

```
user-616370:resizedframes tpadilla$ cd  
user-616370:~ tpadilla$ cd Desktop  
user-616370:Desktop tpadilla$ mkdir frames
```

```
user-616370:Desktop  
user-616370:Desktop  
user-616370:frames t  
ffmpeg version 2.6.2  
built with Apple L  
configuration: --p
```

Command Line Bootcamp

--enable-avresample

```
cc=clang --host-cflags= --host-ldflags= --enable-libx264 --enable-libmp3lame --enable-libvo-aacenc --enable-libxvid --enable-vda  
libavutil 54. 20.100 / 54. 20.100  
libavcodec 56. 26.100 / 56. 26.100  
libavformat 56. 25.101 / 56. 25.101  
libavdevice 56. 4.100 / 56. 4.100  
libavfilter 5. 11.102 / 5. 11.102  
libavresample 2. 1. 0 / 2. 1. 0  
libswscale 3. 1.101 / 3. 1.101  
libswresample 1. 1.100 / 1. 1.100  
libpostproc 53. 3.100 / 53. 3.100
```

Brandon Locke, MSU, @brandontlocke

```
Input #0: mov,mp4,m4a,3gp,3g2,mj2, from '/Users/tpadilla/Desktop/frames/scaredtodeath.mp4':
```

Metadata:

```
major_brand      : isom  
minor_version    : 512  
compatible_brands: mp41  
creation_time    : 1970-01-01 00:00:00  
title           : Scared to Death  
artist          : Christy Cabanne  
composer        : Christy Cabanne  
date            : 1947  
encoder         : Lavf51.10.0  
comment         : license: http://creativecommons.org/licenses/publicdomain/
```

Adapted from

Thomas Padilla, UNLV, @thomasgpadilla

```
Duration: 01:07:15.96, start: 0.000000, bitrate: 580 kb/s
```

```
Stream #0:0(und): Video: h264 (Constrained Baseline) (avc1 / 0x31637661), yuv420p, 320x240, 512 kb/s, 25 fps, 25 tbr, 25 tbn, 50 tbc (default)
```

Metadata:

```
creation_time    : 1970-01-01 00:00:00  
handler_name     : VideoHandler
```

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```
Stream #0:1(und): Audio: aac (LC) (mp4a / 0x6134706D), 44100 Hz, stereo, fltp, 63 kb/s (default)
```

Metadata:

```
creation_time    : 1970-01-01 00:00:00  
handler_name     : SoundHandler
```

command line interface

- text based method of giving a computer commands
- shell/bash(Linux/Mac) v Command Prompt
- Mac: Terminal
- Windows: Cygwin/Gitbash/Ubuntu

Because if you want to learn to code, then you must learn this. Programming languages are advanced ways to control your computer with language. The command line is the baby little brother of programming languages. Learning the command line teaches you to control the computer using language. Once you get past that, you can then move on to writing code and feeling like you actually own the hunk of metal you just bought.

Zed A. Shaw,

The Command Line Crash Course: Shut up and Shell

UNIX

```
$ [toolname] [-flags, if any] [input file] [output file]
```

Linux Bash Shell Cheat Sheet

Basic Commands

Basic Terminal Shortcuts

CTRL L = Clear the terminal
CTRL D = Logout
SHIFT Page Up/Down = Go up/down the terminal
CTRL A = Cursor to start of line
CTRL E = Cursor the end of line
CTRL U = Delete left of the cursor
CTRL K = Delete right of the cursor
CTRL W = Delete word on the left
CTRL Y = Paste (after CTRL U,K or W)
TAB = auto completion of file or command
CTRL R = reverse search history
!! = repeat last command
CTRL Z = stops the current command (resume with fg in foreground or bg in background)

Basic Terminal Navigation

ls -a = list all files and folders
ls <folderName> = list files in folder
ls -lh = Detailed list, Human readable
ls -l *.jpg = list jpeg files only
ls -lh <fileName> = Result for file only

cd <folderName> = change directory
if folder name has spaces use " "
cd / = go to root
cd .. = go up one folder, tip: ../../../

du -h: Disk usage of folders, human readable
du -ah: " " " files & folders, Human readable

Basic file manipulation

cat <fileName> = show content of file
(less, more)

head = from the top
-n <#oflines> <fileName>

tail = from the bottom
-n <#oflines> <fileName>

mkdir = create new folder
mkdir myStuff ..
mkdir myStuff/pictures/ ..

cp image.jpg newimage.jpg = copy and rename a file
cp image.jpg <folderName>/ = copy to folder
cp image.jpg folder/sameImageNewName.jpg
cp -R stuff otherStuff = copy and rename a folder
cp *.txt stuff/ = copy all of *<file type> to folder

mv file.txt Documents/ = move file to a folder
mv <folderName> <folderName2> = move folder in folder
mv filename.txt filename2.txt = rename file
mv <fileName> stuff/newfileName
mv <folderName>/ .. = move folder up in hierarchy

rm <fileName> .. = delete file (s)
rm -i <fileName> .. = ask for confirmation each file
rm -f <fileName> = force deletion of a file
rm -r <foldername>/ = delete folder



```
ffmpeg(1) -i whitehouse_selma.mp4 -vf scale=640:480 640x480selma.mp4
```



ffmpeg video converter

-i filename
input file name

-vf filter_graph

filter_graph is a description of the filter graph to apply to the input video. Use the option "-filters" to show all the available filters (including also sources and sinks).

Advanced Video Options

-pix_fmt format

Set pixel format. Use 'list' as parameter to show all the supported pixel formats.

downsides of the command line

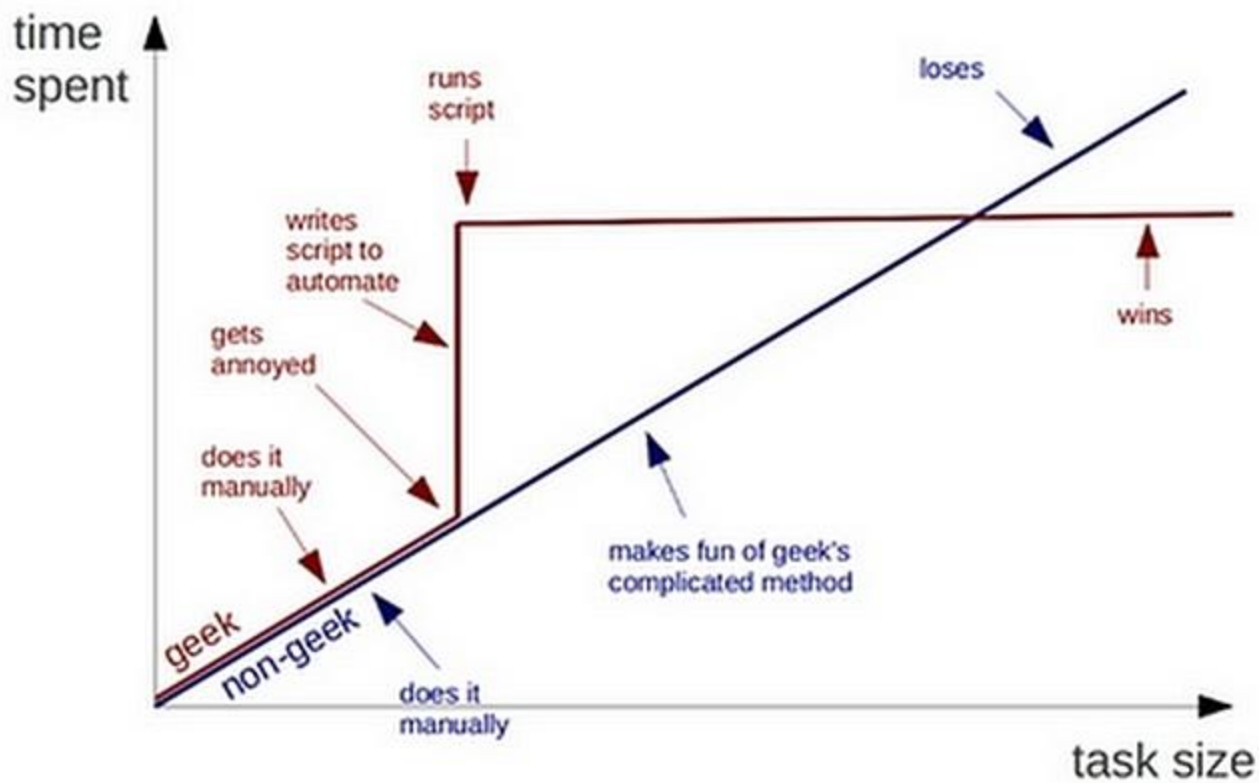
- learning curve
- cold, intimidating interface



benefits of the command line

→ batch processing

Geeks and repetitive tasks



benefits of the command line

- ➔ batch processing
- ➔ scalable/repeatable



benefits of the command line

- batch processing
- scalable/repeatable
- lots of tools available



tesseract-ocr



GNU Wget



rg3 / youtube-dl



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OF AMERICA



benefits of the command line

- batch processing
- scalable/repeatable
- lots of tools available
- fast