SKILLPILLS

Skill Pill: Terminal

Text Editor: Vim

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April 6, 2017

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Overview

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Text Editing

Here's a basic question: **why do you want to edit text?**

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Reason:

- Work documents
- E-mail
- Code / scripting

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- E-mail client
- IDE / text editor

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Text editors are essential tools for your belt – especially when working on UNIX systems like Sango / supercomputers

Text Editing

Text editors must only edit text, **they should not inject unnecessary formatting into your file without your permission!**

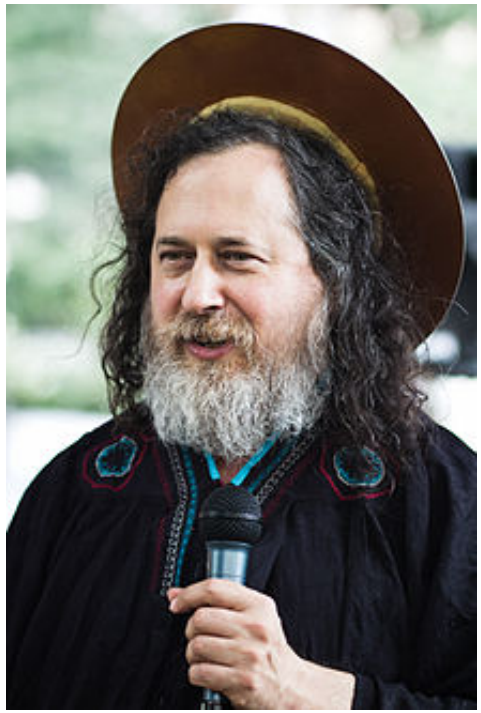
We have a few options:

- Graphical Editors
  - Sublime Text
  - Atom
  - gedit, kedit, notepad++
- Terminal Editors
  - Vi / Vim
  - Nano
  - Emacs

The Church of Emacs

Programmers are silly

- There are 2 rather famous text editors, **Vi** and **Emacs**.
- Their user-bases had a bit of a feud, which turned into the **Curch of Emacs** and the **Cult of Vi**
- By day, he is Richard Stallman, but by night, he is St. IGNU-cius $\rightarrow$
- Vi users say Emacs is "a great operating system, lacking only a decent editor"
- Emacs users say we could create a psuedorandom number generator by providing a new user access to vi for the first time and asking them to quit



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So Let's Get To It!

Writing stuff

For the most part, you can use vim as a standard text editor by entering insert mode, typing, and then quitting.

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Let’s talk a bit about these modes

Insert mode

Vi / Vim has $\sim$ 4 modes: Navigation (normal), Insert, Command, and Visual (we will not touch on this one).

- Insert mode
  - Enter insert mode with

i	insert the character before cursor
I	insert at the start of the line
a	insert the character after cursor
A	insert at the end of the line
o	start a new line below cursor in insert mode
O	start a new line above cursor in insert mode
R	replace text starting at the character before cursor

  - Leave insert mode with **esc**

Navigation (normal) mode

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- Navigation (normal) mode
  - Move with:

h	left
j	down
k	up
l	right
G	bottom of file
gg	start of file (vim-only)
0	start of line
$	end of line

  - Delete text with

x	delete current character
X	delete character before cursor
dd	deletes an entire line
D	deletes until the end of the line

Command mode

- Command mode:
  - Execute commands with the **colon**(**:**):

:w	writes (saves) file
:q	quits vi / vim
:wq	writes and quits **at the same time**!
:q!	quits without saving
:#	goes to line number (#)
:e	opens a new file for editing
:%s/x/y/g	replaces x for y filewide (covered later!)
:set all	shows all available settings

A quick historical note

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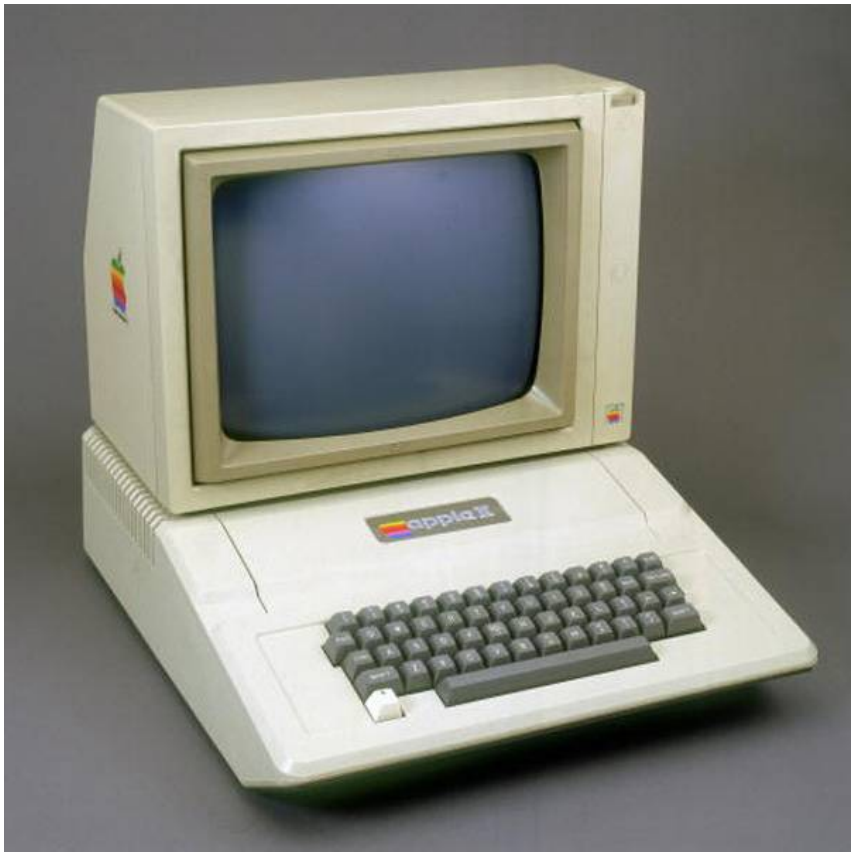
ESC



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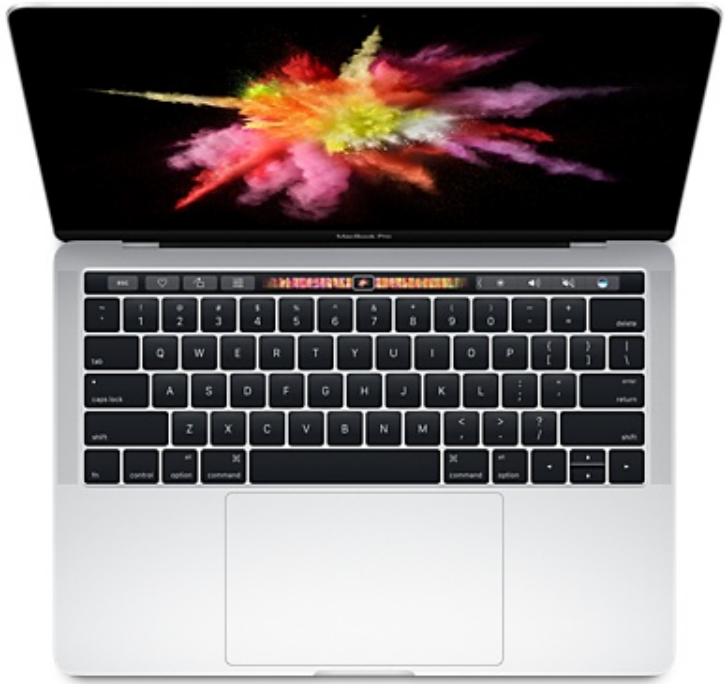

Where are our priorities?

Type a story into vi / vim

- Try:

```
Jack and Jill went up the hill
To fetch a pail of water.
Jack fell down and broke his crown,
And Jill came tumbling after
```

- Save the file (write and quit), and then check the file contents with **cat**

Searching

There are two ways to search in vi / vim:

/word	will bring cursor to next *word*
?word	will bring cursor to previous *word*
n/N	Proceeds with searching in forward /backwards direction
f/F c	finds character "c" in the forward / backwards direction
:set hlsearch	Sets highlighted searching in vim
:set nohlsearch	Turns off highlighted searching in vim
:noh	Turns off highlighted searching in vim until next search

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Find Jack

Using the story you wrote before, search for your favorite word. Become comfortable with moving in navigation (normal) mode.

The dot(.) and numbers (repeating commands)

Vi / vim have many tricks to make your life needlessly simpler

. Use this character to repeat previous command

\# Use any number before a command to repeat it # times

Put the following at the start of your story

```
################################################################################
# THIS COMMENT BLOCK IS 80 COLUMNS WIDE AND 3 COLUMNS THICK
################################################################################
```

Search and replace

The first time you need to search and replace things in vi / vim, you'll be confused.

:s/word1/word2/g Replaces *word1* with *word2* on a line

:%s/word1/word2/g Replaces *word1* with *word2* text-wide

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There are four characters to use at the end:

- g This searches the space globally and will not stop at just the first occurrence every line
- c This asks for confirmation each time
- i This is case-insensitive (vim-only)
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These may be chained together:

```
:10,100s/hey/pidgeon/gci
```

Replacing Jack

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Put yourself into your story

Search for and replace a character in your story with your own name.

Yank and paste

Copy is an inferior term only used by hacker wannabe's
Yank is what real hackers say

To Copy:

yy	Yank (copy) a single line
y#y	Yank (copy) # lines
dd	Yank (copy) a single line and destroy it
d#d	Yank (copy) # lines and destroy them

To Paste

p	Pastes any yanked lines after cursor
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BUT WAIT, THERE'S MORE!

The power of normal mode

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For copy / delete / movement, we can combine movements with actions

15j	moves down 15 lines
y5y	yanks 5 lines
d10d	deletes 10 lines
d$	deletes until the end of line
y0	yanks to the start of the line
5x	deletes 5 characters
dtc	deletes until the next “c”

Remember that these can be repeated with “.”!

A Challenge

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No Insert Mode!

Taking the story of Jack and Jill from before, write the following without using insert mode:

```
hello world
```

vimgolf

Using as few keystrokes as possible, turn this:

```
name=www-data, groups=developer
```

into this:

```
name=developer, groups=www-data
```

Vim golf

vimgolf

Using as few keystrokes as possible, turn this:

```
name=www-data, groups=developer
```

into this:

```
name=developer, groups=www-data
```

Solution:

```
fwdt,fdPldwF,PZZ
```

Settings

All possible settings can be found with *:set all*
Some possible examples are:

ai	auto indent
number	line number
compatible	turns vim into vi

These can be turned off by adding a "no" to them

noai	unsets auto indent
nonumber	unsets line numbers
nocompatible	unsets vi mode

Colorschemes

Colors are **vim-only** and require a filename extension to properly color.

:colorscheme solarized set colorscheme to *solarized*

:colorscheme ALT+TAB List all colorschemes to choose from

:syntax on/off turns coloring on and off

:NoMatchParen / :DoMatchParen sets parentheses matching

Play around a bit with options

Once you've found your optimal settings, open up your ~/.vimrc file and put the options you want in there.

Conclusions

- vi / vim is a powerful text editor that can be used to do just about everything.
- It's greatest strength is that it is found on almost every single unix machine.
- It takes time to learn and master, but it's essential to many programmer's workflow and is a great way to edit scripts and stuff quickly and efficiently.