07-131 Great Practical Ideas in Computer Science

https://www.cs.cmu.edu/~07131/f18/

GOALS

- To teach you about all the awesome things you can do with your computer.
- To make you super comfortable using Unix systems and the tools you'll use in future courses
- ...and in future internships
- To be a *fun* break from your other classes

CMU CS IS...
NON TRIVIAL

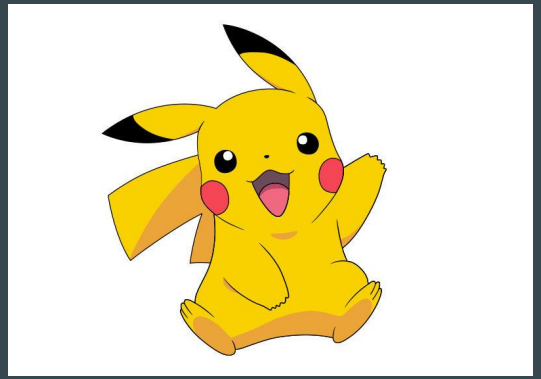
Our job is to help you learn how to use the **tools** to succeed in life...not to make you more stressed!

Class Time

- < 20 minute lectures (usually)
- Work on the labs!

Labs

- Mostly unix puzzles (they're themed!)
- Distributed through git
- Submitted on autolab
- Late policy: send us an email. We're extremely lenient.



Collaboration Policy

You may:

- use manual (man) pages for commands in question.
- use Google to learn how to use a command/solve a problem.
- ask TAs for help.

You may not:

- Ask your neighbor how to do the lab

Exams

- In class, written
- One midterm and a comprehensive final

Extratations

- Extra lectures on the weekends about miscellaneous topics
- Room and times will be posted on Piazza
- If you attend at least three extratations, you can use your midterm grade as your final grade (or vice versa). This means you can get out of taking the final!

Saturdays 1pm-2pm GHC 5222.

Sundays TBD

Grading

- 80% homework (...which will be done in class)
- 10% midterm
- 10% final

Getting Help

- Piazza
- Course Website (https://www.cs.cmu.edu/~07131)
- Office hours (we don’t bite!)

QUESTIONS?

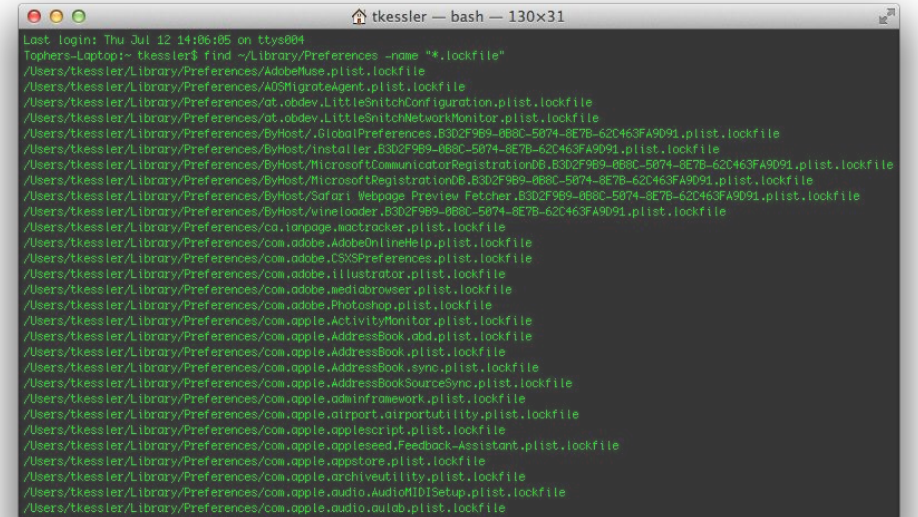
...

What is a terminal?

Used to be a solid hunk of hardware

Program that captures input, and displays output from commands

It’s a text input/output envrionment



What is a shell?

A terminal interacts directly with the **shell**.

A shell is an interface that executes **custom commands** which directly affect the computer. (file/process management, processing, monitoring)

Most computers use **bash.**

What are commands?

You can start programs, move files around, and a lot more with the shell using **commands.**

A typical command structure:

```
Command_name <flags/options> <arguments>
```

Demo

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1. Just command name **cal**
    a. **Enter to run the command**
2. With options **cal -h**
3. With options **cal -3**
4. With arguments **cal 1997**

For Info

man fortune

Why use a text-based terminal instead of a GUI?

Lots of reasons:

More efficient!

Moving batch stuff around!

Street cred!

Only way to do 15-122,15-150,...

Recap

The shell is cool, don’t be scared

It’s a way to interact with the underlying system

Appendix

Demo

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1. Just command name **cal**
2. With arguments **cal ‘im a cow’**
3. With options **cowsay -h**
4. With arguments given to options **cowsay -e ‘^^’ ‘gpi is great’**

For Info

man cowsay