



Library Carpentry

Week Two: Controlling Data

The Software Sustainability
Institute



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Schedule

Week 1: Some Basics

Week 2: Controlling Data (with the Shell)

Week 3: Versioning Data (with Git)

Week 4: Cleaning Data (with Open Refine)

Where to go for help

Stickers

Helpers

Sticky notes

github.com/LibraryCarpentry

Week 2: Controlling Data (with the Shell)

17:45-18:25 Basics

18:30-19:25 Counting and Mining

19:30-20:15 Cleaning and Transforming

The query: *I want to know the number of articles published in 2009 in journals whose title contains the word 'International'*

The file: **2014-01_JA.tsv**

The code: **grep 2009 2014-01_JA.tsv |
grep INTERNATIONAL | awk -F'\t' '{print \$5}' |
sort | uniq -c**

Basics (navigation)

pwd

ls -lh

cd

Basics (file interaction)

mv

cp

cat

rm

*

Counting and Mining

WC -w -l

>

grep -c

grep -i

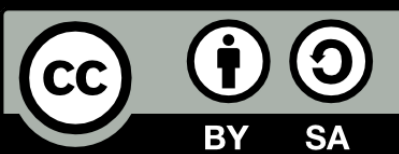
grep -v

grep -w

grep -file=list.txt

Cleaning and Transforming

Free text exercise



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Cleaning and Transforming

```
tr ' ' '\n' < gulliver-clean.txt | sort  
| uniq -c > gulliver-final.txt
```

Cleaning and Transforming

```
grep 2009 2014-01_JA.tsv |  
grep INTERNATIONAL | awk -F'\t'  
'{print $5}' | sort | uniq -c
```

Where to go next...

Ray & Ray, *Unix and Linux: visual quickstart guide*, 4th edition (2009)

Invaluable reference guide

The Command Line Crash Course

<http://cli.learncodethehardway.org/book/>

'Learn Code the Hard Way'

Al Sweigart, *Automate the Boring Stuff with Python* (2015)

<http://automatetheboringstuff.com/>

'Practical Programming for Total Beginners'



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Where to go next...

Coursera Computer Science 101

<https://www.coursera.org/course/cs101>

'essential ideas of CS for a zero-prior-experience audience'

Programming for Everybody (Python)

<https://www.coursera.org/course/pythonlearn>

'The basics of programming computers using Python'

The Programming Historian

<http://programminghistorian.org/>

'a bridge between broad 'getting started' portals and generic 'programming' resources'

NER (Named Entity Recognition)

Step 1... `stanford-ner/ner.sh gulliver-noheadfootpunct.txt > gulliver_ner.txt`

Step 2... `sed 's/\O / /g' < gulliver_ner.txt > gulliver_ner-clean.txt`

Step 3... `egrep -o -f personpatr gulliver_ner-clean.txt | sed 's/\PERSON//g' | sort | uniq -c | sort -nr > gulliver_ner-pers-freq.txt`

Next Week

Week 3: Versioning Data (with Git)

You will need a computer

Set-up instructions on Github

Log an issue if you have trouble

See you next week!



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