

# HEAVEN OR HELL?

# LOVE THE SHELL!

Revisiting the UNIX command line

# LOVE THE SHELL

- **A quick look under the hood**
  - The environment and package managers
  - Cross-Platform compatibility?
  - A few more commands and tricks



# LOVE THE SHELL

- Shell Configuration
- **Bash\_profile - Configure your environment**
  - cd ~/
  - ‘edit .bash\_profile’ or ‘more .bash\_profile’
- **Bash\_history**
  - cd ~/
  - ‘more .bash\_history’



# WALKING DOWN THE PATH

- A few shortcuts working in BASH
- Tab – autocomplete
- control+a – cursor to beginning of the line
- control+e – cursor to end of line
- Up/down arrow – scroll through history of commands
- Drag a file or folder into shell to show path.
- open . – open a directory in current location

# WALKING DOWN THE PATH

```
$ echo $PATH
```

```
/Users/maxrose/anaconda/bin:/usr/local/bin:/usr/bin:/bin:/usr/  
sbin:/sbin:/opt/X11/bin:/usr/local/sbin:/Users/maxrose/shellscripts
```

/Users/maxrose/anaconda/bin – Familiar?

/usr/local/bin

/usr/bin

/bin

/usr/sbin

/sbin

/opt/X11/bin

/usr/local/sbin

/Users/maxrose/shellscripts – Custom addition

# WALKING DOWN THE PATH

```
total 69696
drwxr-xr-x 227 maxrose staff 7718 Nov 18 11:33 .
drwxr-xr-x 15 maxrose staff 510 Nov 1 18:57 ..
-rw-r--r--@ 1 maxrose staff 6148 Oct 2 16:47 .DS_Store
-rwxr-xr-x 2 maxrose staff 409 Jun 23 14:37 .anaconda-navigator-post-link.sh
-rwxr-xr-x 2 maxrose staff 115 Jun 23 14:37 .anaconda-navigator-pre-unlink.sh
-rw-r--r-- 2 maxrose staff 106 Apr 5 2016 .cython-post-link.sh
-rwxrwxr-x 2 maxrose staff 13576 May 31 14:36 .openssl-libcrypto-fix
-rw-rw-r-- 2 maxrose staff 225 May 31 14:36 .openssl-post-link.sh
-rwxrwxr-x 2 maxrose staff 130 May 26 2015 .python.app-post-link.sh
-rwxrwxr-x 2 maxrose staff 38 May 26 2015 .python.app-pre-unlink.sh
-rwxr-xr-x 1 maxrose staff 111 Sep 21 10:38 2to3
drwxr-xr-x 3 maxrose staff 102 Sep 21 10:38 Assistant-qt4.app
drwxr-xr-x 3 maxrose staff 102 Sep 21 10:38 Designer-qt4.app
drwxr-xr-x 3 maxrose staff 102 Sep 21 10:38 Linguist-qt4.app
drwxr-xr-x 3 maxrose staff 102 Sep 21 10:38 QMLViewer-qt4.app
-rwrxr-xr-x 2 maxrose staff 3258 Sep 27 12:20 activate
-rwxrwxr-x 1 maxrose staff 253 Sep 21 10:38 activate-global-python-argcomplete
-rwxr-xr-x 1 maxrose staff 166 Sep 21 10:38 anaconda
-rwxr-xr-x 1 maxrose staff 168 Sep 21 10:38 anaconda-navigator
-rwxr-xr-x 1 maxrose staff 12004 Sep 21 10:38 asadmin
-rwxr-xr-x 1 maxrose staff 166 Sep 21 10:38 binstar
```

```
total 69696
drwxr-xr-x 227 maxrose staff 7718 Nov 18 11:33 .
drwxr-xr-x 15 maxrose staff 510 Nov 1 18:57 ..
-rw-r--r--@ 1 maxrose staff 6148 Oct 2 16:47 .DS_Store
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-rw-r--r-- 2 maxrose staff 106 Apr 5 2016 .cython-post-link.sh
-rwxrwxr-x 2 maxrose staff 13576 May 31 14:36 .openssl-libcrypto-f
-rw-rw-r-- 2 maxrose staff 225 May 31 14:36 .openssl-post-link.s
-rwxrwxr-x 2 maxrose staff 130 May 26 2015 .python.app-post-link
-rwxrwxr-x 2 maxrose staff 38 May 26 2015 .python.app-pre-unli
-rwxr-xr-x 1 maxrose staff 111 Sep 21 10:38 2to3
drwxr-xr-x 3 maxrose staff 102 Sep 21 10:38 Assistant-qt4.app
```

# FREE STUFF!

- Commands in the shell are really programs.
- Endless programs can be found and installed.
- Introducing the Package Manager
  - Apt-get - \*nix
  - Homebrew – Mac
  - Pacman – Git for Windows

## BASH in Windows

[http://www.hanselman.com/blog/  
DevelopersCanRunBashShellAndUsermodeUbuntuLinuxBinaries  
OnWindows10](http://www.hanselman.com/blog/DevelopersCanRunBashShellAndUsermodeUbuntuLinuxBinariesOnWindows10)

# FREE STUFF!

From Wikipedia, the free encyclopedia

"Unix command" redirects here. For other uses, see [Command \(computing\)](#).

This is a list of [Unix](#) commands as specified by IEEE Std 1003.1-2008, which is part of the [Single UNIX Specification \(SUS\)](#). These commands can be found on Unix operating systems and most Unix-like operating systems.

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- 1 List
- 2 See also
- 3 Footnotes
- 4 External links

[List](#) [edit]

IEEE Std 1003.1-2008 utilities			
Name	Category	Description	First appeared
<a href="#">admin</a>	<a href="#">SCCS</a>	Create and administer <a href="#">SCCS</a> files	PWB UNIX
<a href="#">alias</a>	Misc	Define or display aliases	
<a href="#">ar</a>	Misc	Create and maintain <a href="#">library</a> archives	Version 1 AT&T UNIX
<a href="#">asa</a>	Text processing	Interpret carriage-control characters	System V
<a href="#">at</a>	Process management	Execute commands at a later time	Version 7 AT&T UNIX
<a href="#">awk</a>	Text processing	Pattern scanning and processing language	Version 7 AT&T UNIX
<a href="#">basename</a>	Filesystem	Return non-directory portion of a pathname; see also <a href="#">dirname</a>	Version 7 AT&T UNIX
<a href="#">batch</a>	Process management	Schedule commands to be executed in a batch queue	
<a href="#">bc</a>	Misc	<a href="#">Arbitrary-precision arithmetic</a> language	Version 6 AT&T UNIX
<a href="#">bg</a>	Process management	Run jobs in the background	
<a href="#">cc/c99</a>	C programming	<a href="#">Compile</a> standard C programs	IEEE Std 1003.1-2001
<a href="#">cal</a>	Misc	Print a calendar	Version 5 AT&T UNIX
<a href="#">cat</a>	Filesystem	Concatenate and print files	Version 1 AT&T UNIX
<a href="#">cd</a>	Filesystem	Change the working directory	Version 6 AT&T UNIX

# FREE STUFF!

- **Installation and Dependencies**
  - ‘brew install ffmpeg’ – It’s that easy!
- **RTFM!**
- `ffmpeg -h` or `ffmpeg -help` or `ffmpeg -?`
- `man ffmpeg`
- `man ls`

# AWKWARD MOMENTS OR THAT'S WHAT HE SED

- A few more useful commands
  - **tr** – simple string replacement , ‘squeeze’ characters
  - **sed** – complex text manipulation, regular expressions
  - **awk** – parse/display structured text
  - **curl** – interact with the internet on the command line
  - **chmod** - modify file permissions
  - **chown** - change file ownership

# AWKWARD MOMENTS OR THAT'S WHAT HE SED

CURL

```
curl 'https://github.com/g-v a-students/DS-SEA-4'  
curl -I 'https://github.com/g-v a-students/DS-SEA-4'
```

AWK

```
cd ~/  
ls -la | awk '{print $5 "\t" $6 " " $7 " " $9}'
```

TR

```
str="this    is a poor ex@mple"  
echo $str | tr -s '' | tr '@' 'a'
```

SED

```
echo $str | sed 's/ / /g;s/@/a/g;'
```

# RESOURCES

Homebrew / Apt-get / pacman

<http://brew.sh>

<https://help.ubuntu.com/community/AptGet/Howto>

<https://github.com/git-for-windows/git/wiki/Package-management>

BASH in Windows

<http://www.hanselman.com/blog/>

[DevelopersCanRunBashShellAndUsermodeUbuntuLinuxBinariesOnWindows10.aspx](http://www.hanselman.com/blog/DevelopersCanRunBashShellAndUsermodeUbuntuLinuxBinariesOnWindows10.aspx)

<http://www.howtogeek.com/249966/how-to-install-and-use-the-linux-bash-shell-on-windows-10/>

# RESOURCES

CURL

<http://www.makeuseof.com/tag/get-curly-10-useful-things-can-curl/>

SED

<http://www.theunixschool.com/2013/02/sed-examples-replace-delete-print-lines-csv-files.html>

AWK

[http://www.funtoo.org/Awk\\_by\\_Example,\\_Part\\_1](http://www.funtoo.org/Awk_by_Example,_Part_1)

TR

<http://www.thegeekstuff.com/2012/12/linux-tr-command/>