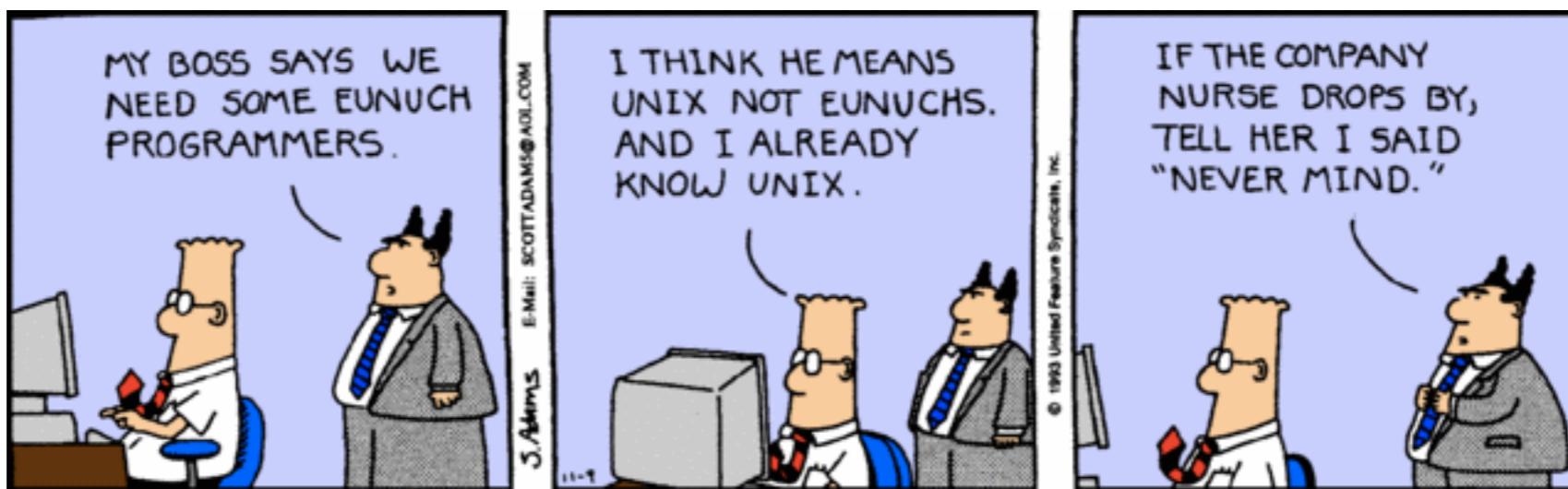
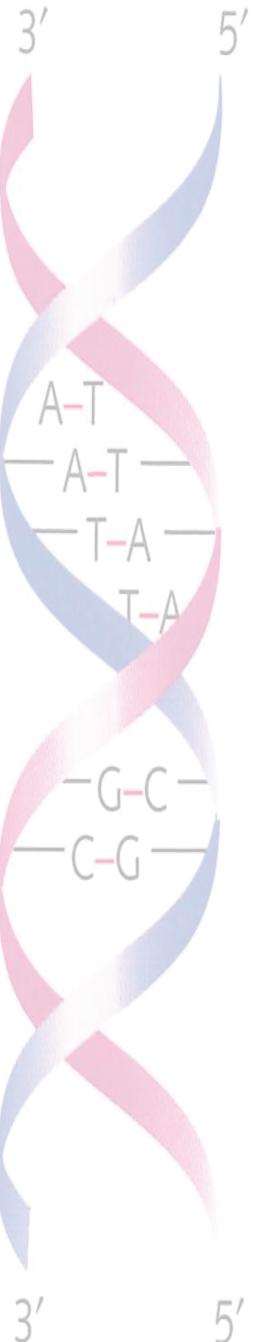


The Shell part 1





Don't fear the command line !!!

- What is a GUI?
- Why are GUIs not the best suited for scientific operations?



Can my computer run UNIX?

- Macs: Yes!
- Anything running some flavor of Linux: Yes!
- Android phones: Yes!
- Your internet router: Yes!
- Windows: Kinda!
 - Check out Cygwin (www.cygwin.com)

3'

5'

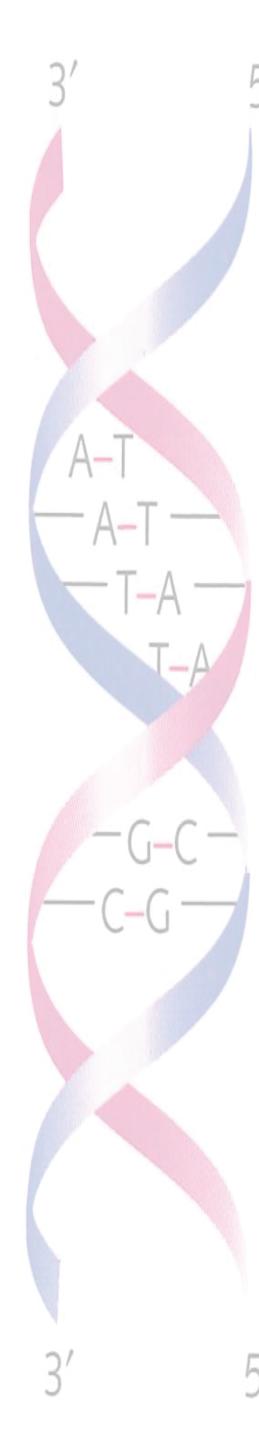


Why do I want to learn UNIX?

- Commercial bioinformatics packages (e.g. Geneious, CLC Bio, etc.) do many things pretty well, but aren't optimized for any of them. They are also expensive.
- If you need to do something with bioinformatics, chances are:
 - some programmer somewhere has written the perfect code for it
 - it runs in a UNIX style environment
 - it is free
- It's awesome.
- All the cool kids are doing it.

3'

5'



Easy things to do from the command line

- Copy/Move/Rename files in batch
 - Take all image files and rename them awesometrip_1-250.jpg
- Interact with very large files (>250MB)
- Match text, find files based on names,
- Automate/repeat/document analyses

3'

5'

What is the “shell”?

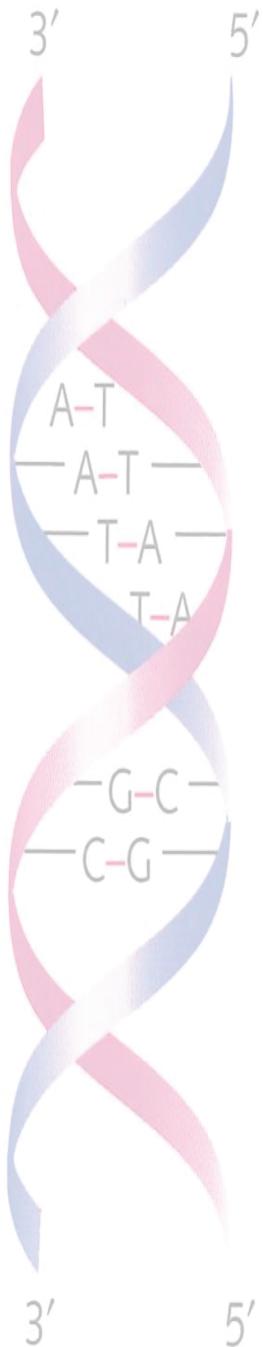
- Terminal emulator
- echo \$SHELL



- Varies from platform to platform, some more customizable than others
- Whenever you see “%” it means generic command line

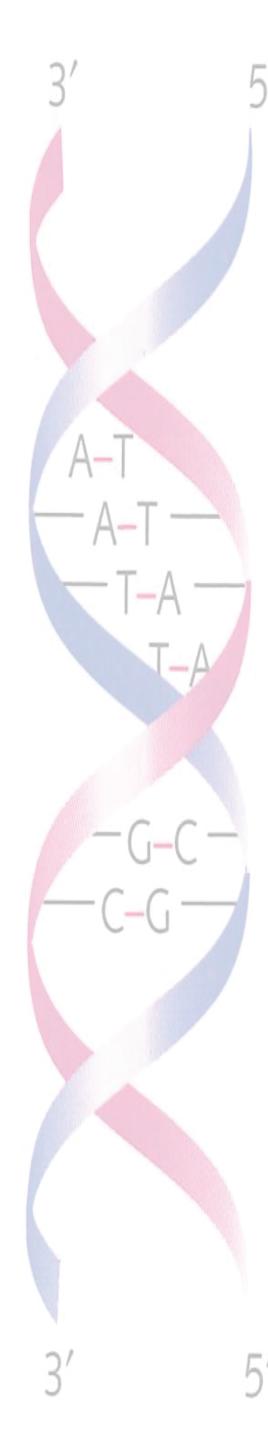
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Command line concerns

- The command line is very literal
 - typos, spaces, periods, punctuation
- **There is no undo!**



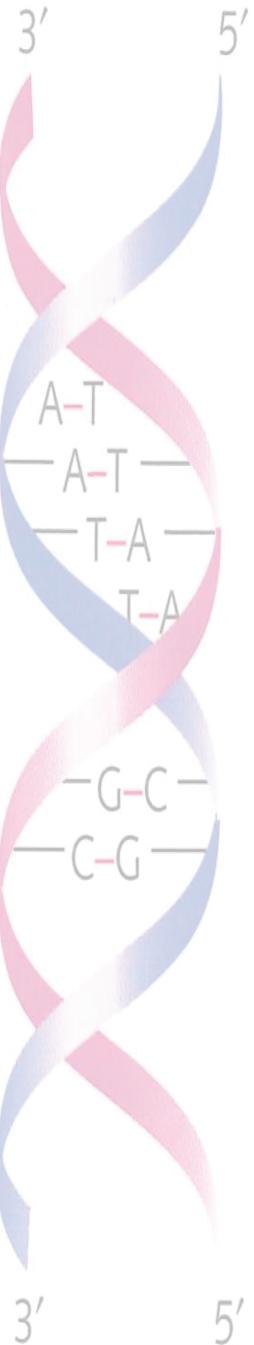
Filesystems and Paths

- your path (root, absolute, relative, pwd)
- root?
 - the most inclusive directory



Absolute vs relative paths

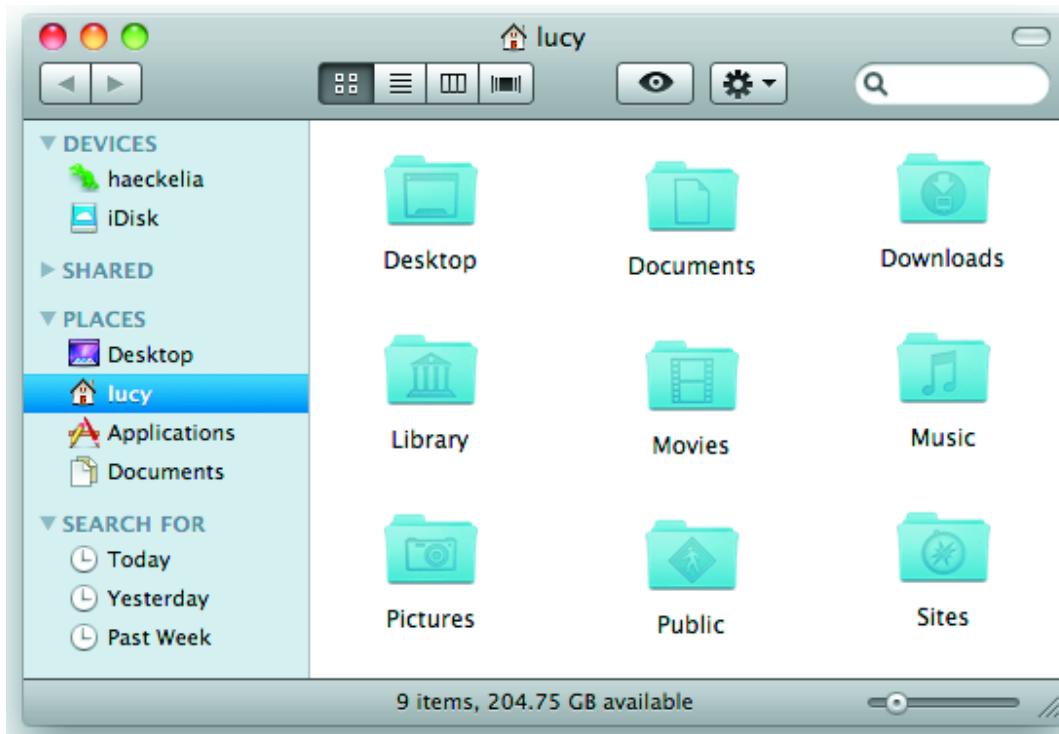
- I'm in the kitchen
- I'm on planet earth, in the USA, in VA, in Norfolk, in my house at 123 street ave, in the kitchen
- Desktop
- /Users/danb/Desktop



Paths contd.

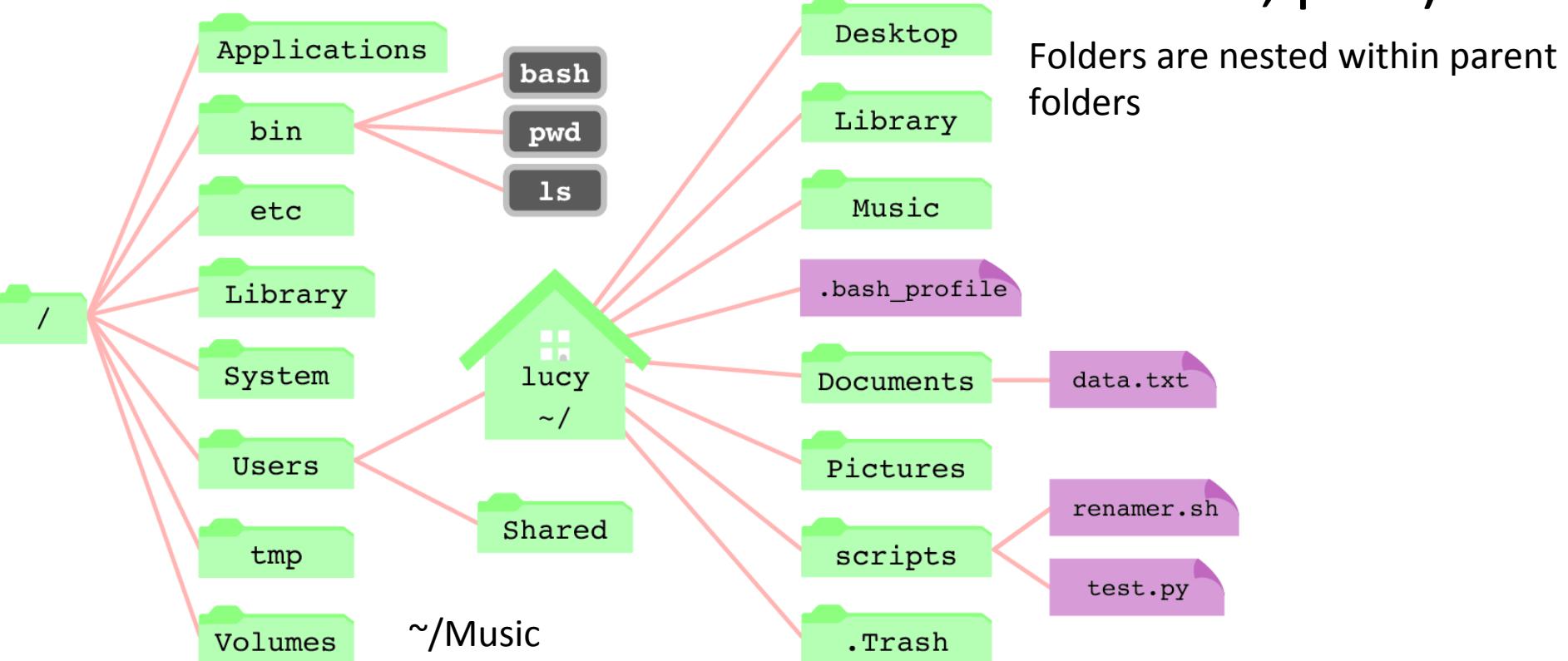
- ls

```
Last login: Mon Dec  8 21:44:54 on ttys003
host:~ lucy$ ls
Desktop      Downloads      Movies      Pictures      Sites
Documents    Library       Music       Public
host:~ lucy$
```

A screenshot of a Mac OS X terminal window titled "Terminal — bash — 80x24". The window shows the output of the "ls" command, listing the contents of the user's home directory (~). The files listed are Desktop, Downloads, Movies, Pictures, and Sites. Below these, Documents and Library are also present. The prompt "host:~ lucy\$" is visible at the bottom.

Filesystems and Paths

- Your path (root, absolute, relative, pwd)



Paths: /

~

/Users/lucy

/Users/lucy/scripts/test.py

~/scripts/test.py

Paths contd.

- ls Desktop
- ls /home/pcfbody14/Desktop
- cd Desktop
- ls
- ls Desktop

Paths contd.

- cd ..
- cd ../../
- cd ./