

## Q1

You have 2 ropes and infinite matches. Each rope burns for exactly 1 hour. The rope does not burn evenly (so when half the rope is burned, it has not necessarily been 30 minutes). You cannot cut the rope.  
Find a way to time exactly 15 minutes.

## Q2

You have 9 balls. 8 of them weigh exactly the same. You have a scale that can tell you whether the left or right side is heavier. You can only use the scale twice.  
Find the heavier ball.



# Emacs

Faster and More Efficient

# What is Emacs

Extensible MACroS

Text editor that eliminates use of mouse through key combinations

Allows custom scripts to extend functionality

Operating System





# Why Emacs?



Many commands translate to other applications

Linux Shell

Xcode

All GNU Software

Other Mac OS X Apps like Safari

Many programs have Emacs modes or plugins

Visual Studio, Eclipse

All JetBrains IDEs

# Emacs vs Vim

Two competing text editors

Emacs vs Vim

Both are comparable

Vim is modal editor

Emacs uses modifier keys



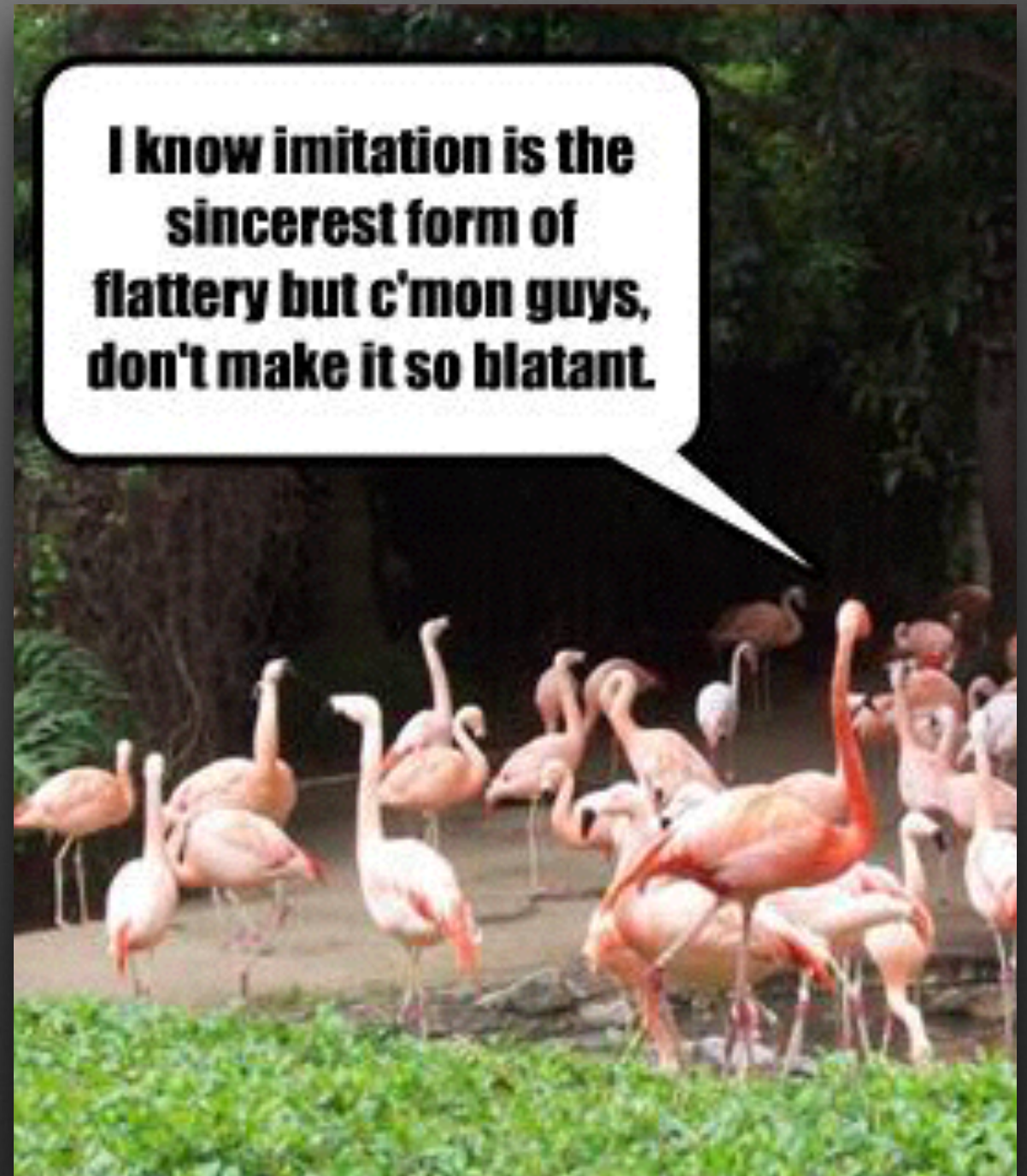


# A Brief History of ‘The Editor War’

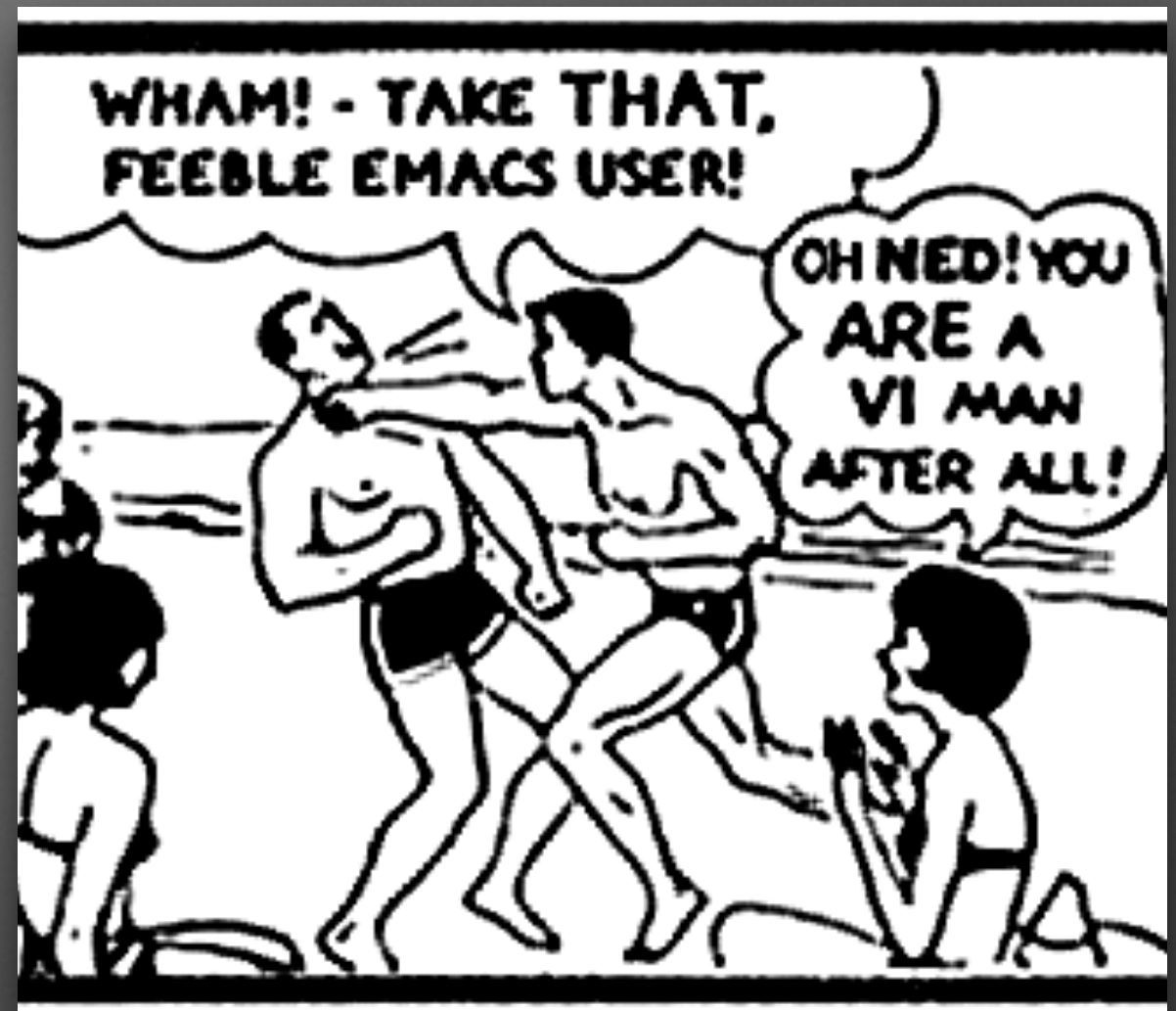
Richard Stallman created  
‘The Church of Emacs’

Called vi is the ‘editor of the  
beast’

Vi supporters created  
‘The Cult of vi’ in response









**I Am Developer**

@iamdeveloper



Following

I've been using Vim for about 2 years now, mostly because I can't figure out how to exit it.

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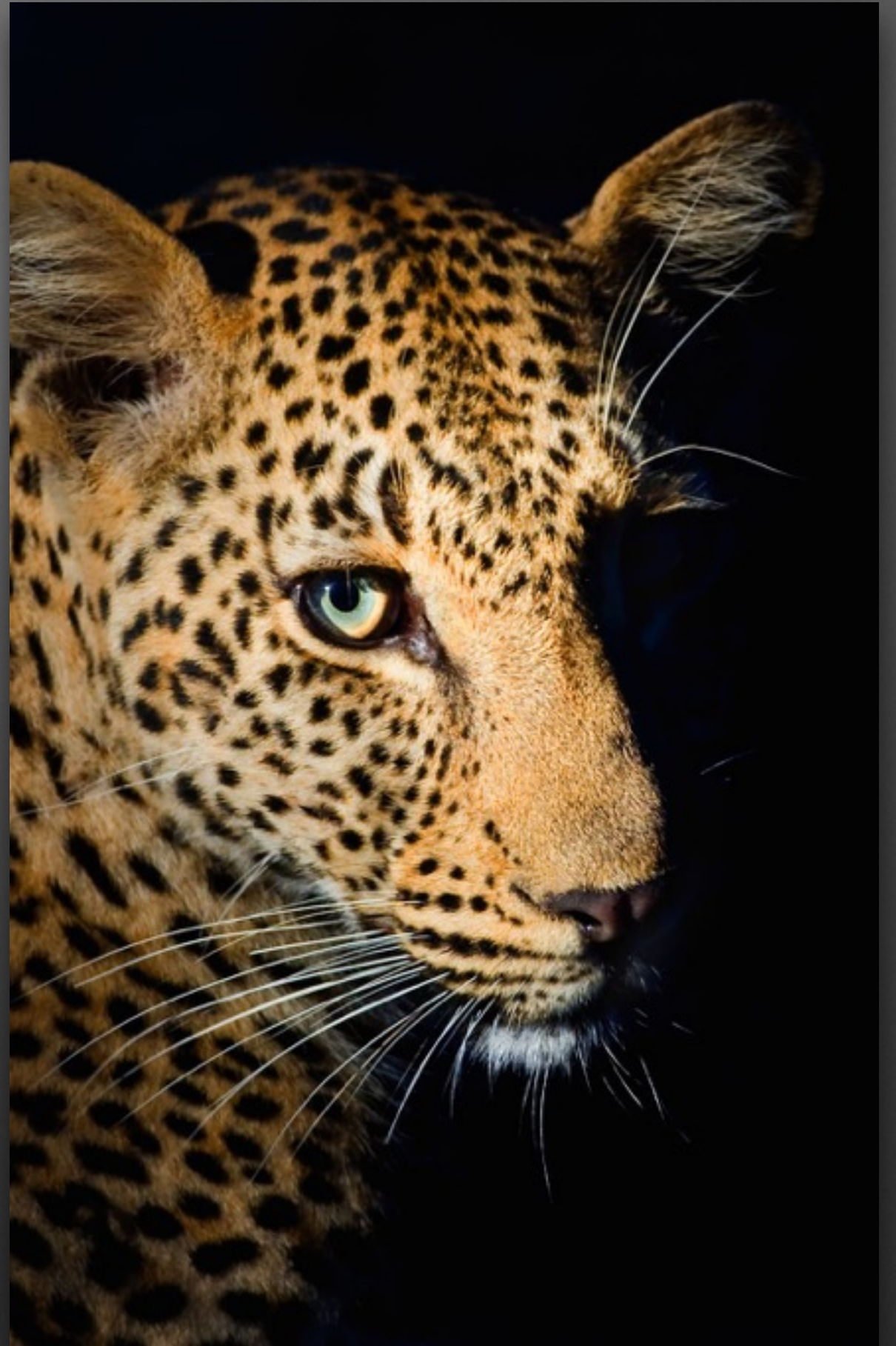
2,105



4:56 AM - 18 Feb 2014



**Let's Begin**



# Get Started

If on a Mac - open Terminal

If on Windows, connect to LNX01 with Putty  
[ceclnx01.cec.miamioh.edu](https://ceclnx01.cec.miamioh.edu)

Run the following commands

```
git clone https://github.com/rogerskw/emacs-demo  
cd emacs-demo
```

Note: You will learn more about git in a future workshop



# Modifier Keys

Emacs does not need to switch 'modes'

Use Control (C) and Meta (M, Option, Alt) keys to perform actions

Some keys must be pressed in sequence

Many commands not mapped to keys by default

M-x (command) can be done to execute any command

# Open a File

Start Emacs with a filename as an argument

```
emacs  
AmazonWebServerTutorial.tex
```

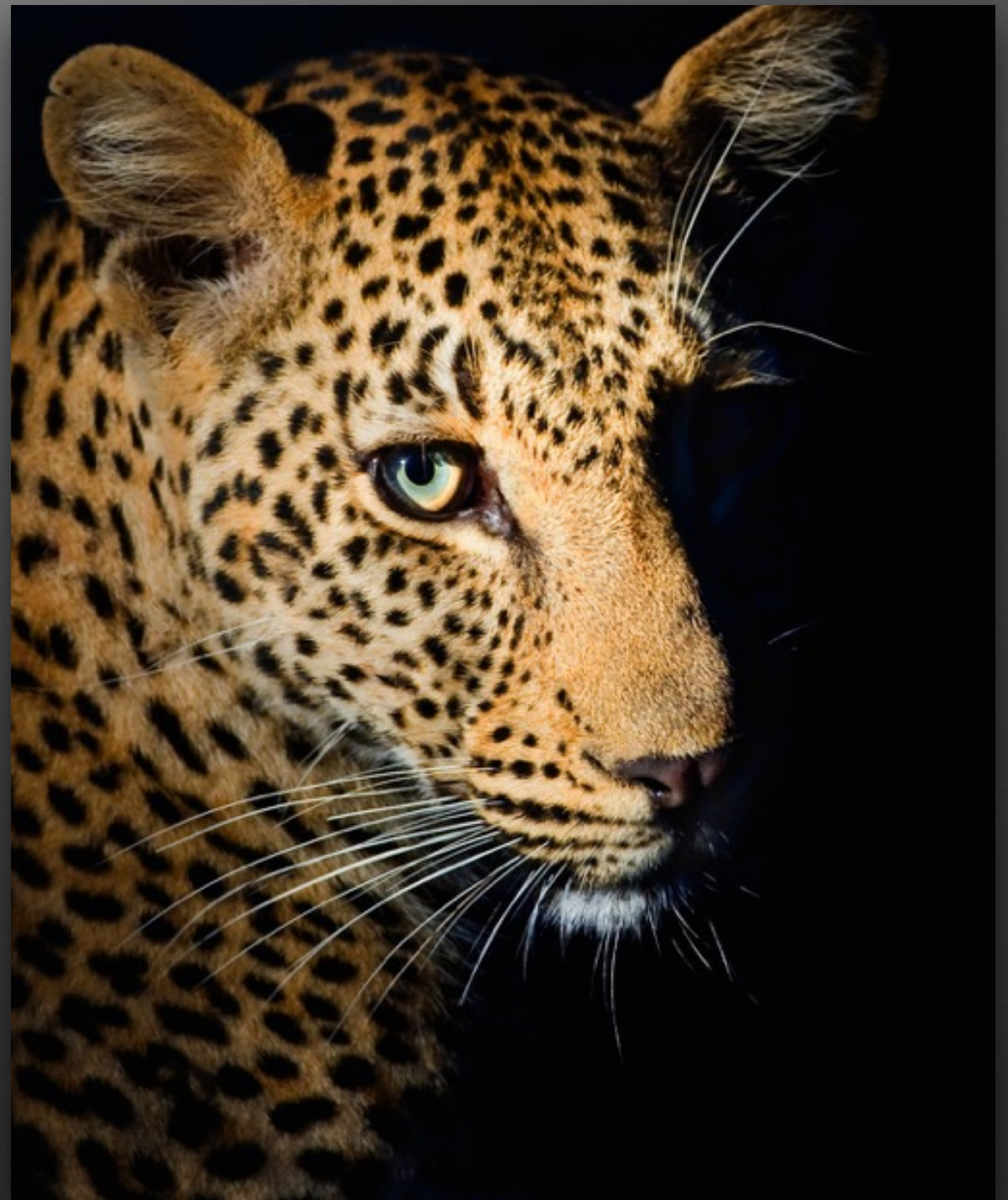
While in emacs, use the following keys to open another file

**C-x C-f**

Switch between open files  
(buffers)

**C-x b**

**C-x C-b** will show all open  
buffers





# Save/Quit/Stop

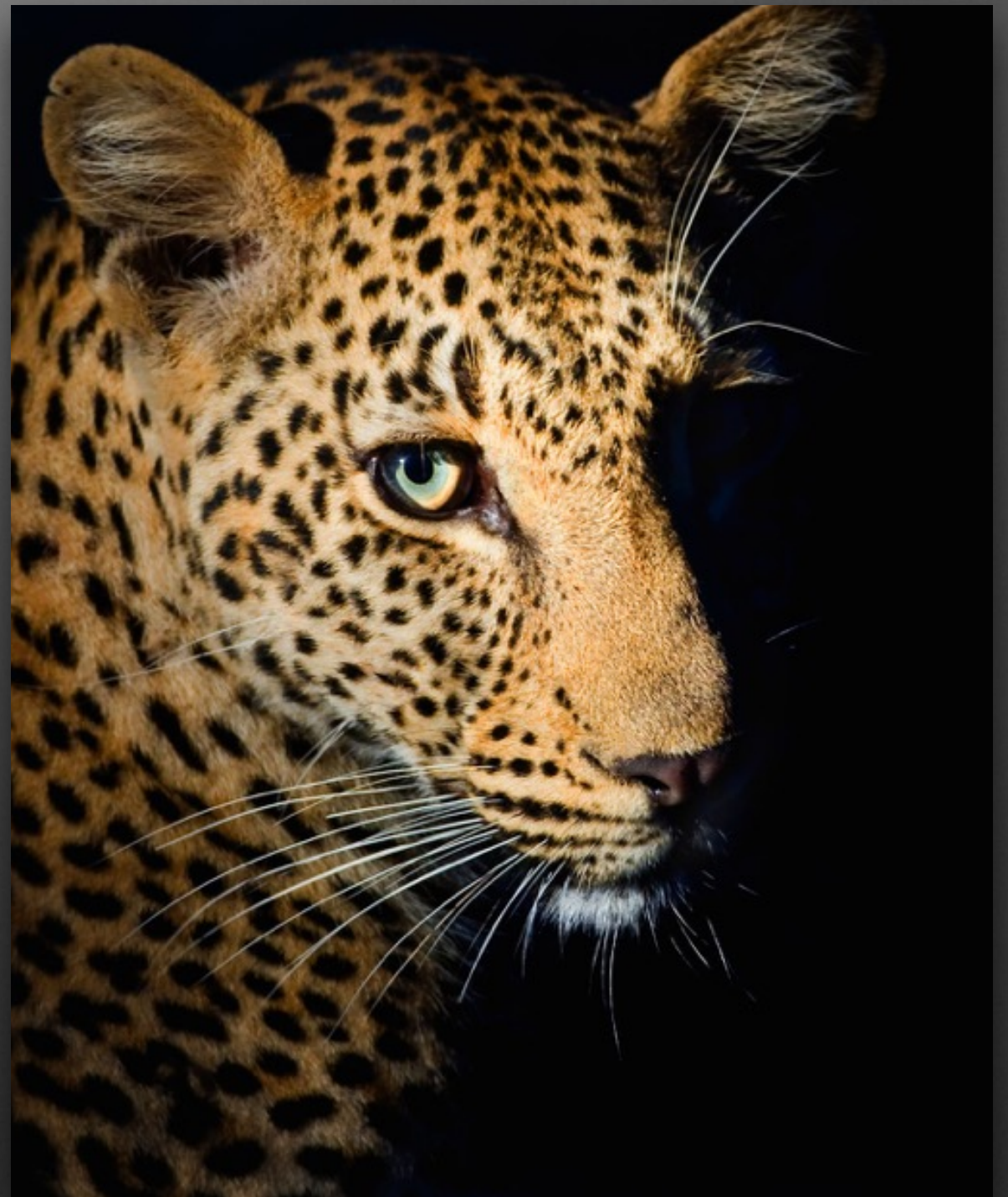
Save : C-x C-s

Quit : C-x C-c

Stop : C-z

(This will move Emacs into  
background)

Type fg to bring it back



# Movement Keys

	BY LETTER	BY WORD	BY PAGE	AS FAR AS POSSIBLE
FORWARD	C-f	M-f	n/a	C-e
BACKWARD	C-b	M-b	n/a	C-a
UP	C-p	n/a	C-v	M-<
DOWN	C-n	n/a	M-v	M->

Also: C-l to center buffer on cursor



# Delete/Cut/Paste

OPERATION	KEYSTROKES
KILL ENTIRE LINE (FROM CURSOR)	C-k
DELETE BY LETTER	C-d
DELETE BY WORD	M-d
BACKSPACE BY LETTER	Backspace
BACKSPACE BY WORD	M-Backspace
START SELECTION	C-space (C-space again to cancel)
CUT SELECTION	C-w
COPY SELECTION	M-w
RECTANGULAR DELETE	C-x r d
PASTE (YANK)	C-y
CYCLE THROUGH YANKS	M-y

# Buffer Management

COMMAND	KEYSTROKES
SPLIT WINDOW VERTICALLY	C-x 3
SPLIT WINDOW HORIZONTALLY	C-x 2
DELETE ALL OTHER WINDOWS	C-x 1
DELETE CURRENT WINDOW	C-x 0
SWITCH BETWEEN WINDOWS	C-x o



# Search

COMMAND	SEARCH	REGULAR EXPRESSION SEARCH
FORWARD	C-s	M-C-s
REVERSE	C-r	M-C-r

# Macros

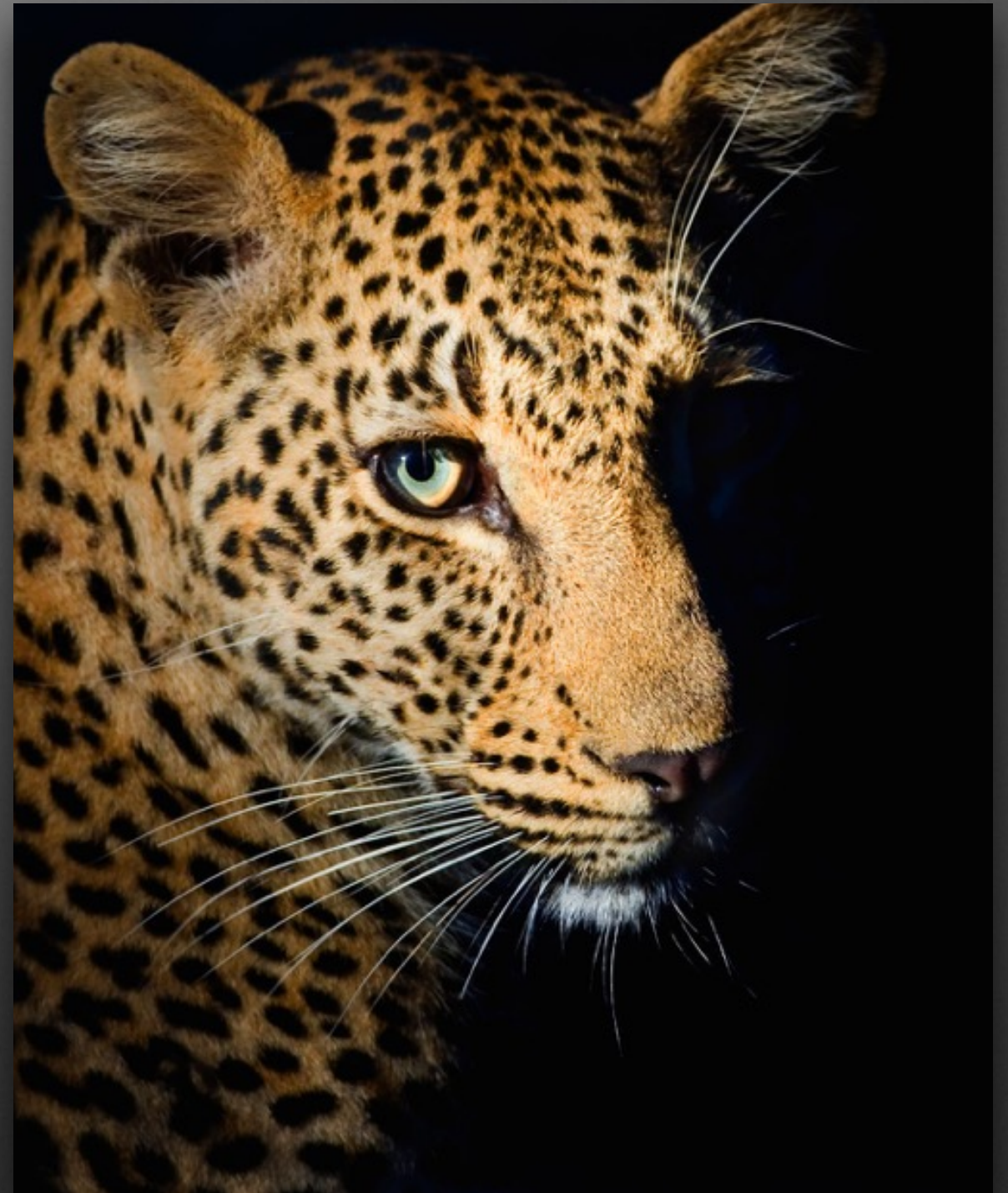
Saves keystrokes

Repeat keystrokes specific  
number of times

*or*

Repeat until end of file

Clever use of macros can be  
extremely powerful





# Macros

COMMAND	KEYSTROKES
START MACRO RECORDING	C-x (
END RECORDING	C-x )
EXECUTE MACRO	C-x e (press e again to repeat)
EXECUTE FOLLOWING COMMAND <N> TIMES	C-u <N> <COMMAND>
EXECUTE PREVIOUS COMMAND	C-x z (press z again to repeat)
EXECUTE MACRO UNTIL END OF FILE	M-0 C-x e <i>or</i> C-u 0 C-x e

Up  
M-<  
Buffer

M-v  
Window

M-{  
Paragraph

C-p  
Line

C-n  
Line

M-}  
Paragraph

C-v  
Window

M->  
Buffer  
Down

C-d	Char	C-W	Cut
M-d	Word	M-W	Copy
C-k	End of Line		
C-y	Paste		
M-y	Cycle Kill Ring		

Killing & Yanking

M-C-r    C-r  
Incremental    Incremental  
Regex Search    Search

Backward

C-a  
Line

M-b  
Word

C-b  
Char

C-l  
Char

C-f  
Word

M-f  
Line

C-e  
Line

Forward

C-s  
Incremental  
Search

M-C-s  
Incremental  
Regex Search

Rectangle Operations

C-x r t	Insert
C-x r d	Delete
C-x r k	Kill
C-x r y	Yank Killed
C-x r r reg	Copy to reg
C-x r i reg	Insert from reg

C-j	New line + indent
M-m	Move to Indentation

Other Operations

C-x 2	Split Horizontally
C-x 3	Split Vertically
C-x 0	Delete this window
C-x 1	Delete all other
C-x 0	Switch to other

Buffer Operations





# Some Other Fun Things With Emacs

Run a terminal inside it

Check your email

Browse the web

Participate in IRC chat

View RSS feed



# A Few Other Things

What future workshops would you like to see?

Technical Interviews

Cybersecurity

Other Technologies

Guest Speakers?

Social Events?

Other?