

# Lecture 7: pandas with pop music, shell, Markdown

LING 1340/2340: Data Science for Linguists

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# Objectives

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## ▶ Tools

- ◆ Command-line operations, shell (bash, zsh)
- ◆ Markdown

## ▶ pandas library hands-on practice, continued

# Your shell environment: Bash vs. Zsh

- ▶ **Windows** folks are using **Git-bash**, which has nice colored Git output
- ▶ **Mac**: new default shell is **zsh**, older versions will have **bash**
  - ◆ In your terminal, execute **echo \$0**

```
mc-130-49-26-56:Documents rhlmc1$ ls
Data-Science-for-Linguists-2019 HW1-Repo
mc-130-49-26-56:Documents rhlmc1$ cd HW1-Repo/
mc-130-49-26-56:HW1-Repo rhlmc1$ git status
On branch master
Your branch is up to date with 'origin/master'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)

        dan/hello.txt

nothing added to commit but untracked files present (use "git add" to track)
mc-130-49-26-56:HW1-Repo rhlmc1$ git log
commit 23df080f51b370eb9dff5794187be4628f801d9f (HEAD -> master, origin/master, origin/HEAD)
Author: Na-Rae Han <naraehan@gmail.com>
Date: Thu Jan 10 15:14:17 2019 -0500

    script mention changed to file

commit d329b4bc04deac9436ebdea045189375a263af
Author: Na-Rae Han <naraehan@gmail.com>
Date: Thu Jan 10 14:57:26 2019 -0500

    repo prepped for perfonal folders,
```

Bash shell  
(older)

```
4. air@air: ~/Dropbox/_2018/_PROJECTS/SOMA (zsh)
ROM-DOS > /SOMA > tests > git status
On branch tests
nothing to commit, working tree clean
ROM-DOS > /SOMA > tests > nv README.md
```

Zsh shell  
(newer,  
recommended)

# Launching apps via command line

- ▶ If `which xxx` works, you can readily launch xxx app from shell:

```
narae@T480s MINGW64 ~/Documents/Data_Science
$ which notepad
/usr/bin/notepad
```

Your command-line environment knows where notepad is installed

```
narae@T480s MINGW64 ~/Documents/Data_Science
$ notepad newfile.txt
```

notepad launches in a new window, with a new file

Your shell will become unusable until you close the app. To avoid this, put **&** at the end.

- ▶ If not, you need additional configuration

- ◆ Configure your bash or zsh, add app alias
  - ◆ In your **home directory**, open `.bash_profile` in a text editor (`nano` works)
    - Mac users (zsh): open `.zprofile` instead
  - ◆ Find the full path for your text editor, chrome, or any app you want
  - ◆ Add this line: `alias chrome="/path/to/file"`
  - ◆ Save file. Back in command line, execute: `source .bash_profile`
- ◆ You can also launch **OS-default app** for a given file extension (sorta like double-clicking)
  - ◆ Mac uses the built-in `open` command ([explanation here](#))
  - ◆ Windows uses `start`: `start xxx.txt` will launch your default text editor.

**No space around = !!**

# Adding app aliases to your Bash shell

MINGW64:/c/Users/Jane Eyre

```
Jane Eyre@T480s MINGW64 ~  
$ cat .bash_profile  
alias grep="grep -P --color"  
alias npp="C:/Program\ Files\ \ (x86\)/Notepad++/notepad++.exe"  
  
Jane Eyre@T480s MINGW64 ~  
$ source .bash_profile  
  
Jane Eyre@T480s MINGW64 ~  
$ |
```

Mac users & zsh:  
.zprofile  
is the config file

"/" as directory  
separator

Each **space** as well as  
"(" and ")" must be  
escaped with "\"

So that aliasing takes effect  
immediately (without having  
to log back in)

# Markdown files (.md)

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- ▶ **Sublime Text** has a package for viewing Markdown:
  - ◆ MarkdownPreview <https://packagecontrol.io/packages/MarkdownPreview>
- ▶ **VS Code** has a built-in Markdown viewer!
  - ◆ <https://code.visualstudio.com/docs/languages/markdown>
- ▶ If using other text editors:
  - ◆ **Notepad++**: install an "md viewer" plugin
  - ◆ Chrome: install "**Markdown viewer**" extension (link on Learning Resources page)
  - ◆ Any other workflow you have?

```
MINGW64:/c/Users/narae/Documents/Data_Science
narae@T480s MINGW64 ~/Documents/Data_Science
$ ls
Class-Exercise-Repo/ languages/ newfile.txt project_ideas_narae.md test.md
narae@T480s MINGW64 ~/Documents/Data_Science
$ npp project_ideas_narae.md &
[3] 3070
narae@T480s MINGW64 ~/Doc
$
```

# Notepad++

& at the end:  
app launches in  
the background,  
shell is usable  
while app is still  
running

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

project\_ideas\_narae.md project\_ideas\_narae.md Markdown Panel

```

1 # Na-Rae's project ideas
2
3 ## Idea 1
4 - hello world
5
6 ## Idea 2
7 - hello again
8
9

```

Na-Rae's project ideas

Idea 1

- hello world

Idea 2

- hello again

User Defined language file - Markdown (pre length : 77 lines : 9) Ln : 1 Col : 1 Pos : 1 Unix (LF) UTF-8 IN

Toggle preview window

Install plugin:  
NppMarkdownPanel (shown) or  
MarkdownViewerPlusPlus  
([more info here](#))

# pandas practice

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Activity 3  
40 mins



## ▶ 50 Years of Pop Music

- ◆ <https://www.kaylinpavlik.com/50-years-of-pop-music/>
- ◆ You tried out the CSV file 'billboard\_lyrics\_1964-2015.csv'



## ▶ In Class-Exercise-Repo, activity2/ folder:

- ◆ The CSV data file is already in the directory.
- ◆ You will find `pop_music_BLANK.ipynb`
- ← Copy it as `pop_music_YOURNAME.ipynb` and work on it.
- ← You are welcome to commit your version.

```
cp file1 file2  
makes a copy of file1 as file2.
```

# Wrapping up

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- ▶ Coming up: Project ideas
  - ◆ Due Monday.
  - ◆ Not sure? Chat with me and Riley
    - ◆ Riley has OH before Monday class!
  
- ▶ Keep studying pandas
  
- ▶ Start learning visualization (plot graphs)