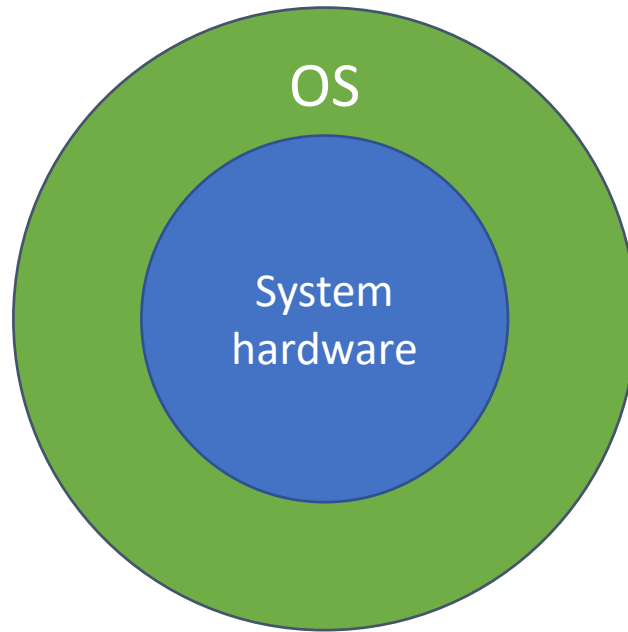
An Operating System – (OS)

- Developed in the 1960's by AT&T
- Flexible and stable
- Allows users to
 - run programs
 - manage resources
 - access the folders and files
 - communicate with other computer systems
 - multi-user (e.g., server)
 - multi-tasking (do several things concurrently)

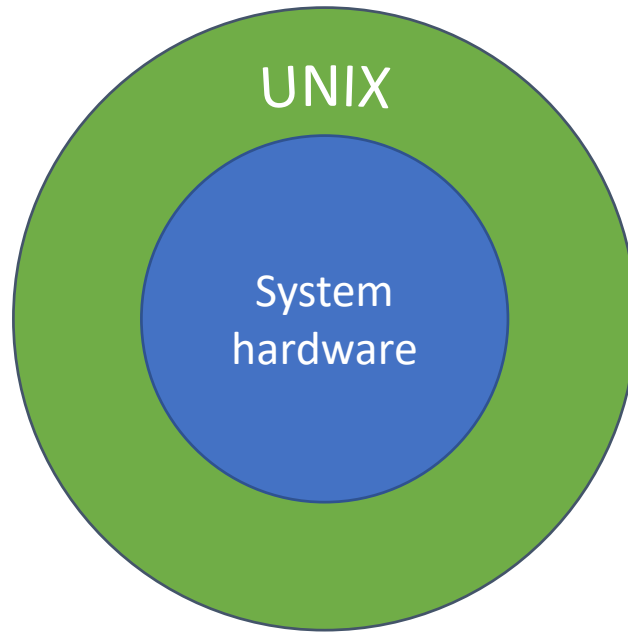
UNIX



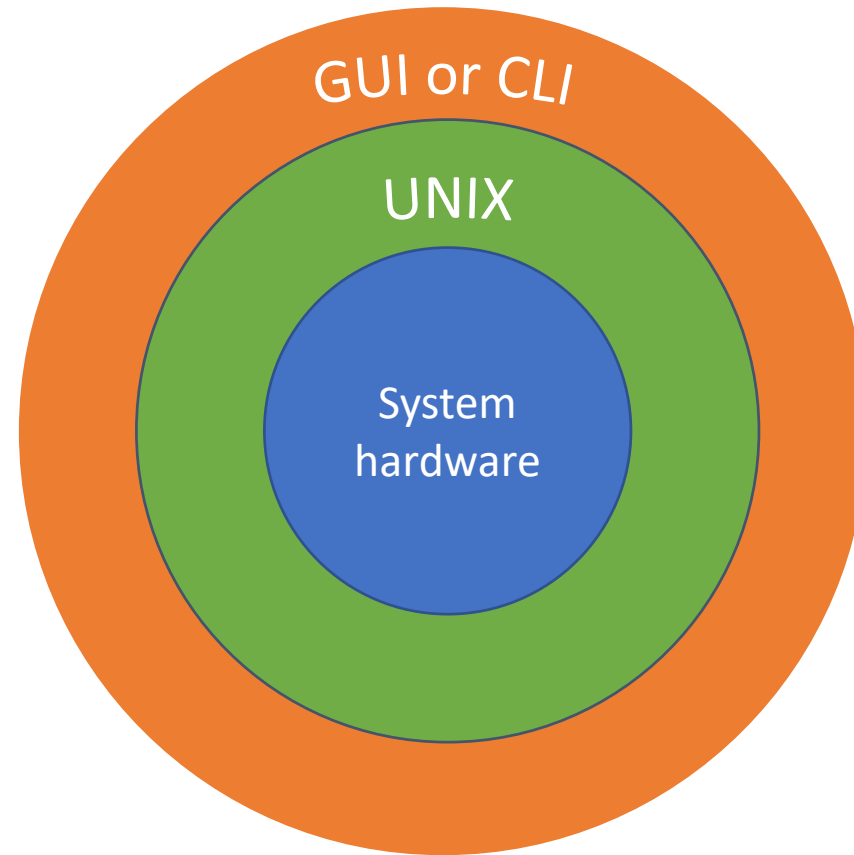
UNIX



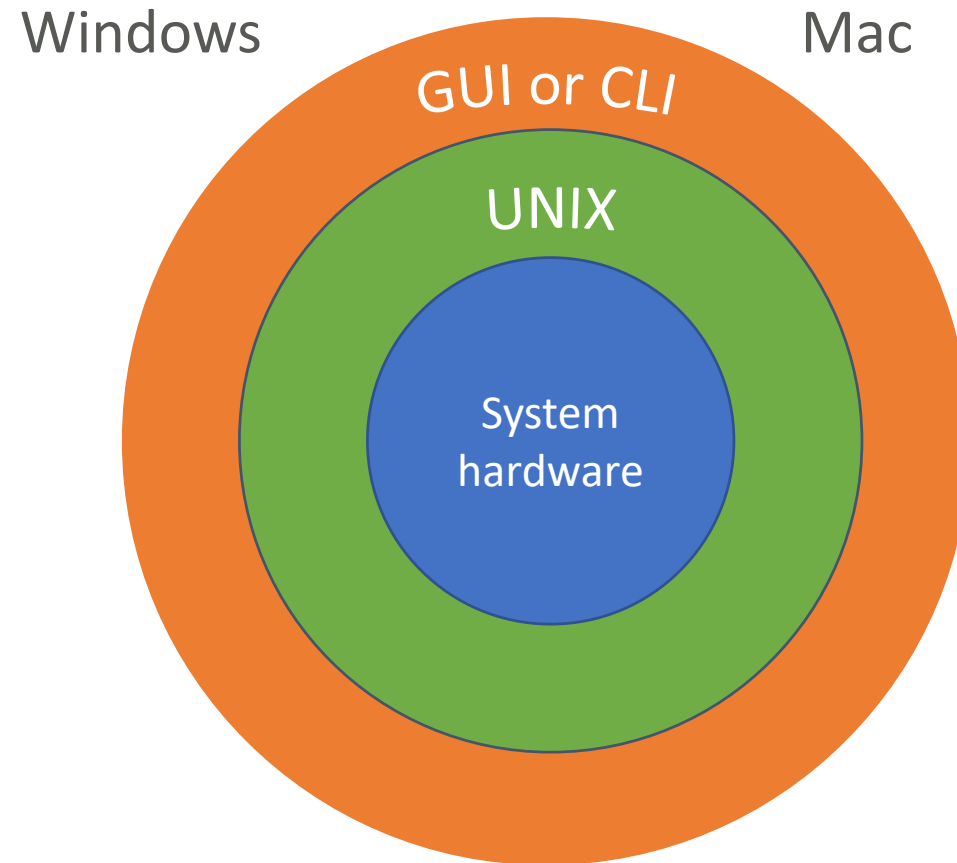
UNIX



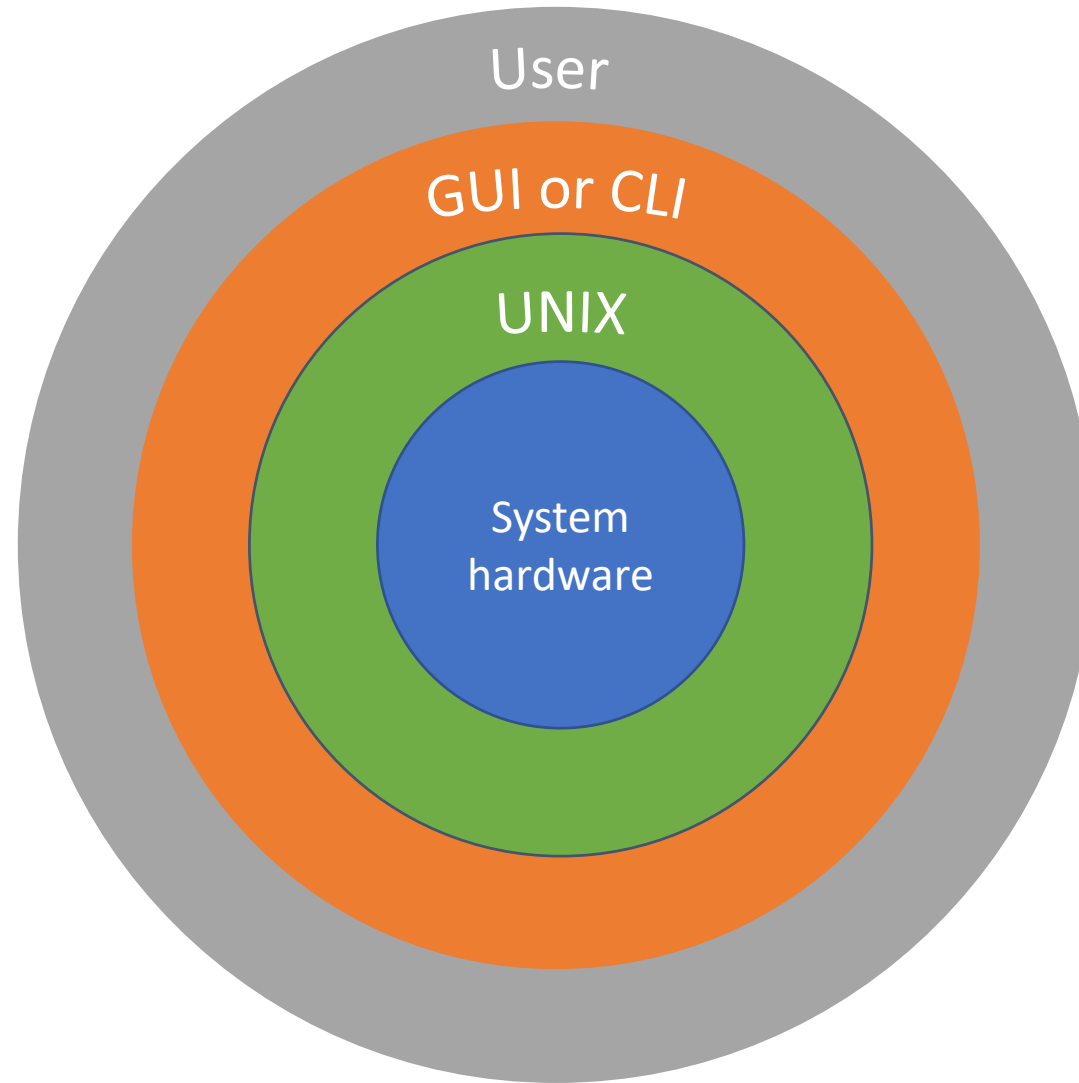
UNIX



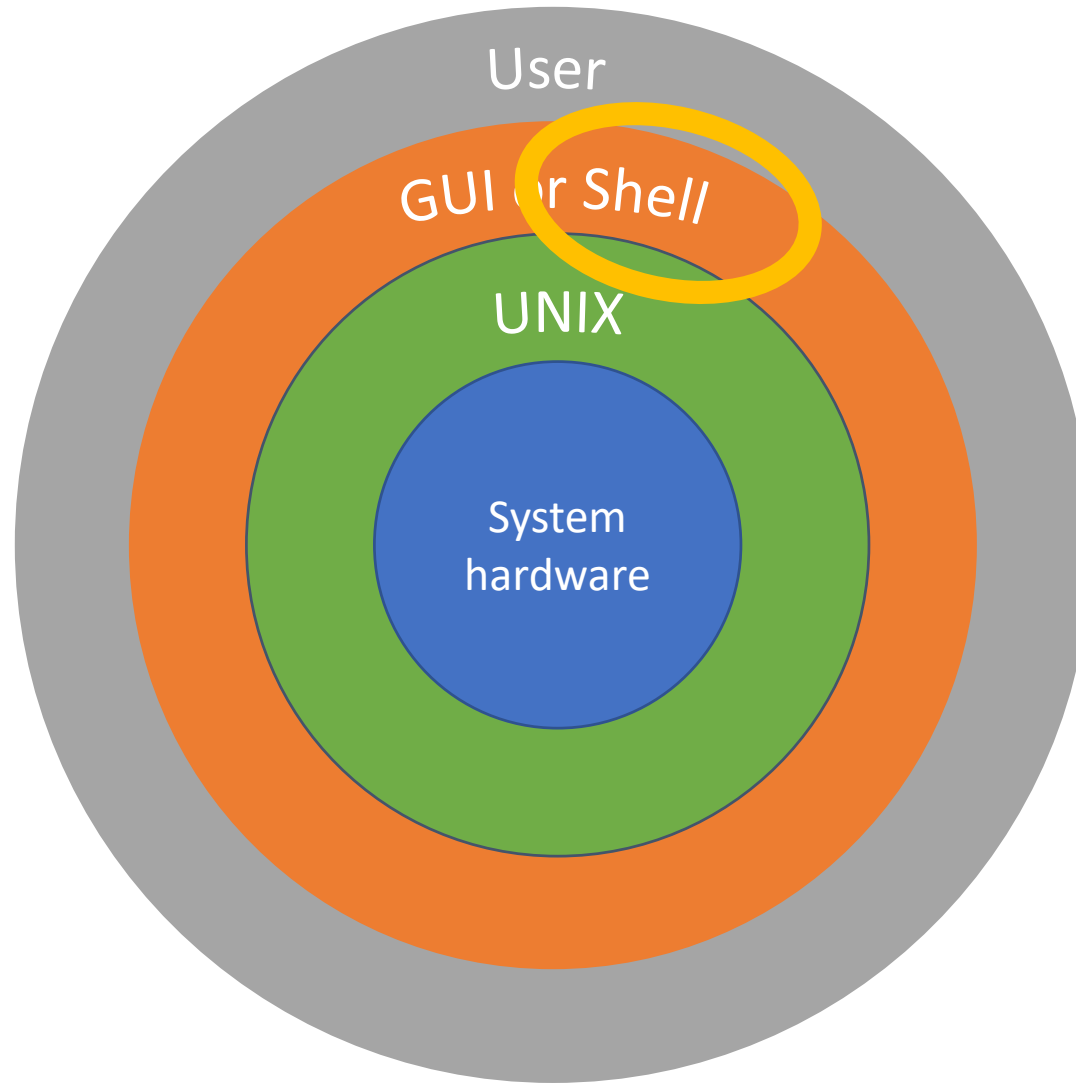
UNIX



UNIX



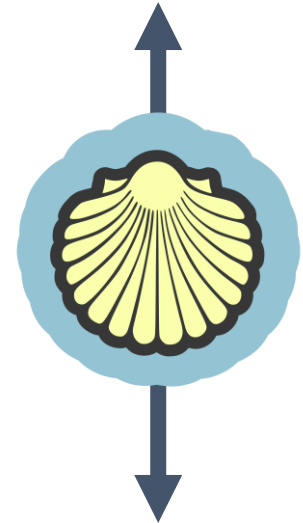
UNIX



User



Shell



Computer



UCF

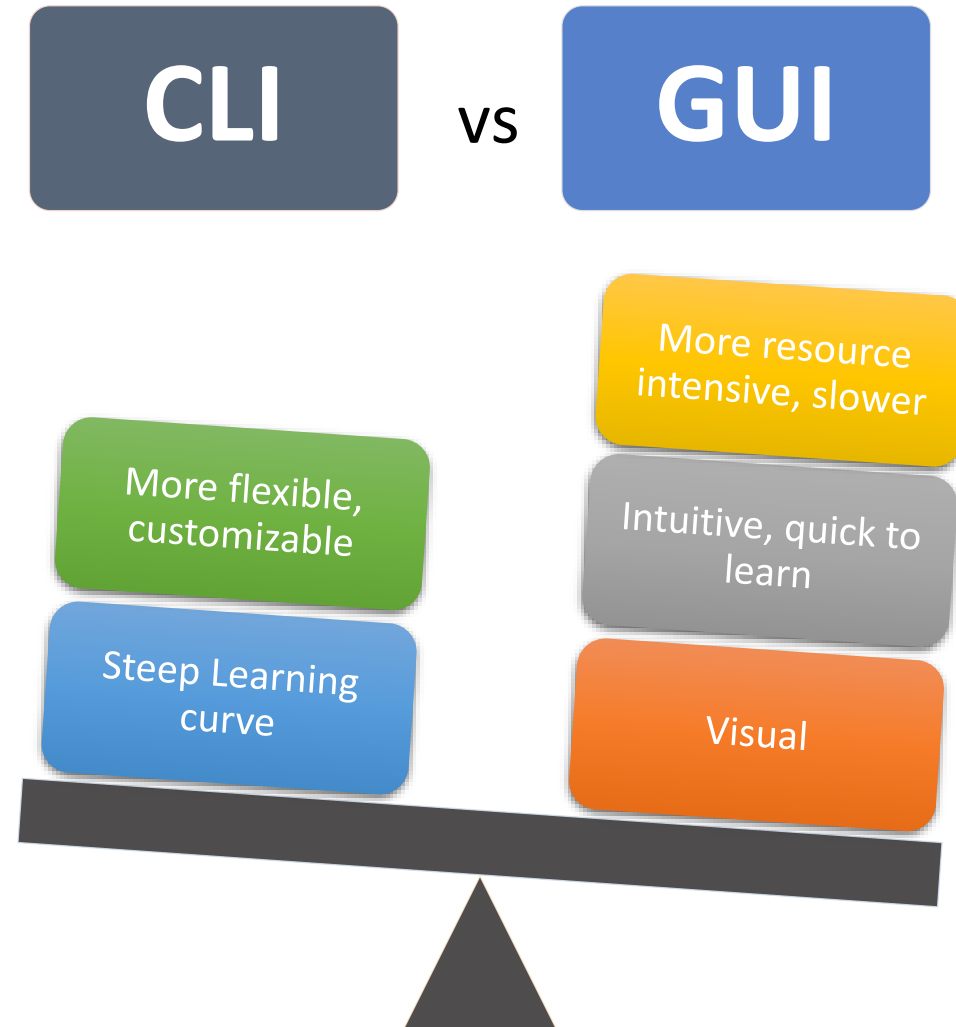
SHELL (a.k.a. terminal)

- The shell interprets text commands the user types and manages their execution
 - The shell communicates with the core operating system called the **kernel**
 - The most popular shells are: **bash** (default), tcsh, csh, korn
 - The differences are generally subtle
 - For this tutorial, we are using **bash**
- WARNING: Shell commands are **CASE SENSITIVE!**
 - So “**cat**” and “**Cat**” are two different things

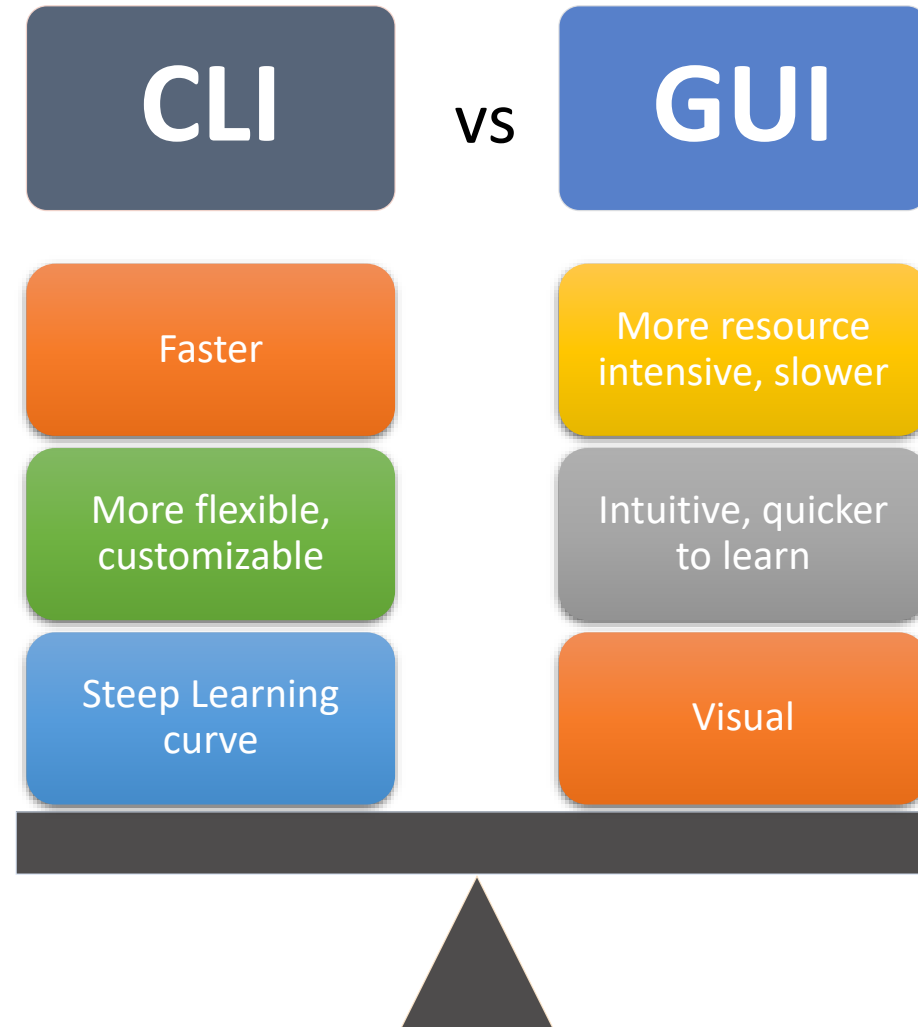
Command Line Interface (CLI): Advantages vs Disadvantages



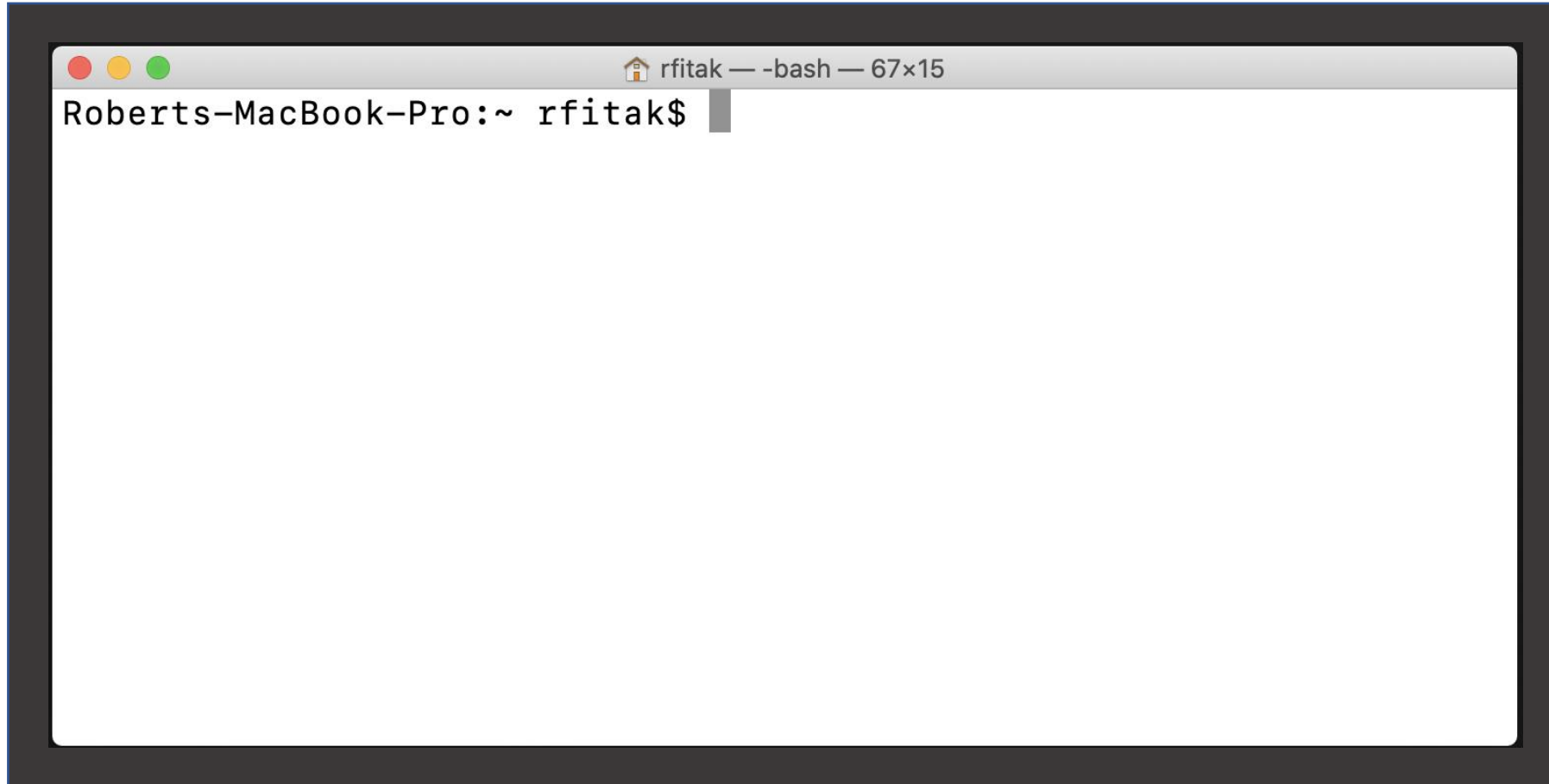
Command Line Interface (CLI): Advantages vs Disadvantages



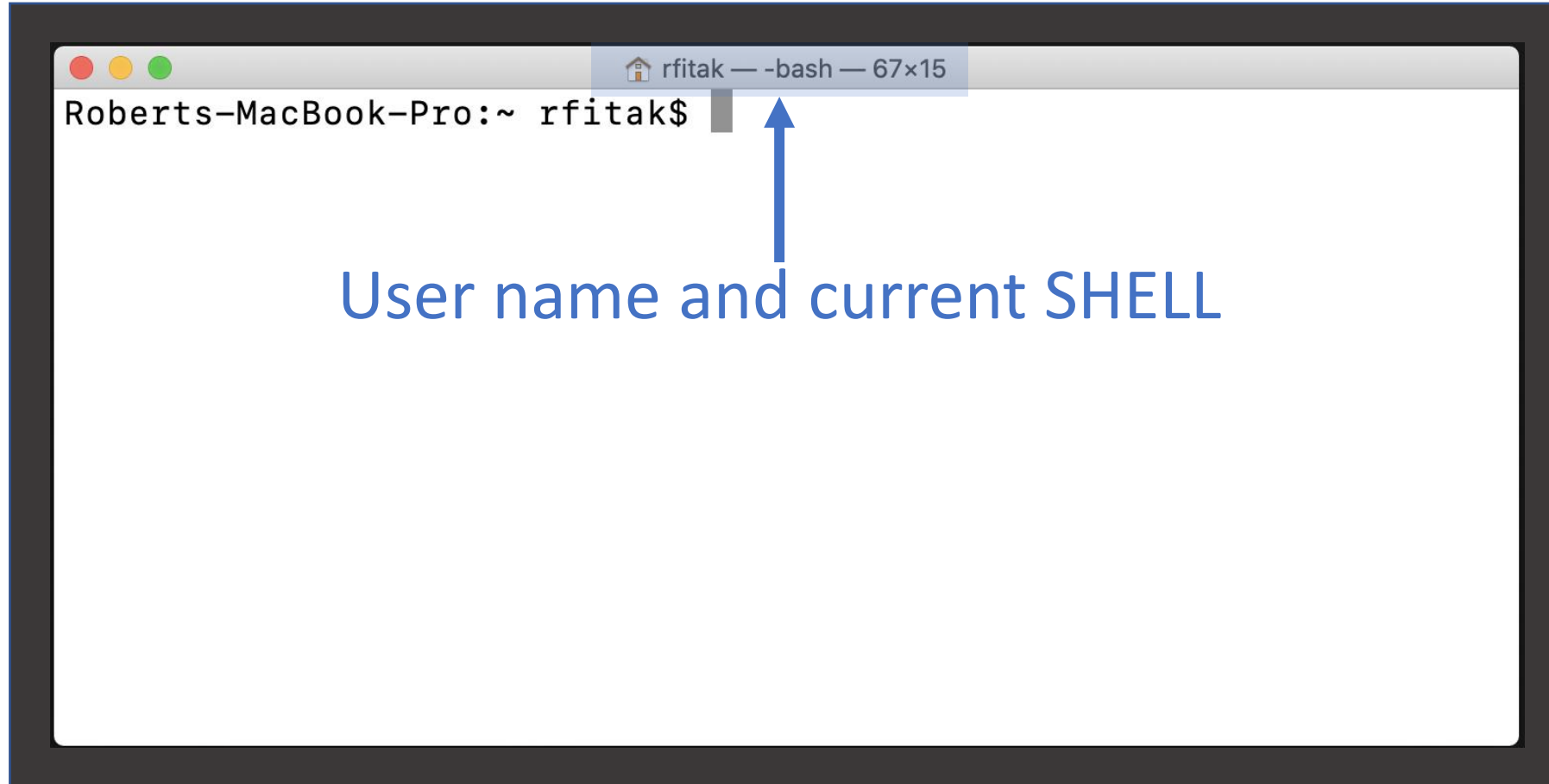
Command Line Interface (CLI): Advantages vs Disadvantages



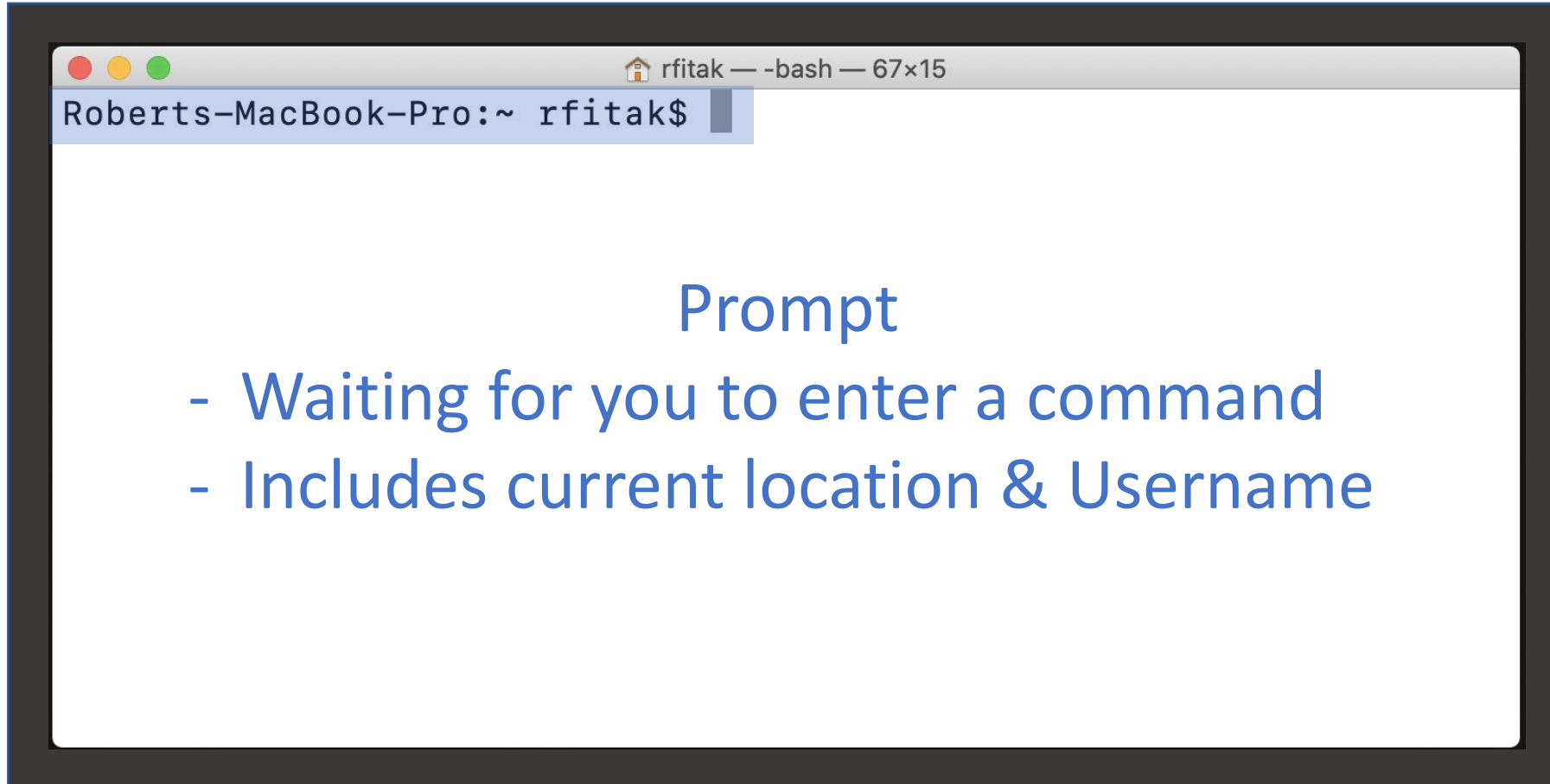
The Terminal



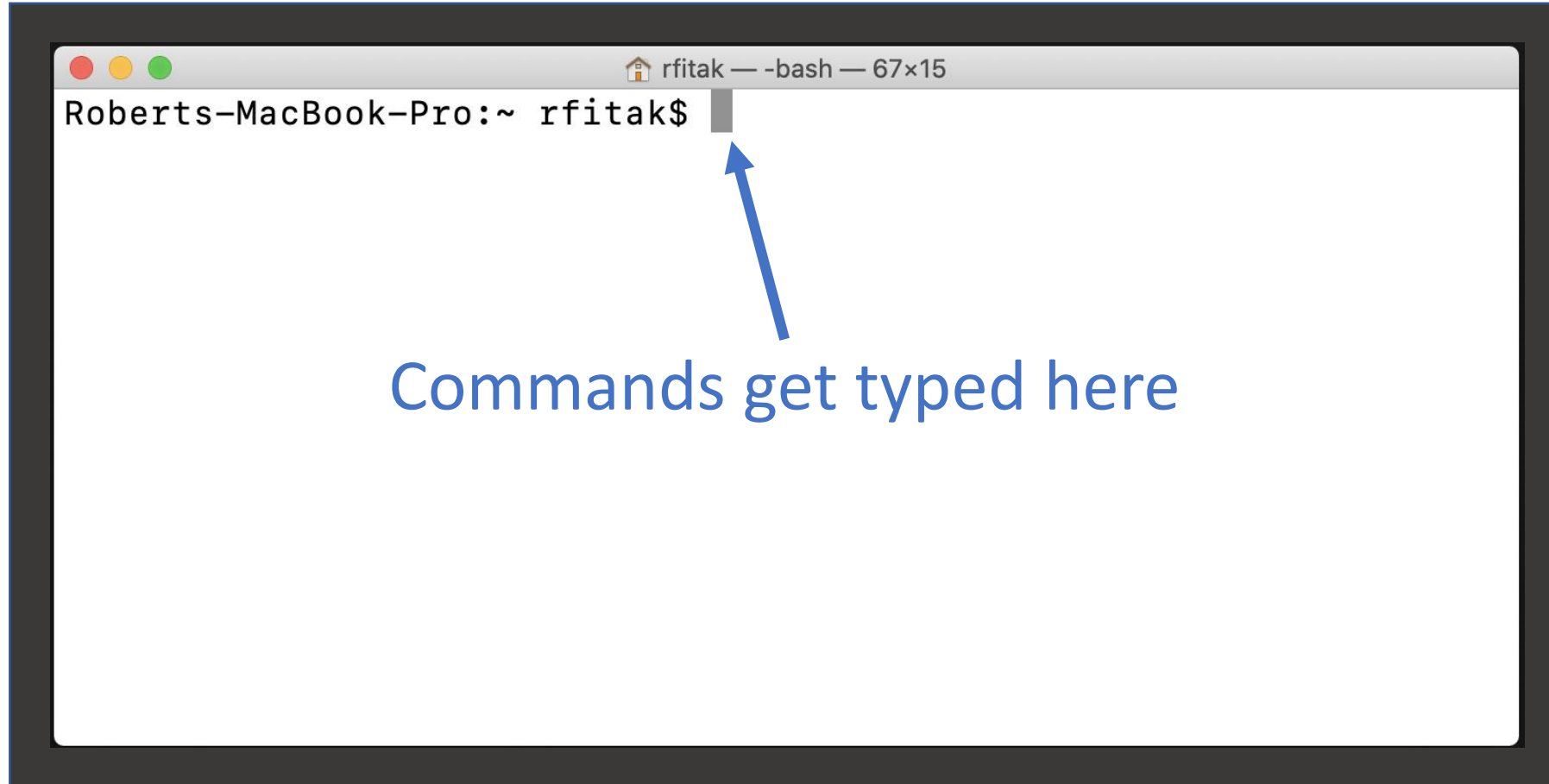
The Terminal



The Terminal



The Terminal



Commands

UNIX commands can be very simple one word commands, or have many additional *arguments* (a.k.a. parameters).

In general, a UNIX command has the following form:

Roberts-MacBook-Pro:~ rfitak\$ **command options(s) filename(s)**

Commands

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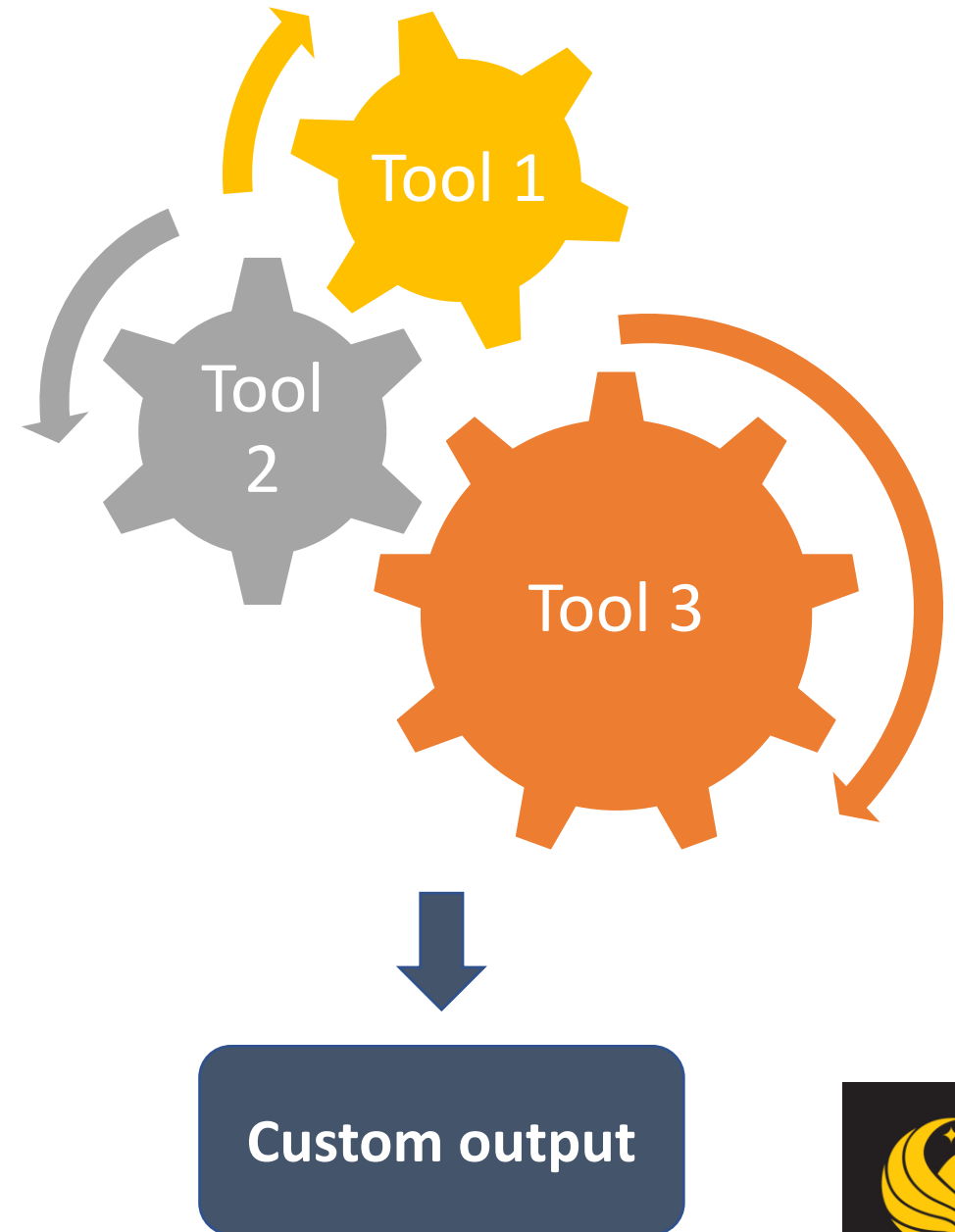
Roberts-MacBook-Pro:~ rfitak\$ **command options(s) filename(s)**

- The *command* is the name of the program that we are going to execute.
- The *options* modify the way the command works. Options are typically indicated by one or two hyphens: e.g. **-a** or **--input**.
- The *filename* is the last argument for many UNIX commands.

SCRIPTING

Scripting

- Many tools (*especially in genomics*) ONLY have a CLI
- Combining tools in powerful new ways

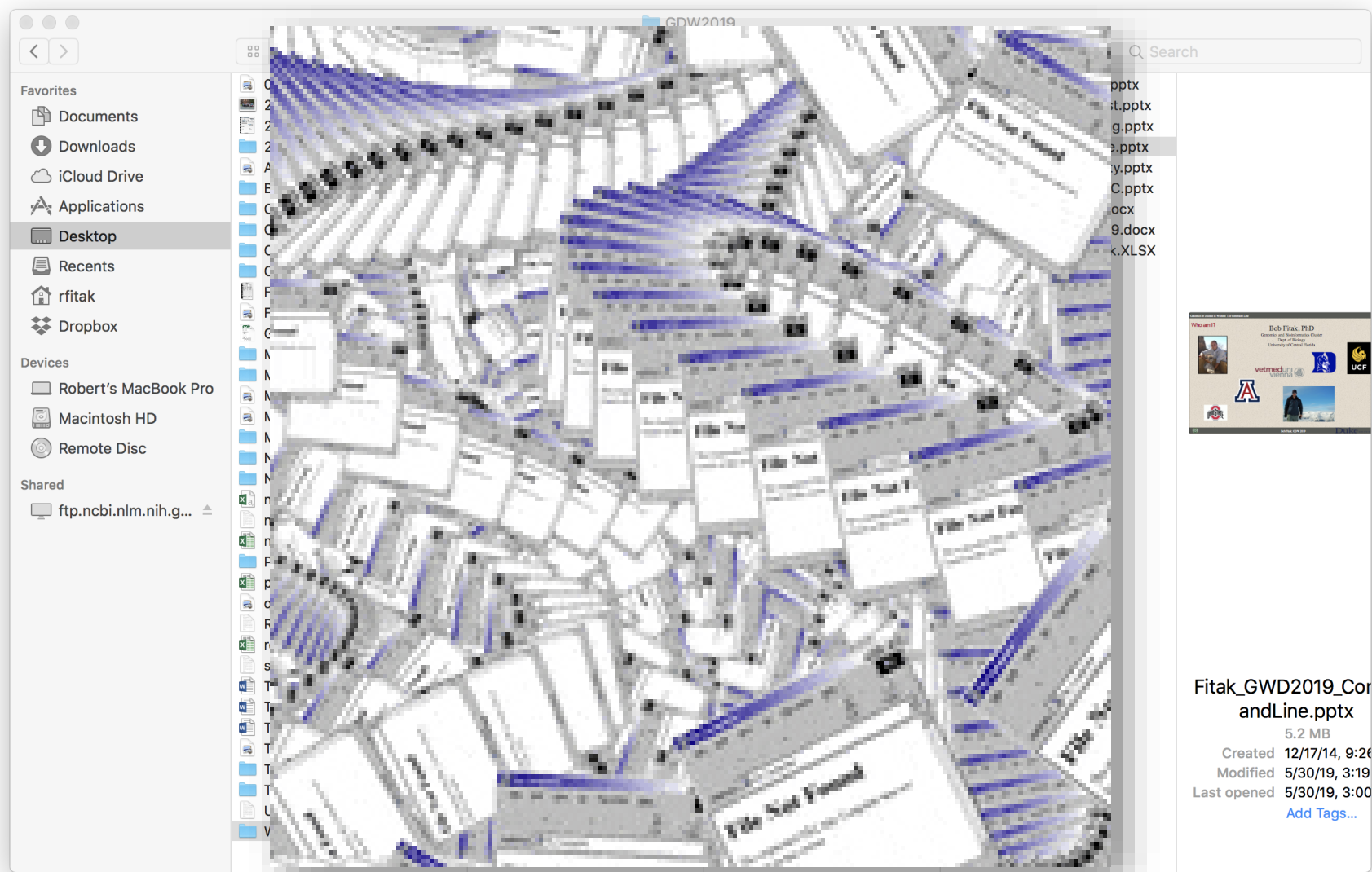


Navigating your computer

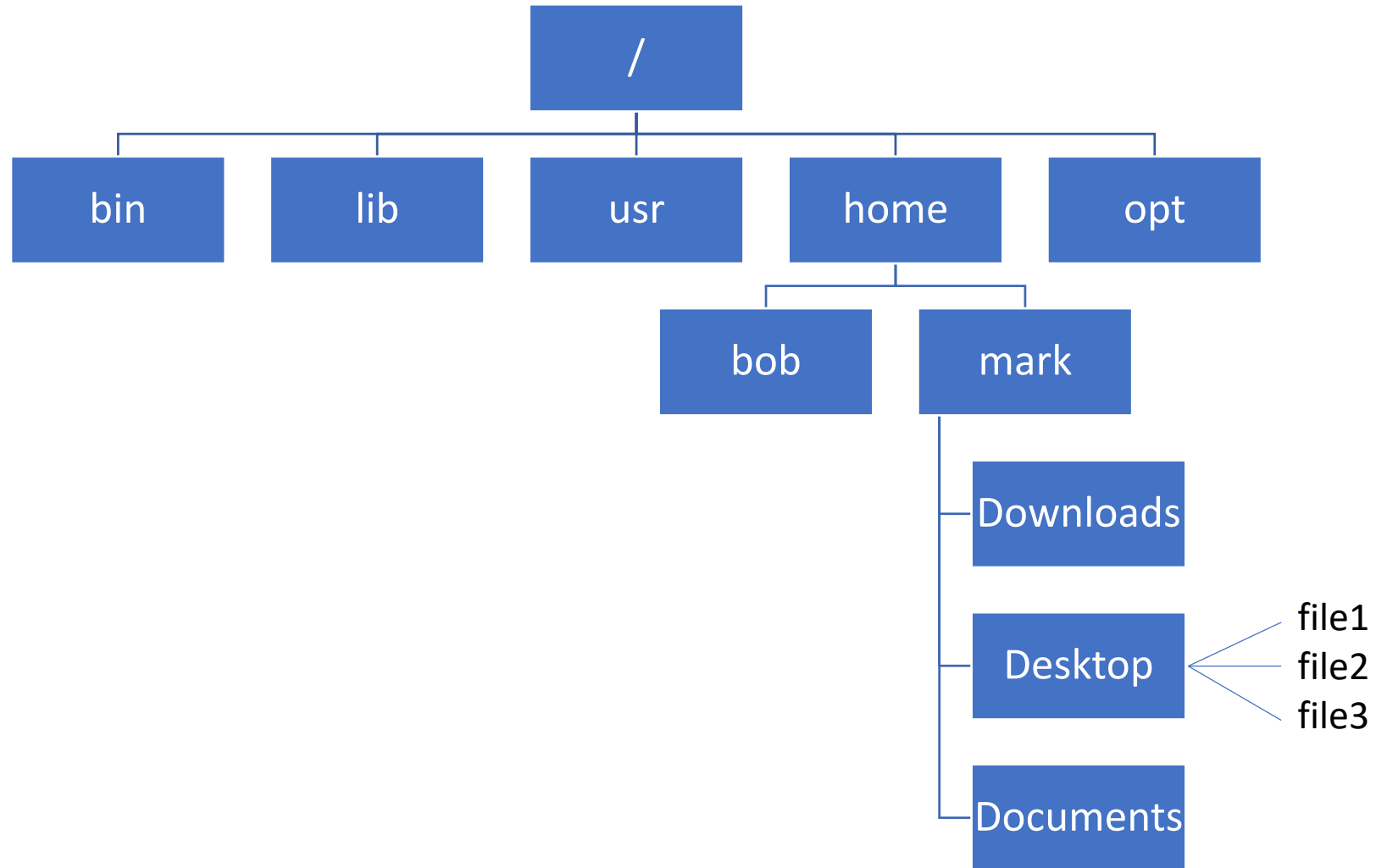
Using the command line



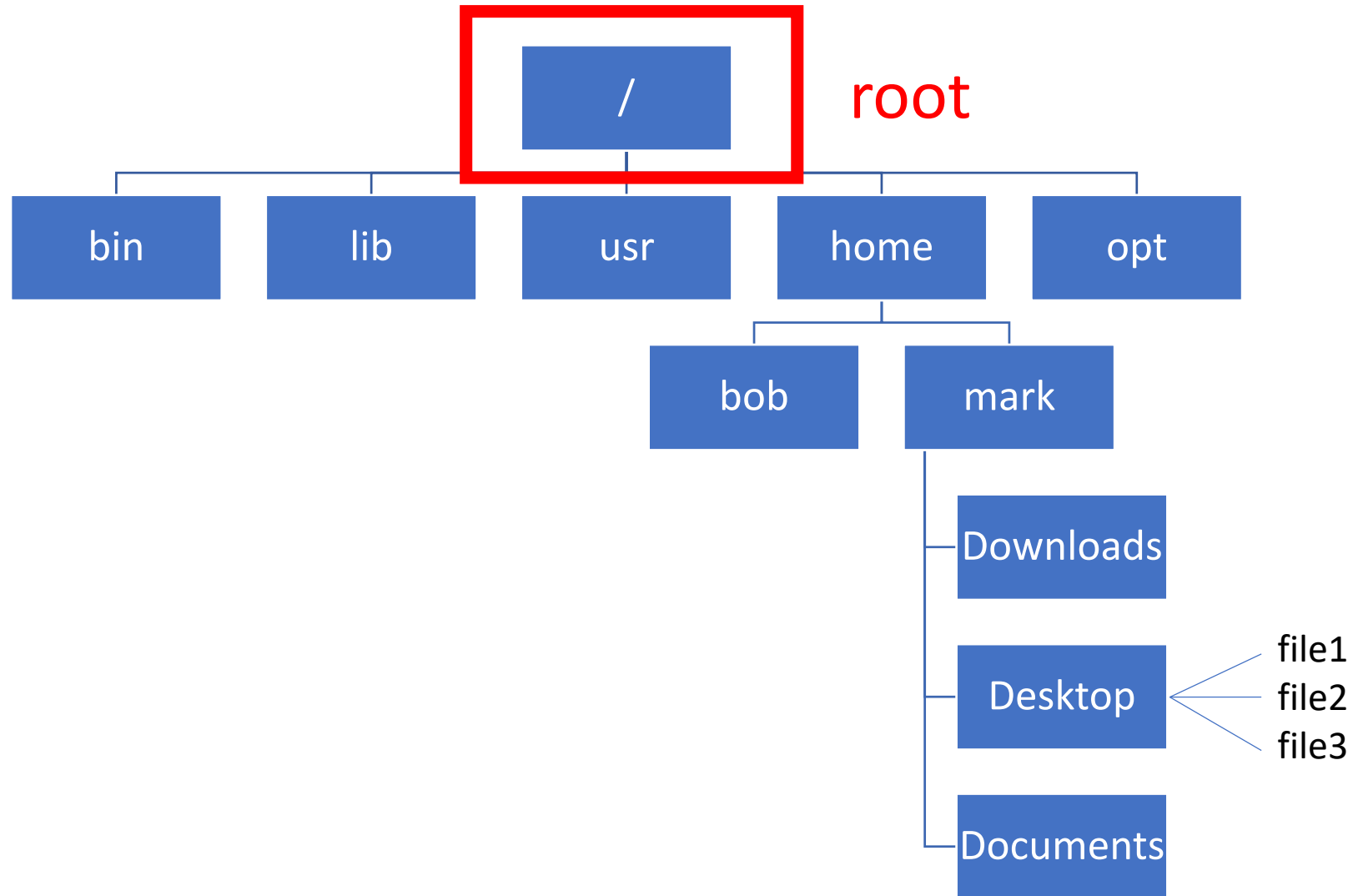
Navigating your computer



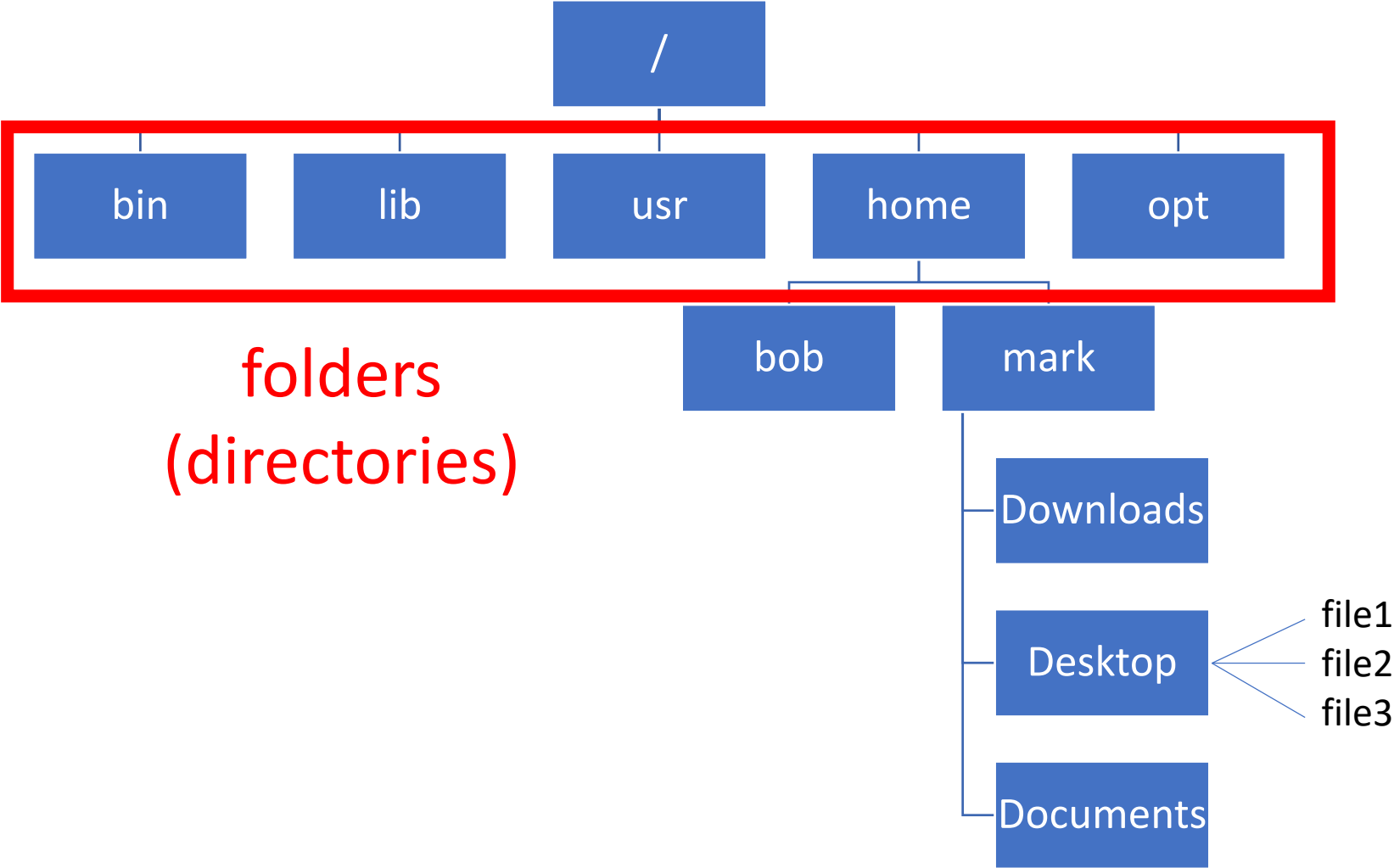
The File System



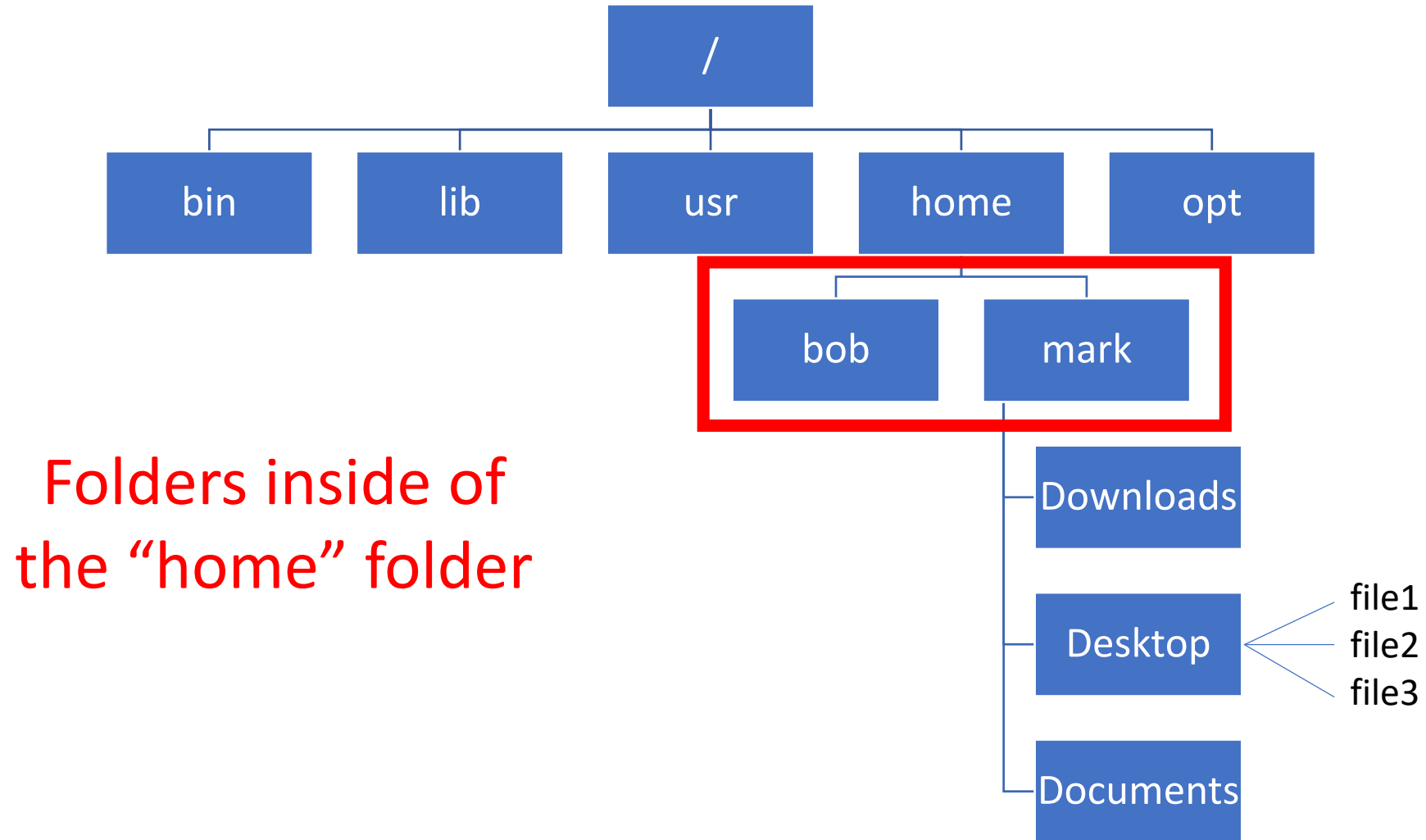
The File System



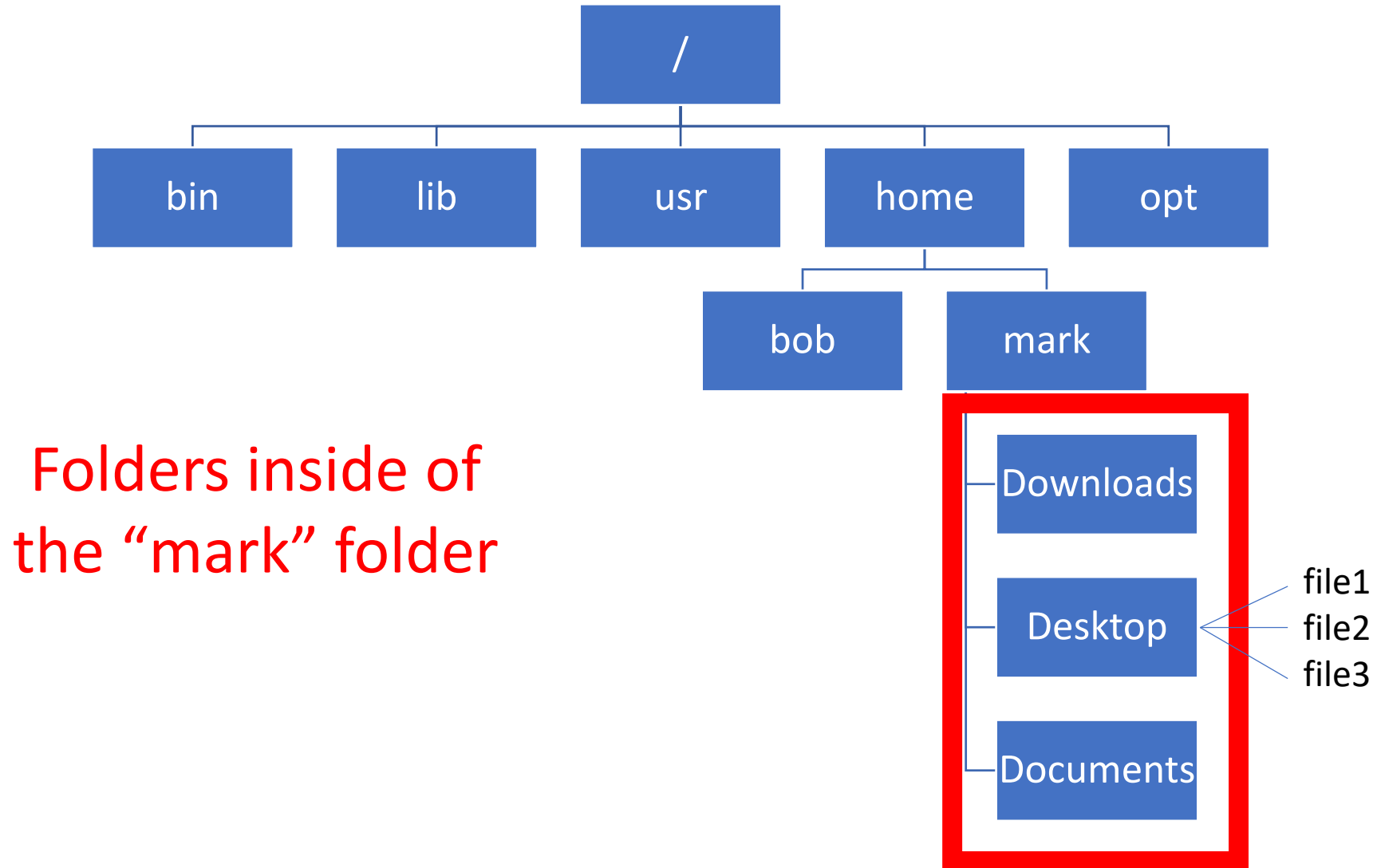
The File System



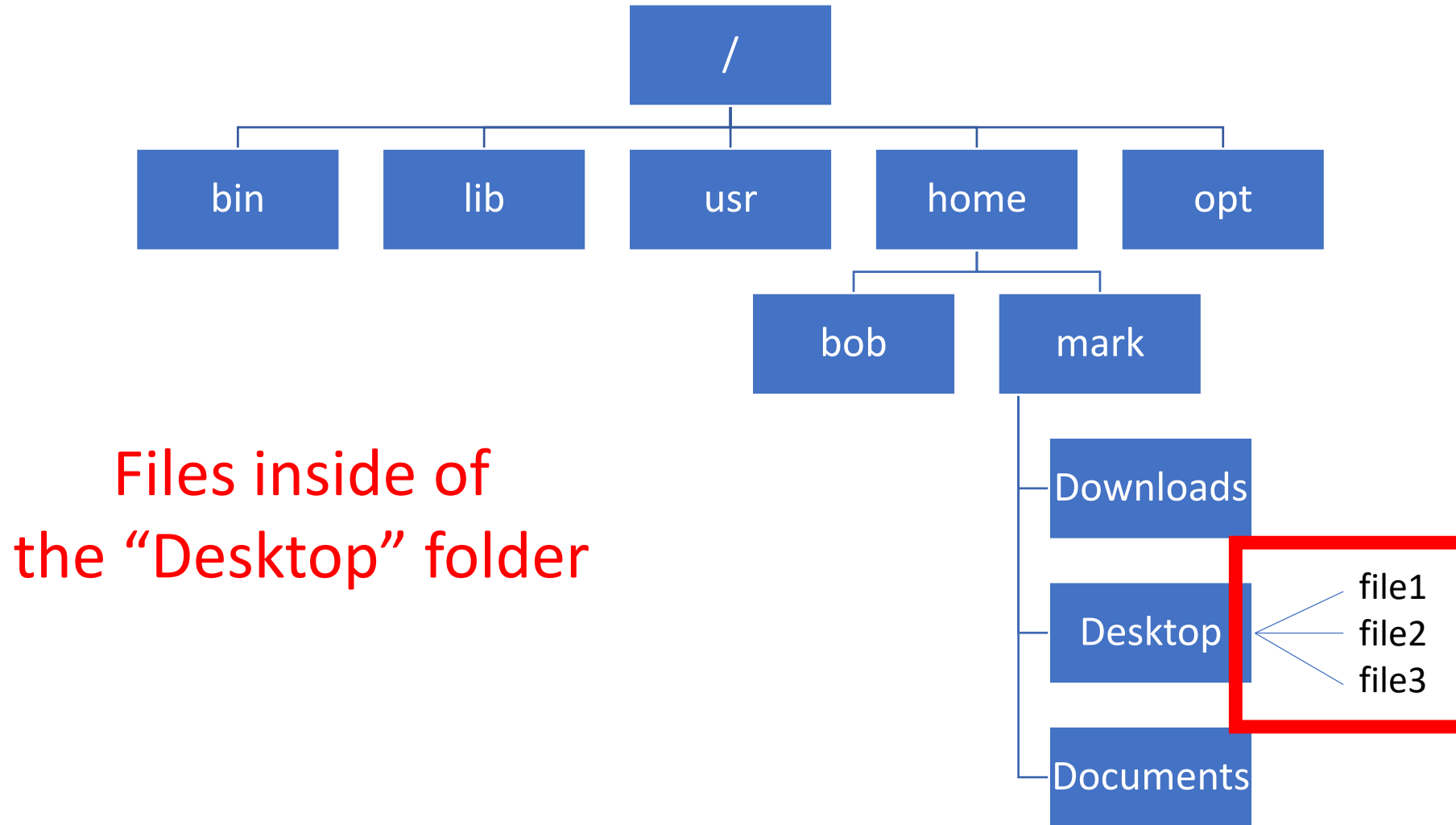
The File System



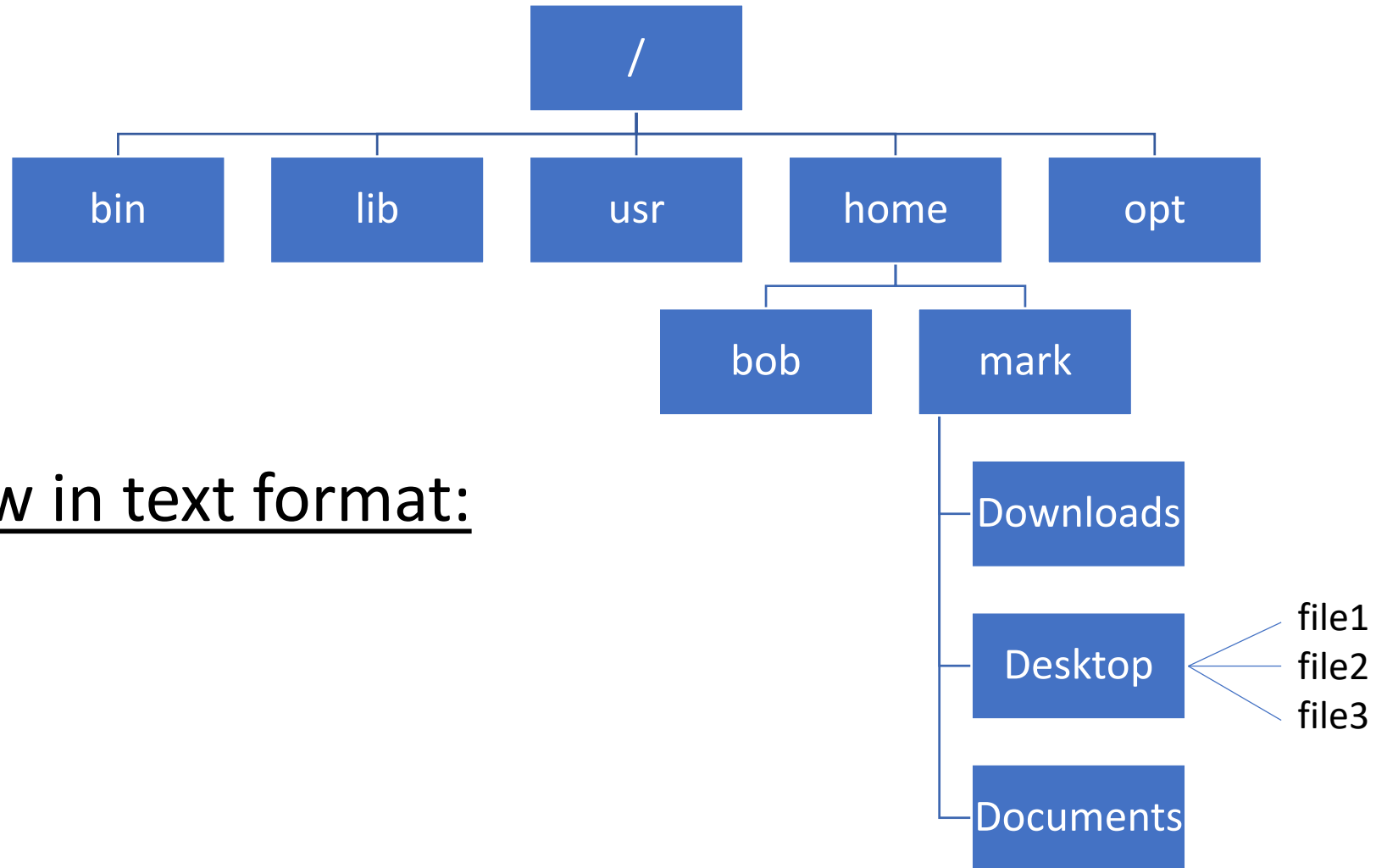
The File System



The File System

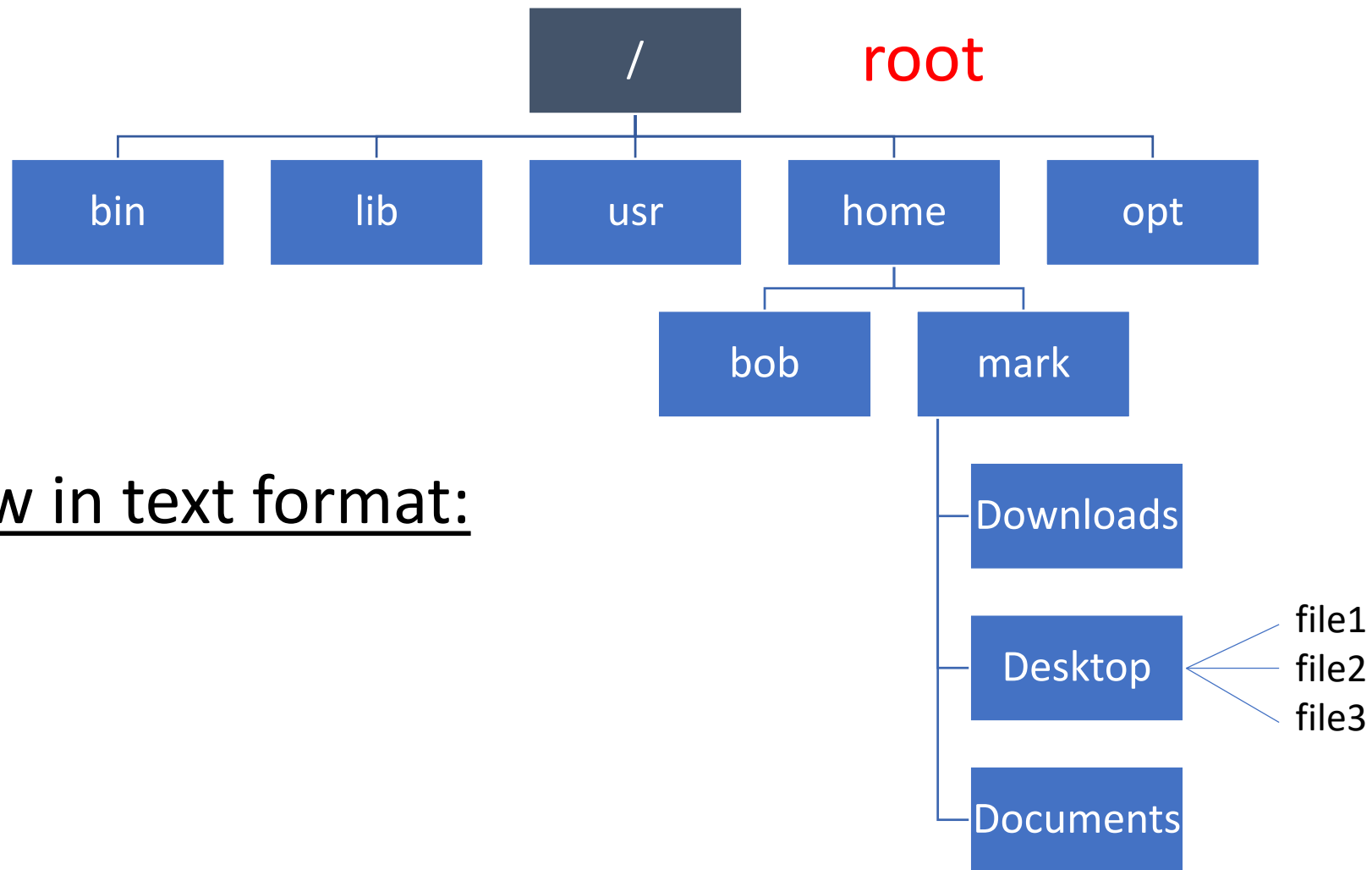


The File System



Now in text format:

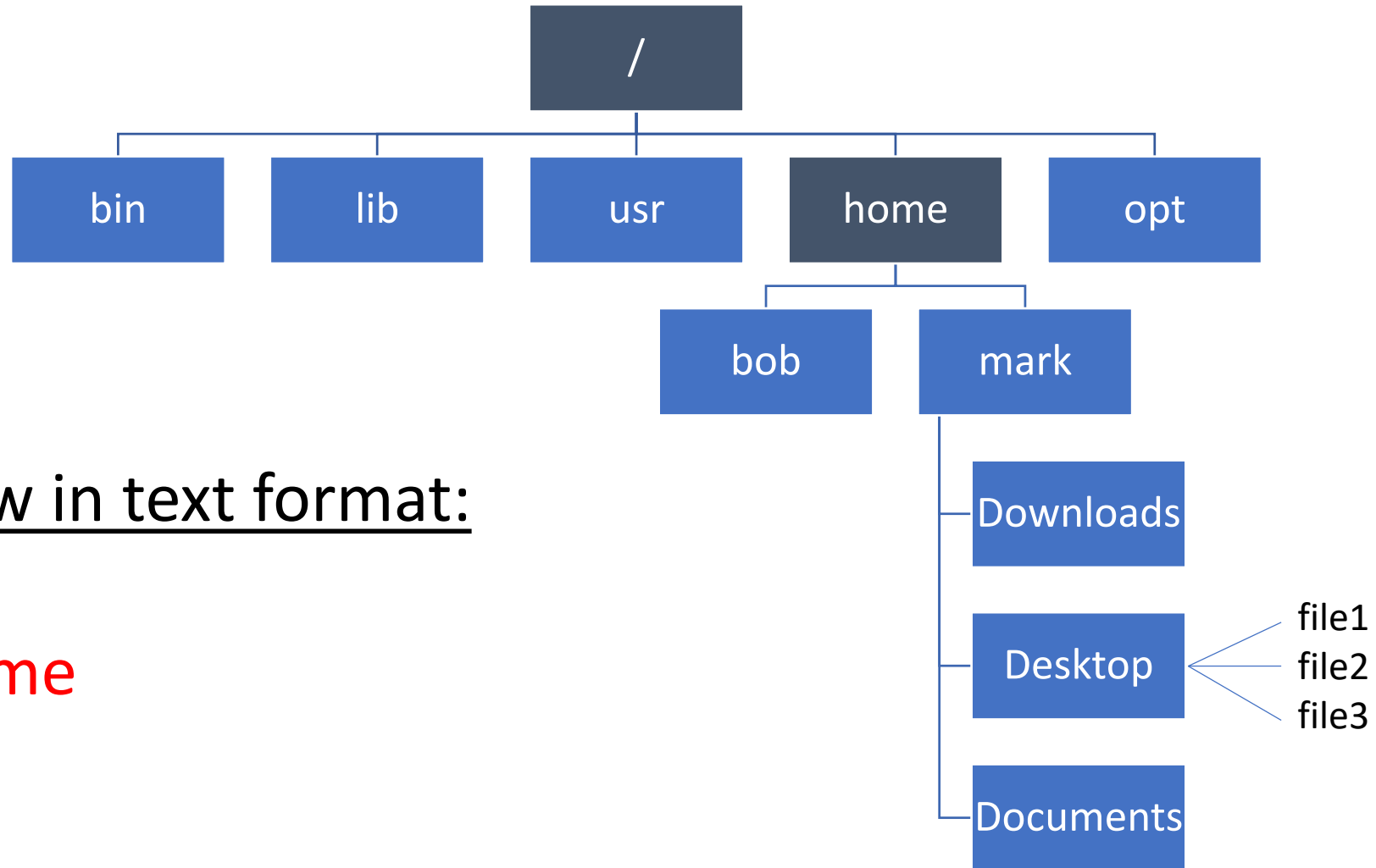
The File System



Now in text format:

/

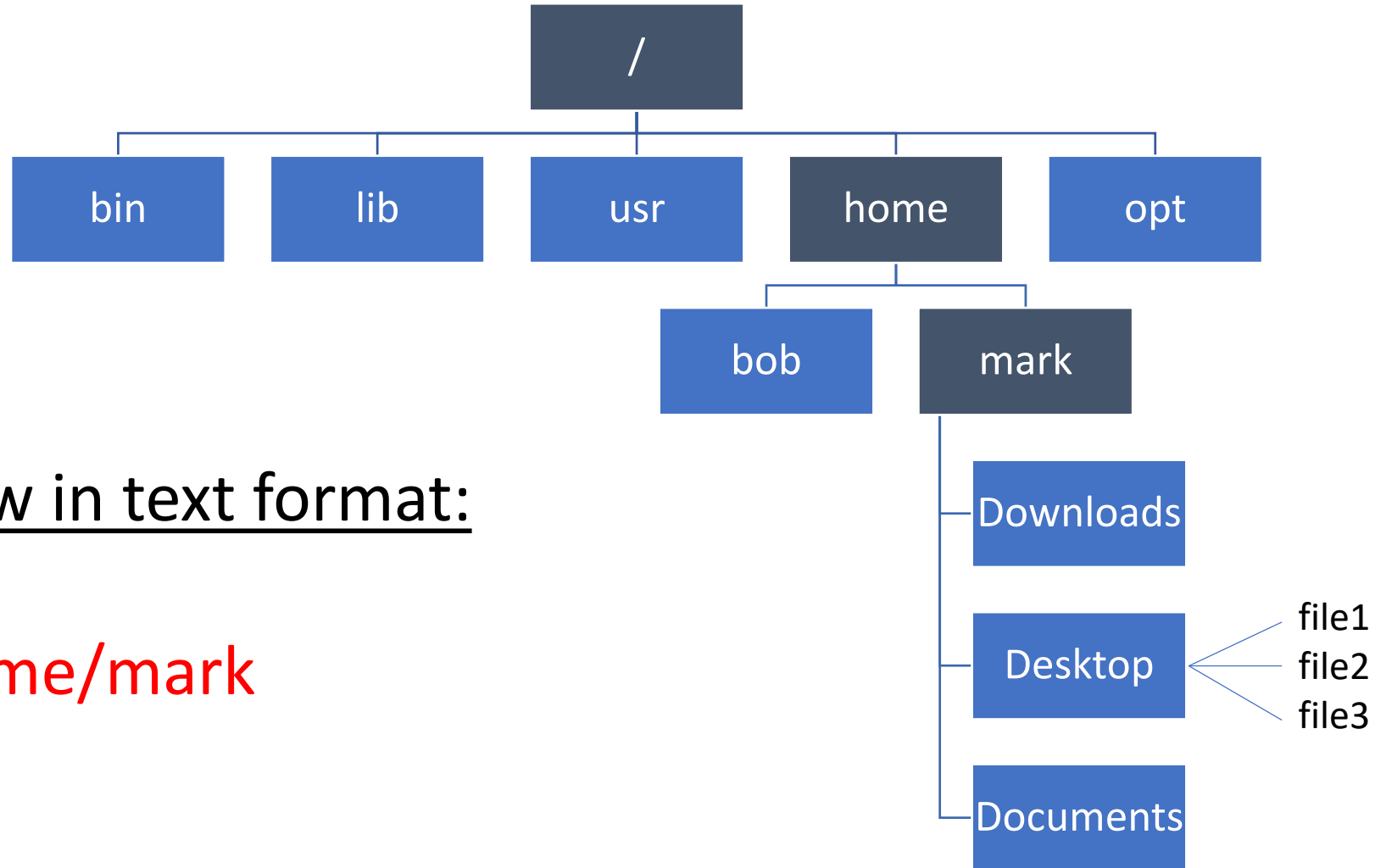
The File System



Now in text format:

/home

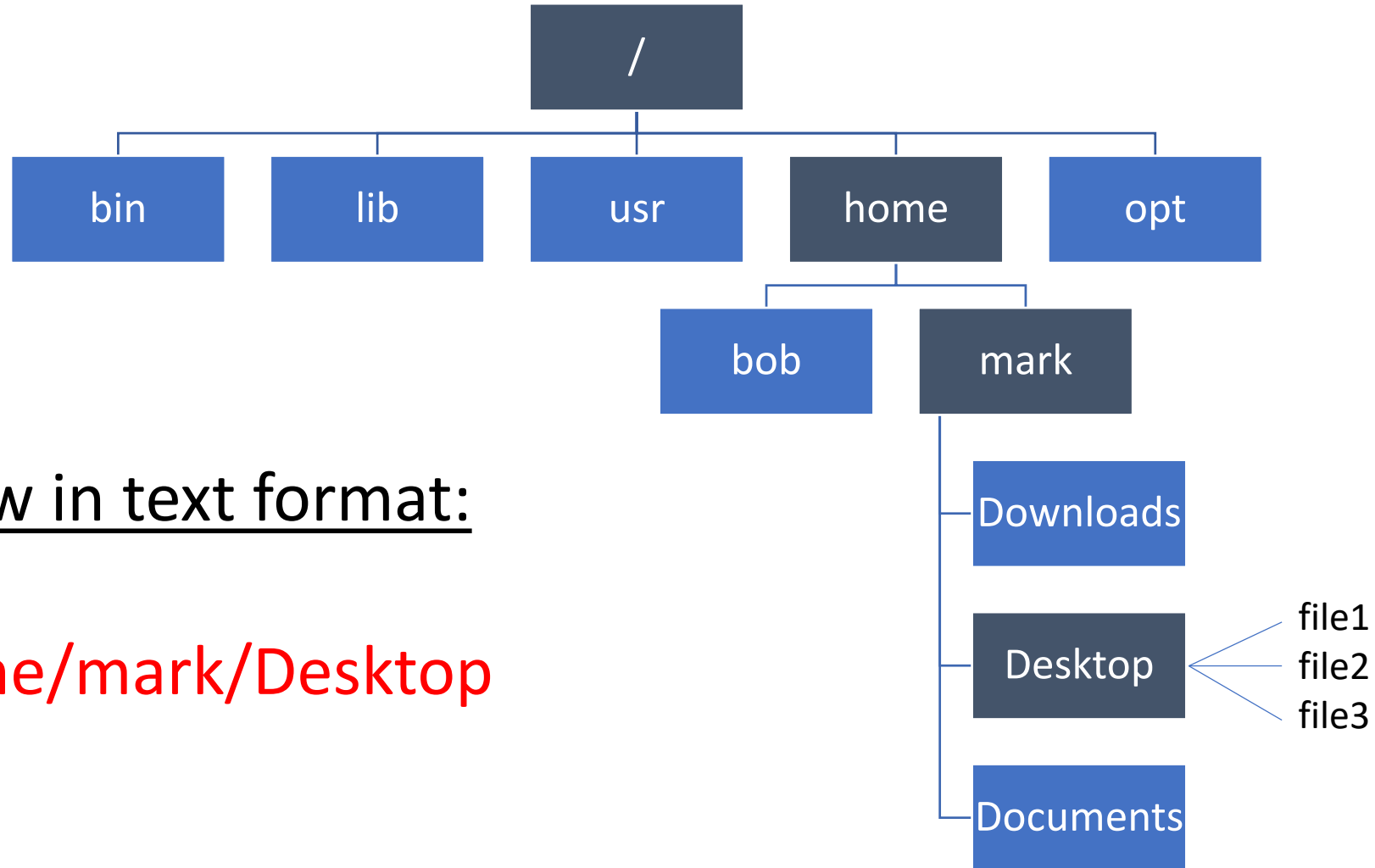
The File System



Now in text format:

/home/mark

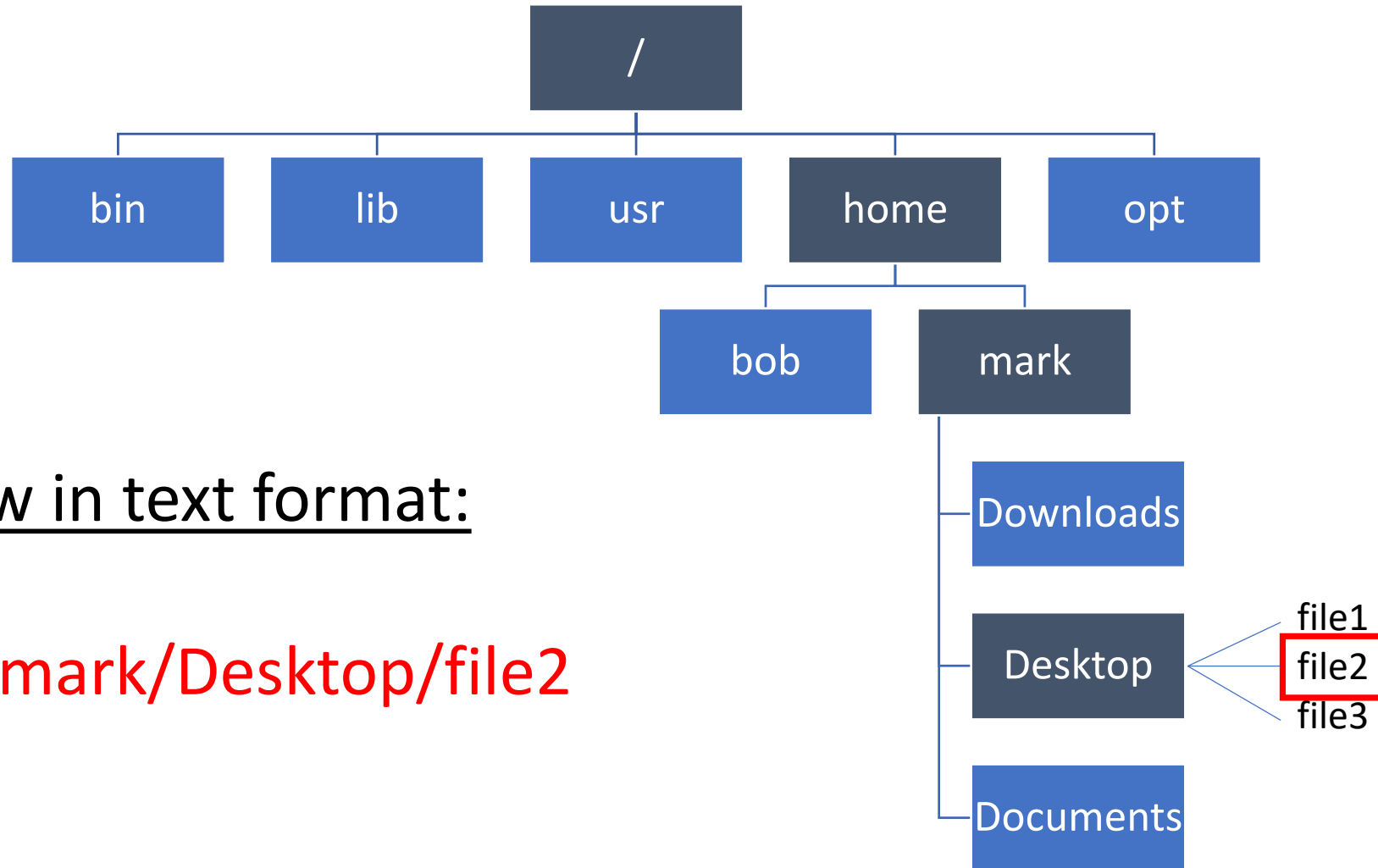
The File System



Now in text format:

/home/mark/Desktop

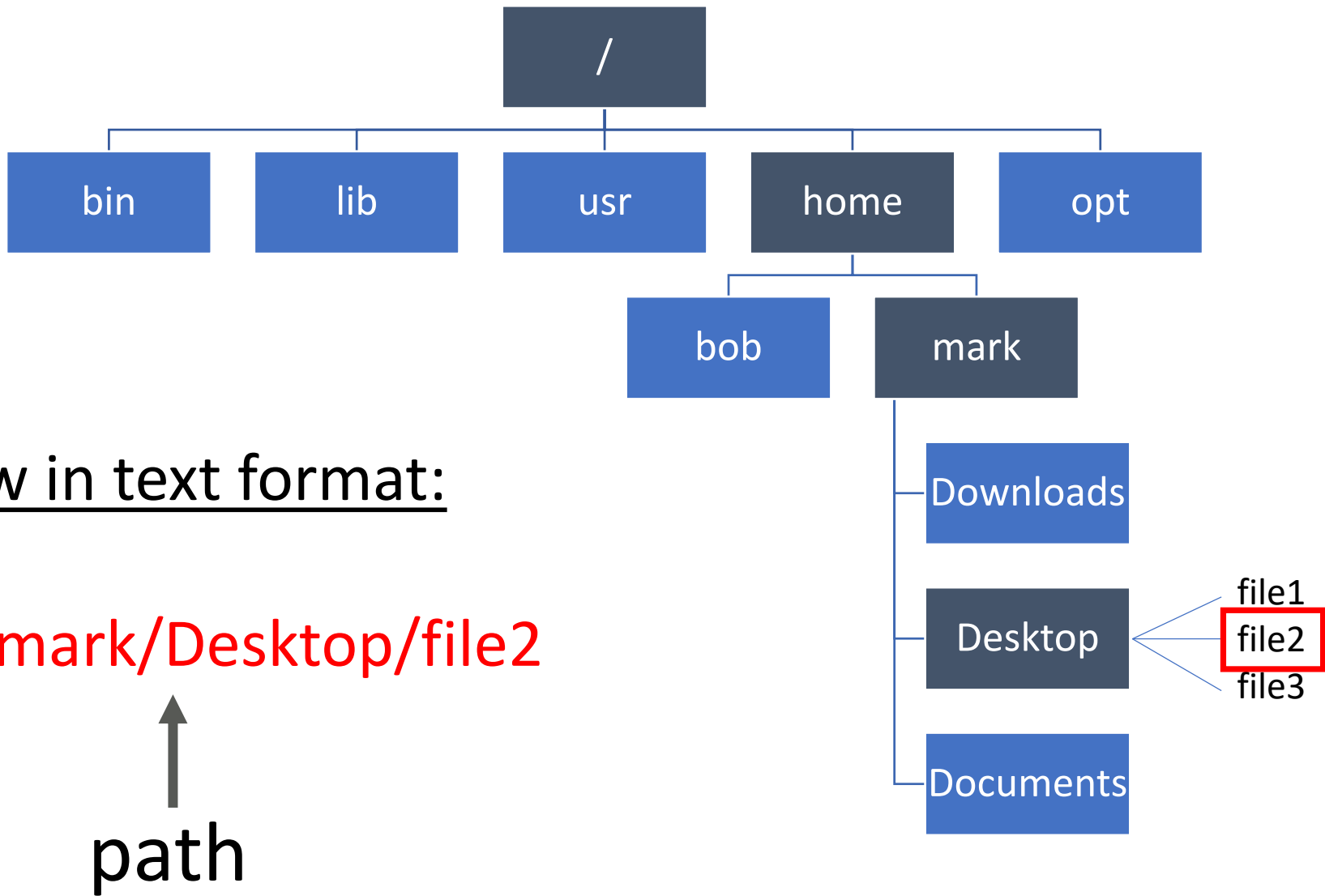
The File System



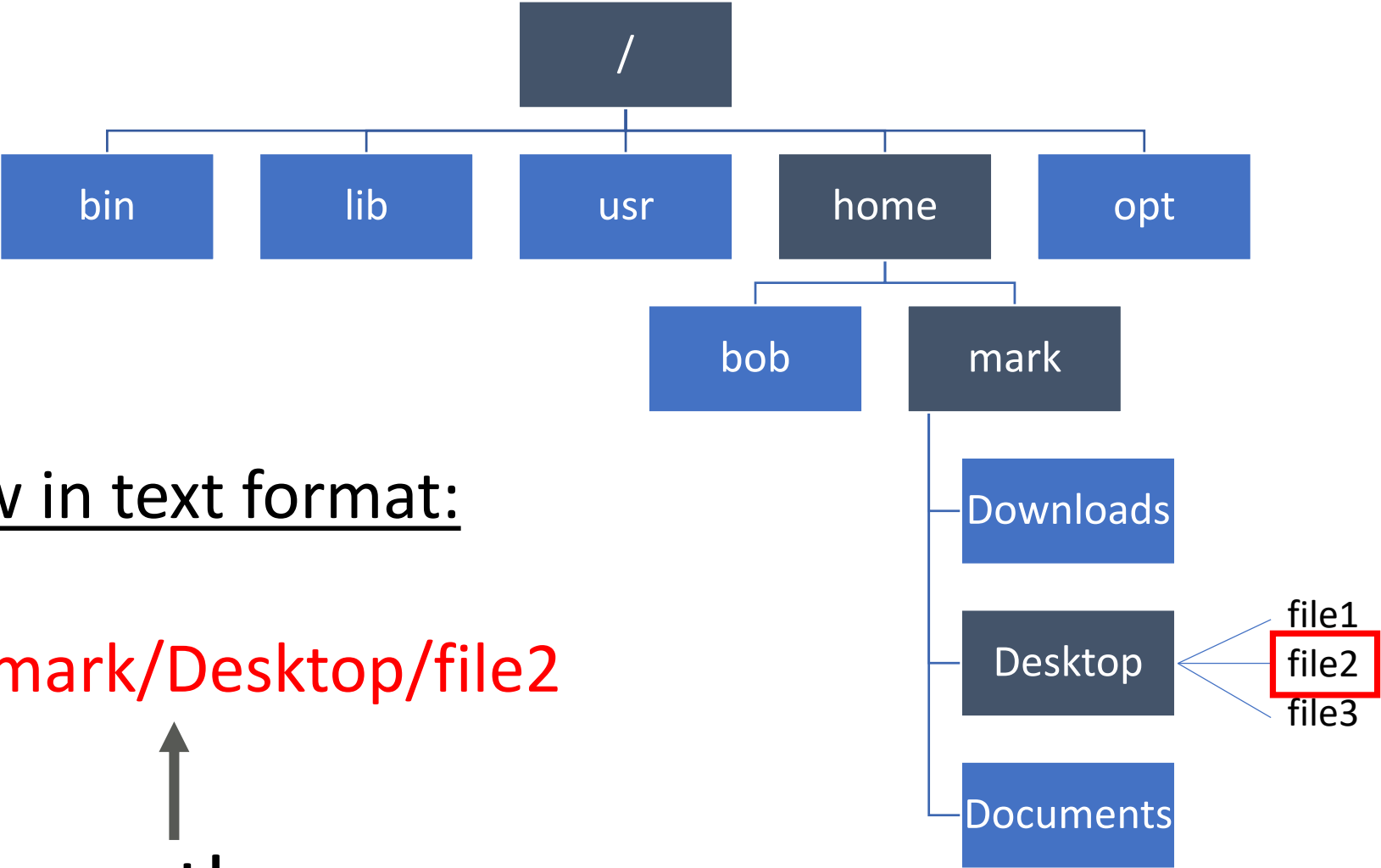
Now in text format:

/home/mark/Desktop/file2

The File System



The File System

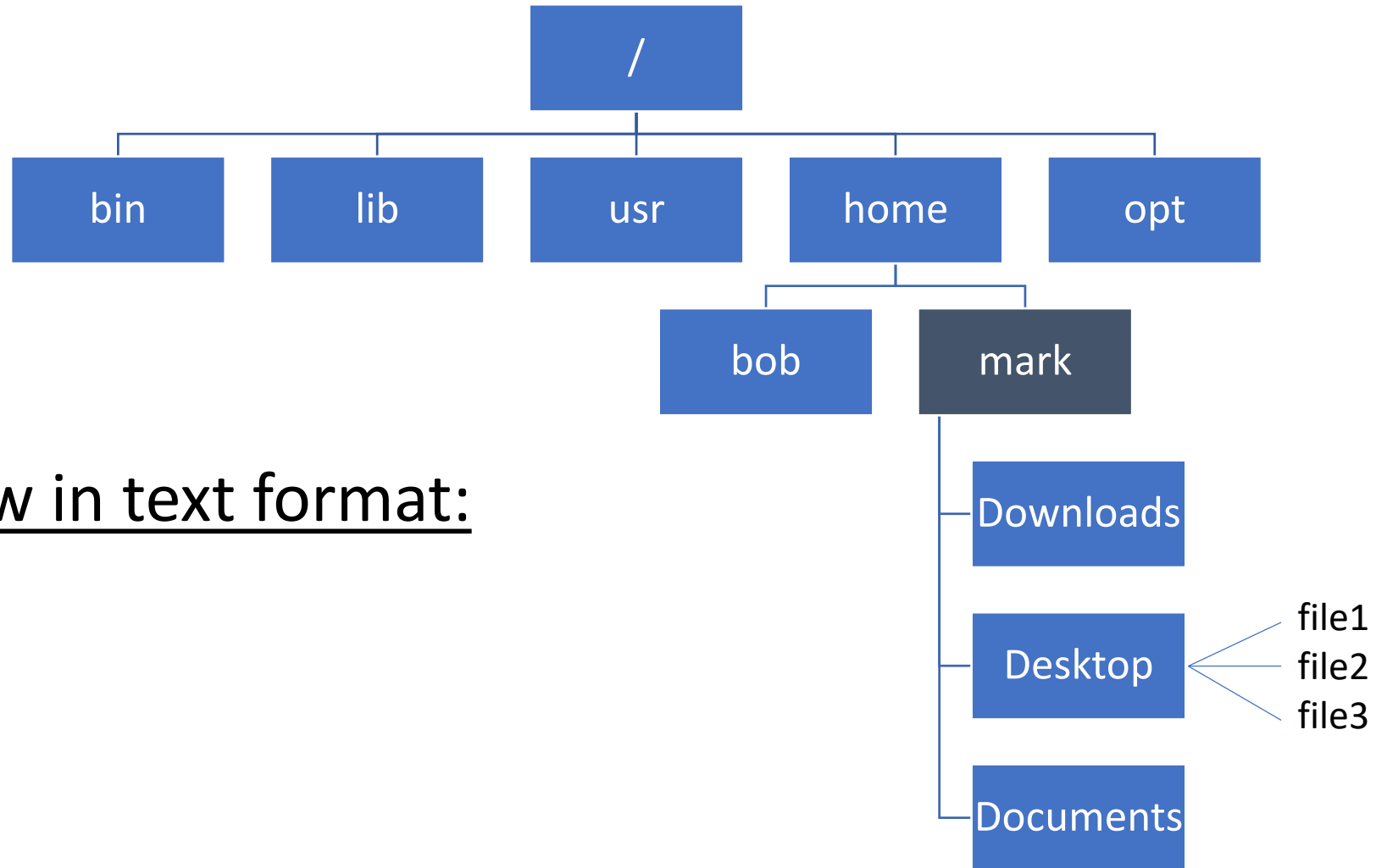


Now in text format:

/home/mark/Desktop/file2

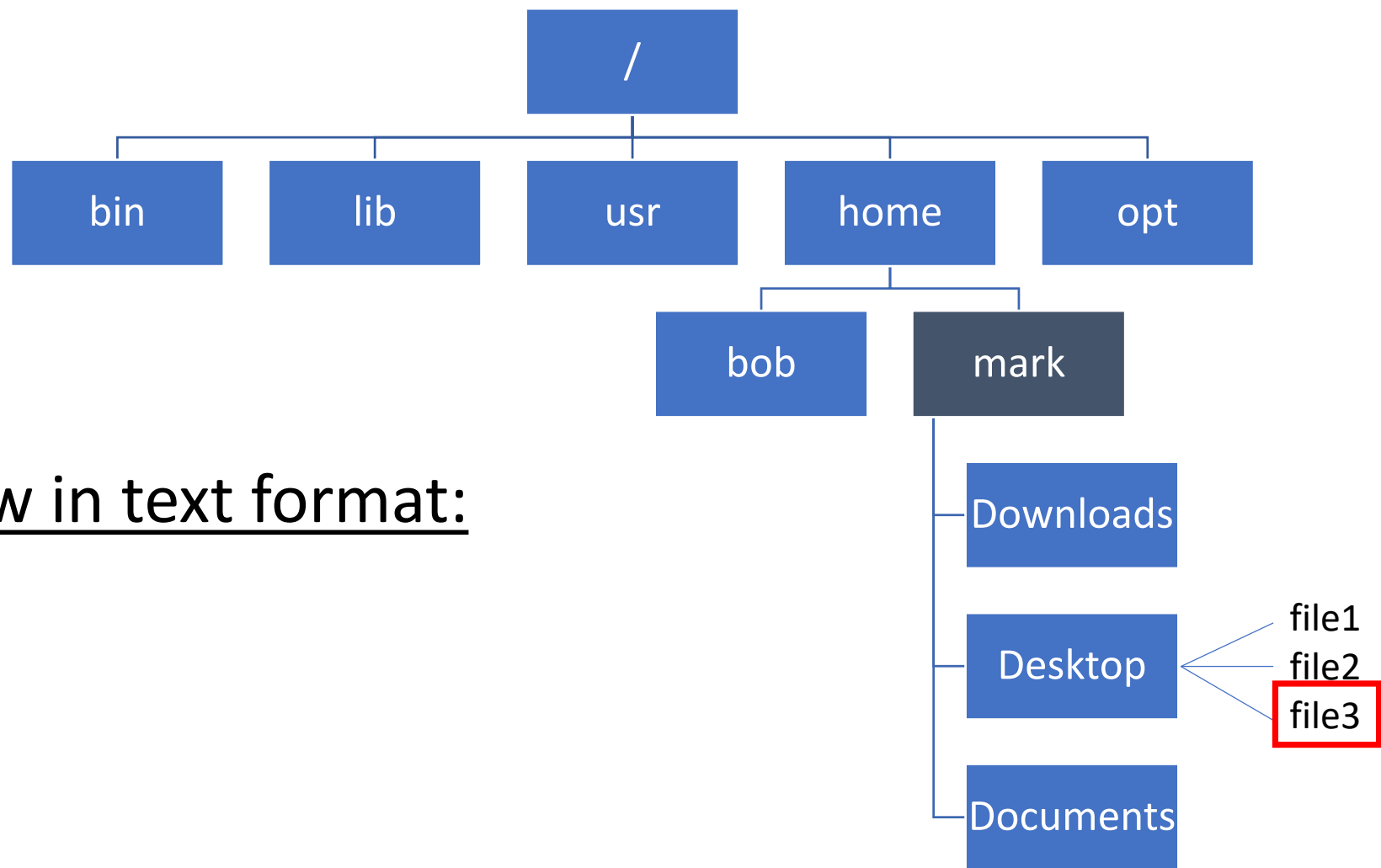
absolute path

The File System



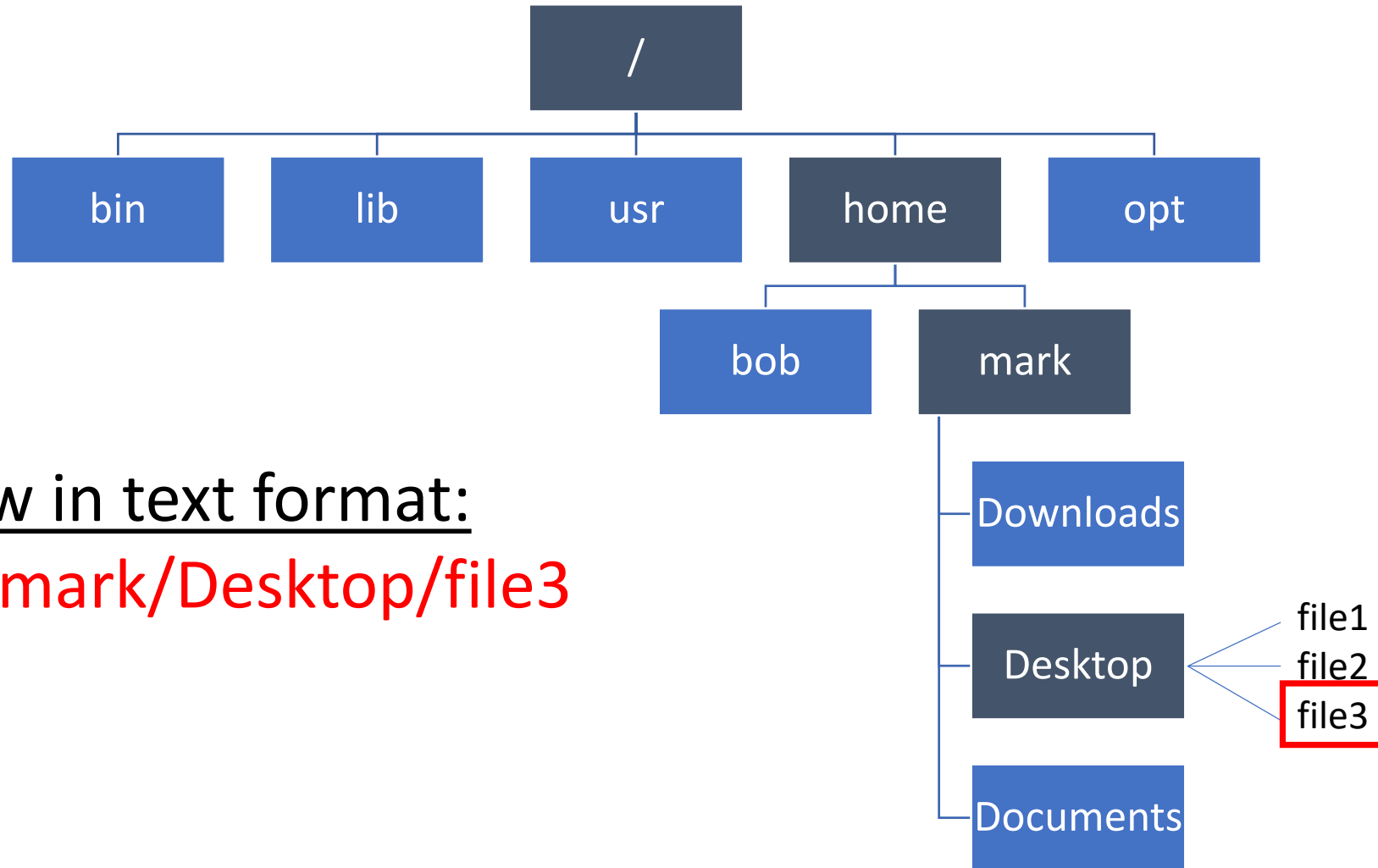
Now in text format:

The File System



Now in text format:

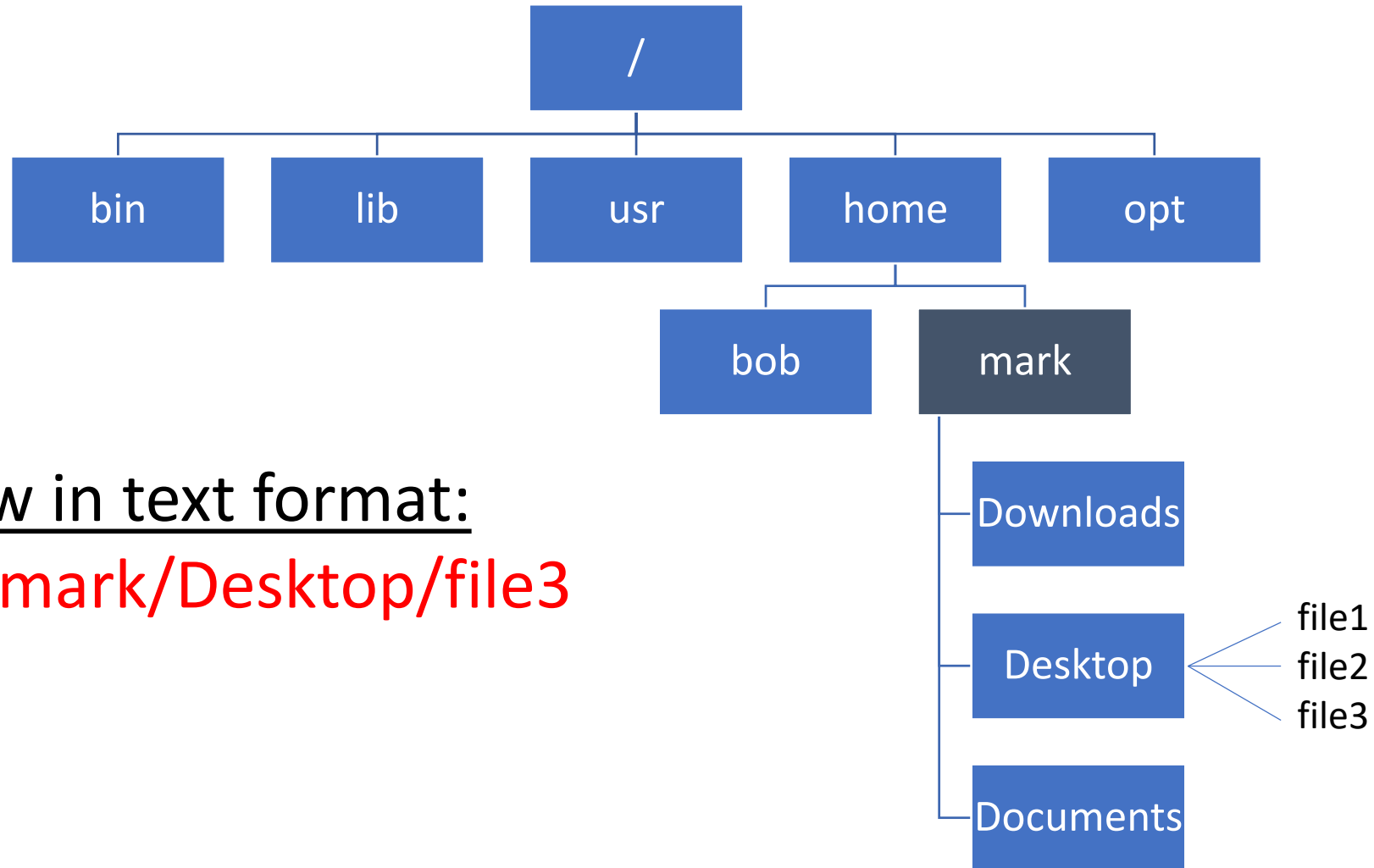
The File System



Now in text format:

/home/mark/Desktop/file3

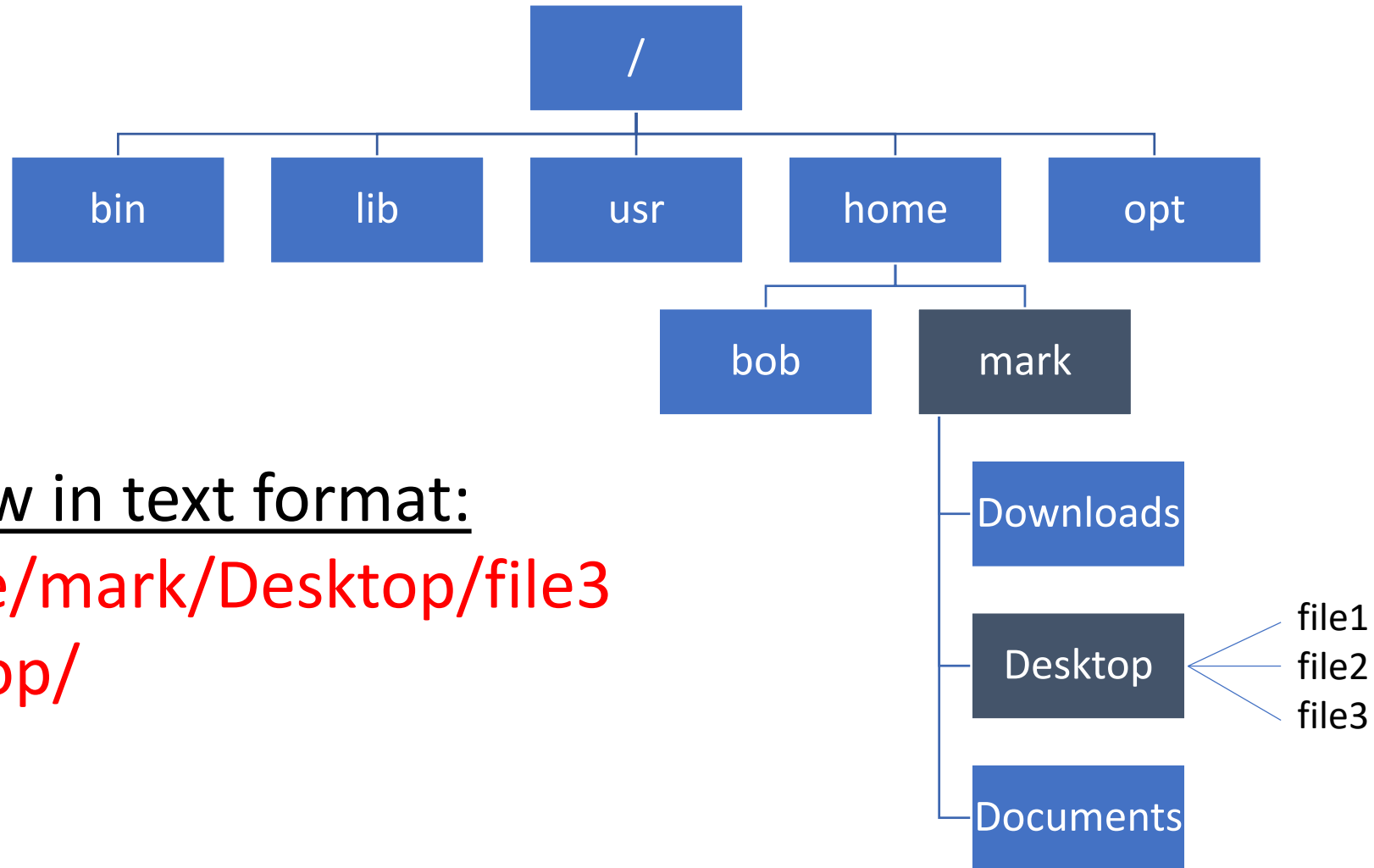
The File System



Now in text format:

/home/mark/Desktop/file3

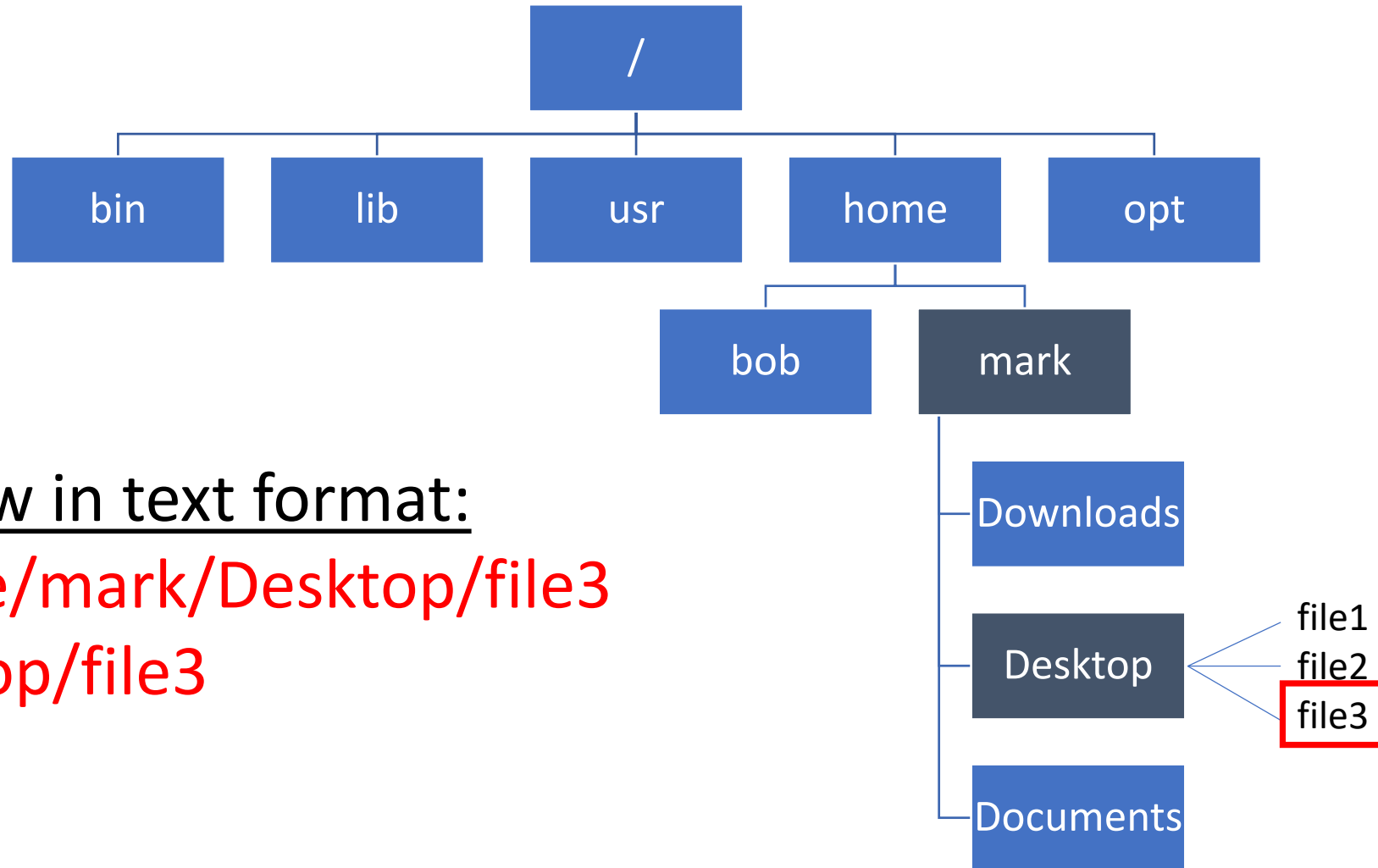
The File System



Now in text format:

- `/home/mark/Desktop/file3`
- `Desktop/`

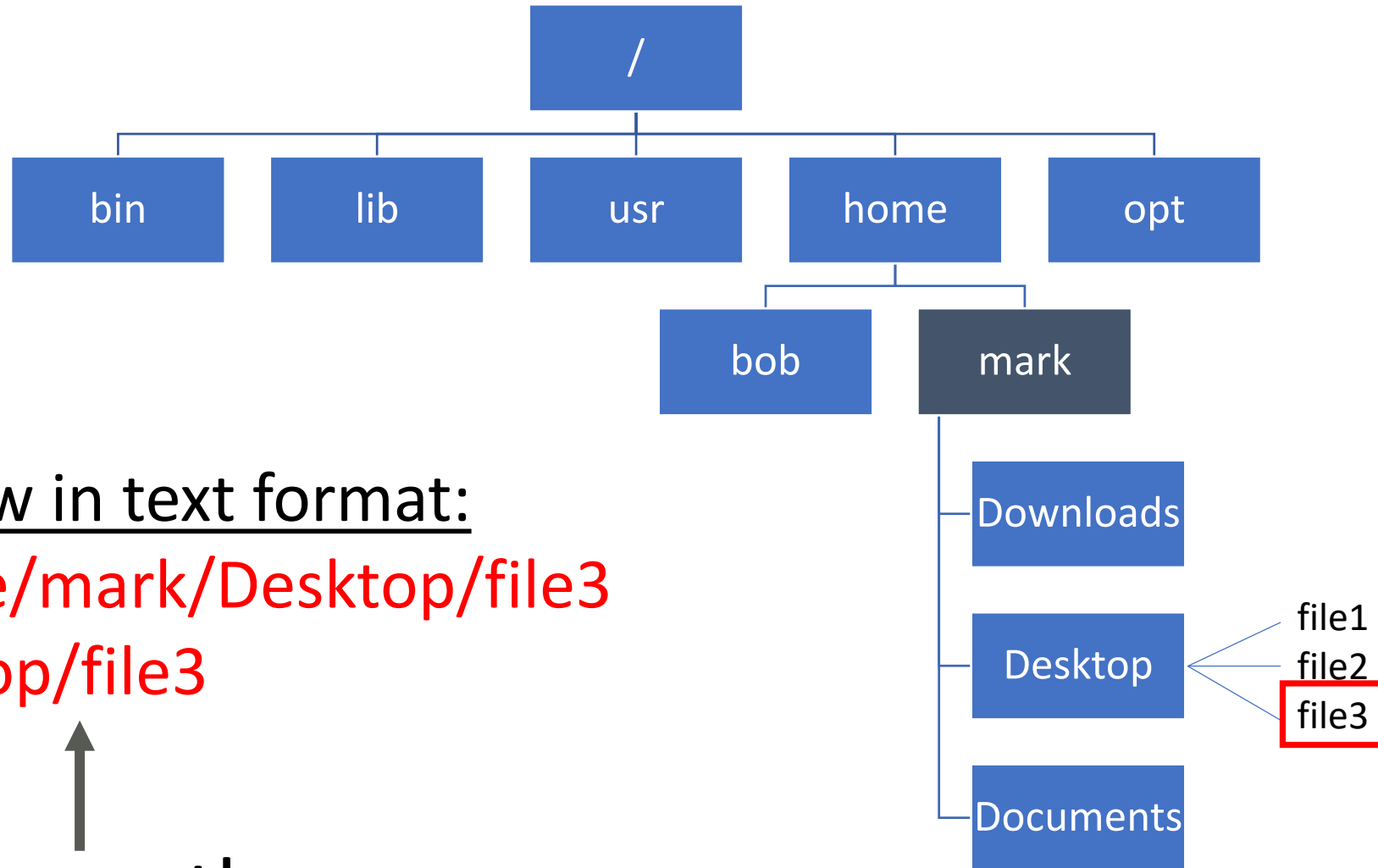
The File System



Now in text format:

- `/home/mark/Desktop/file3`
- `Desktop/file3`

The File System



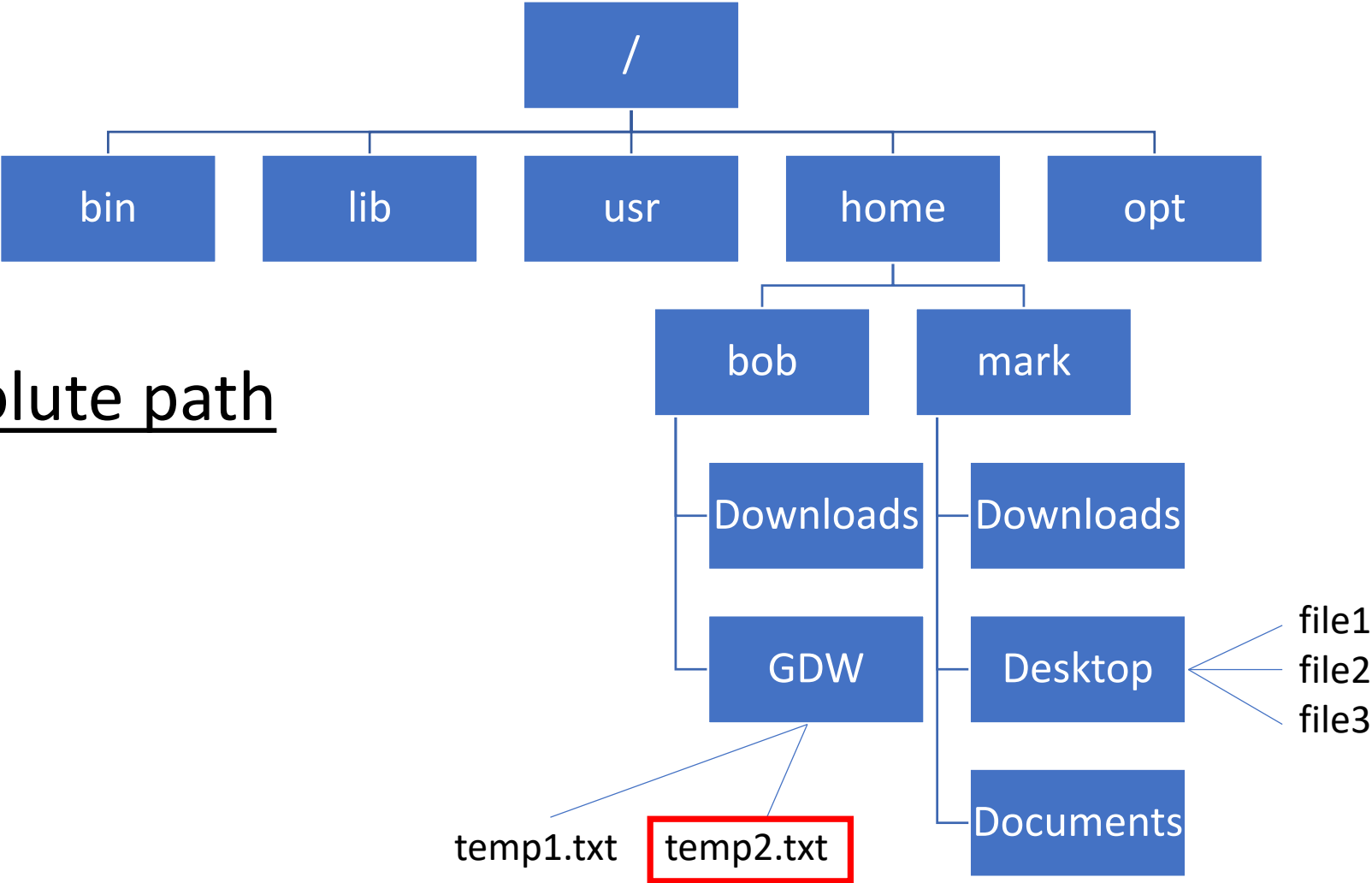
Now in text format:

- `/home/mark/Desktop/file3`
- `Desktop/file3`

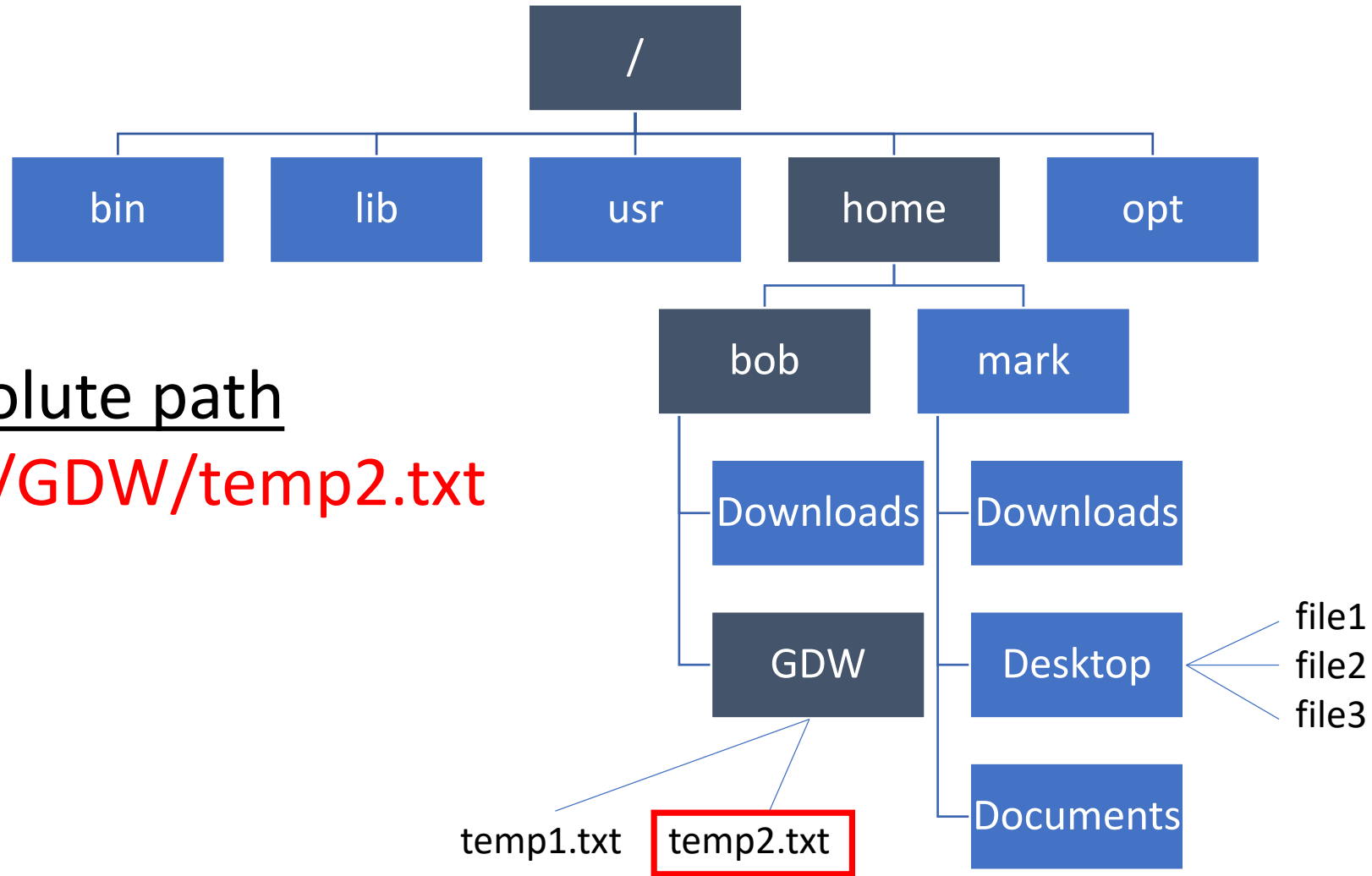
relative path

Quiz Time!

Absolute path



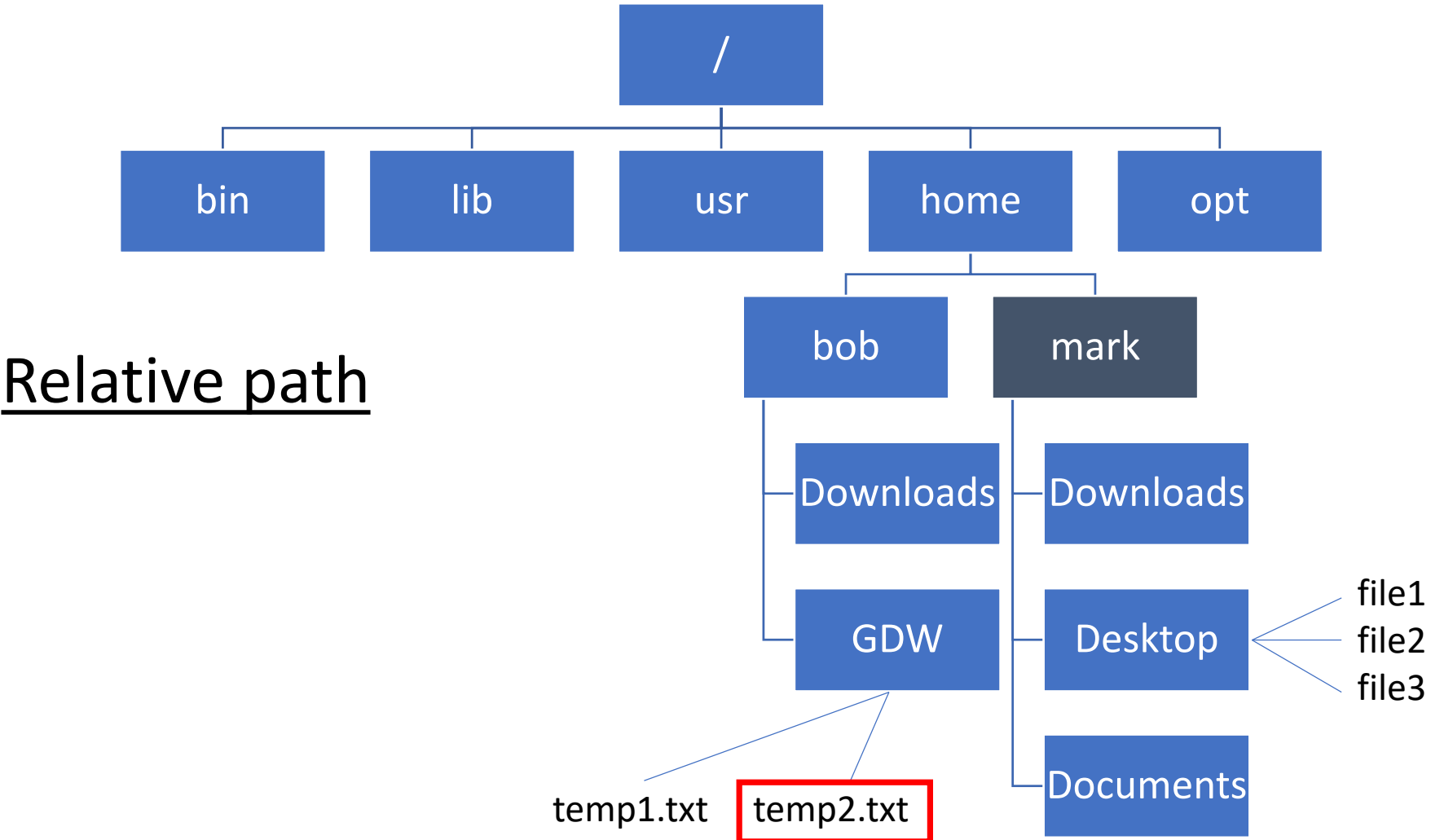
Quiz Time!



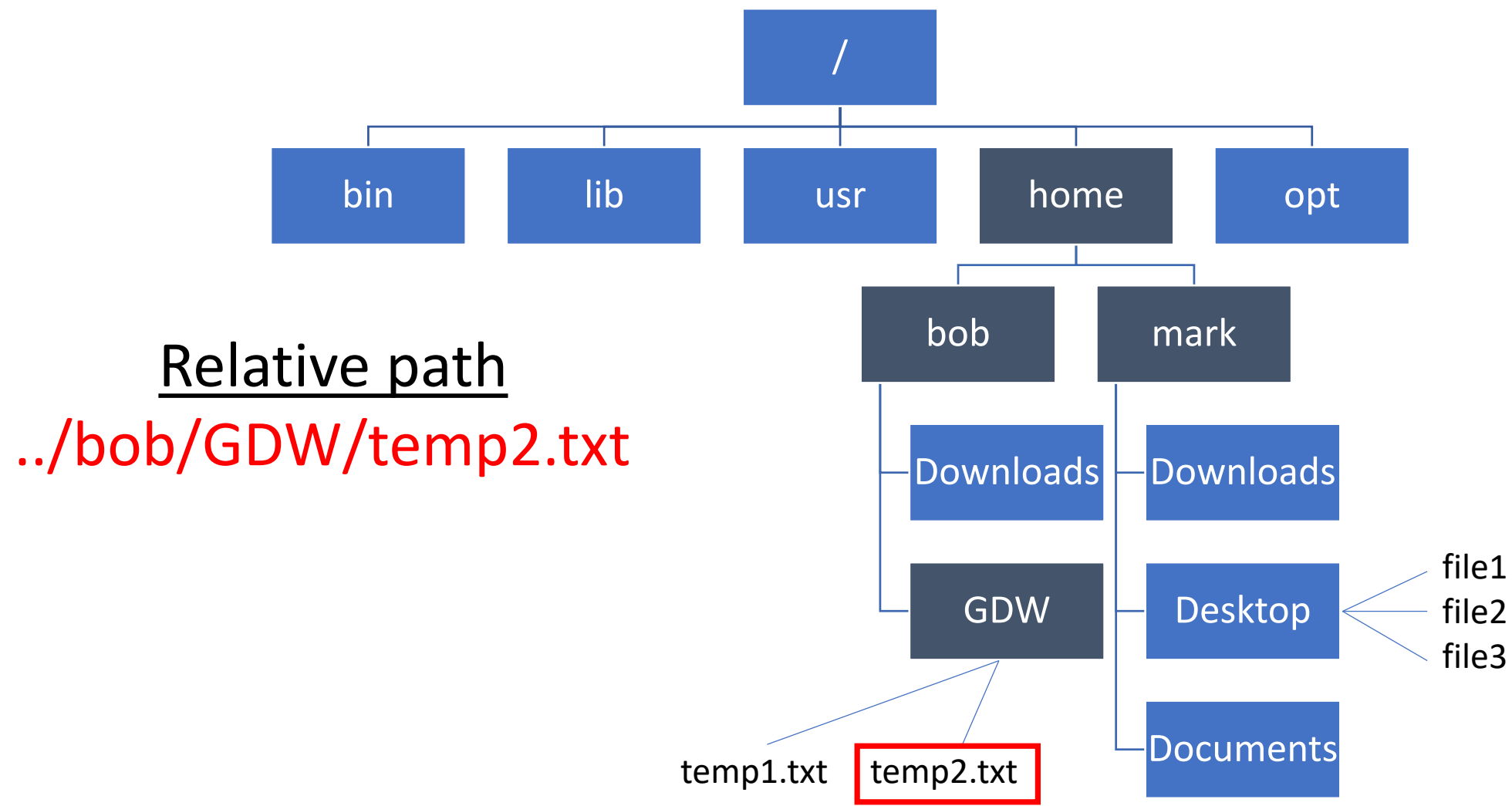
Absolute path

/home/bob/GDW/temp2.txt

Quiz Time!



Quiz Time!



To your terminals!!!

https://github.com/gdw-workshop/2023_GDW_Workshop

