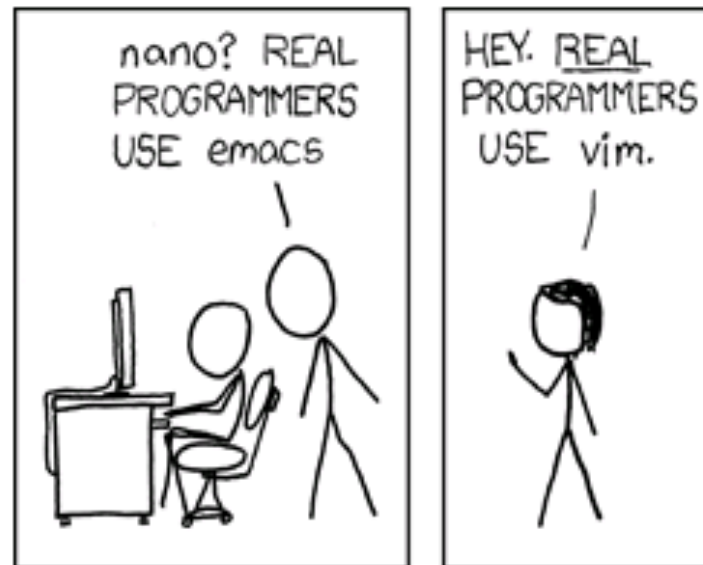# Lecture 3 - EMACS and VI

More on the text editors: emacs and vi

Aka... commands galore!

emacs

- The command "emacs" will start the "emacs" text editor in "scratch" mode, with an empty buffer
- "Scratch" mode is a pain to use, will not warn you about saving your work, and will cause various other grief
- Specifying a file name will have "emacs" open that file (or start a new file).
- `emacs` **(avoid this)**
- `emacs <filename>` **(do this)**

emacs - basic commands

- Arrow keys are used to navigate around document
- If configured, the mouse can work, but you will learn to work without it
- The caret symbol (^) indicates you must press and hold the control key first, then press the key for the command.

Undo!

- ^x u or ^- will undo the most recent command (one of the only places in UNIX where you can undo something)

Saving

- ^x ^s saves the buffered text to the currently specified file
- ^x ^c exits "emacs"

emacs - cutting and pasting

- ^k cuts text (kills) from cursor to end of line
- ^y pastes text (yanks back)
- ^@ (ctrl-shift-2) sets a "Mark" at the current cursor position
- Use the arrow keys to move to the end of the text you want to cut (will not highlight)
- ^w cuts text from "Mark" to current cursor position
- Move to position you want to insert the cut text
- ^y then brings the text back at the current cursor position

emacs - command summary

(arrows)	Move cursor
(bksp)	Move cursor left one space, deleting character (this may or may not work depending on your configuration)
(del)	Typically works like you would expect bksp to work
^a	Move to beginning of line
^b	Move back one character (same as left arrow)
^e	Move to end of line
^f	Move forward one character (same as right arrow)
^n	Move to next line (same as down arrow)
^p	Move to previous line (same as up arrow)
^v	Move forward one page

emacs - command summary cont

`^x ^s`	Save buffered text to currently specified file
`^x ^w`	Write buffered text to a specific file
`^x ^f`	Find a file and copy it into buffer
`^x ^c`	Exit "emacs" (if you are in "scratch" mode it will **NOT** warn you to save your work)
`^d`	Delete character at current position
`^s`	Search forward
`^r`	Search backward
`^k`	Cut (Kill) text from cursor to end of line
`^@`	Set "Mark"
`^w`	Cut text from "Mark" to current cursor position
`^y`	Paste text at current cursor position
`^x u`	Undo most recent command
`^-`	Undo most recent command (alternate)
`^g`	Cancel command ("Get out" of a string of ctrl commands)

vi

- vi is available on most Unix systems and is as powerful as emacs - personal preference on which one to use
- `vi <filename>`
- vi has two modes
  - Command mode: in this mode characters you type are interpreted as commands
  - Insert mode: characters you type are inserted as part of the text
  - vi starts out in insert mode
  - Typing *i* switches to insert mode
  - The ESC key puts you back in command mode
- vi is case sensitive so upper case and lower case commands act differently
- Commands are not displayed on the screen and do not require a return or enter

Starting vi

Command	Description
vi *file*	start at line 1 of *file*
vi +n *file*	start at line *n* of *file*
vi + *file*	start at last line of *file*
vi +/*pattern file*	start at *pattern* in *file*
vi -r *file*	recover *file* after a system crash

vi - saving and quitting

Command	Description
:e *file*	edit *file* (save current file with **:w** first)
:w	save (write out) the file being edited
:w *file*	save as *file*
:w! *file*	save as an existing *file*
:q	quit **vi**
:wq	save the file and quit **vi**
:x	save the file if it has changed and quit **vi**
:q!	quit **vi** without saving changes

Moving the cursor

Keys pressed	Effect
h	left one character
l or <Space>	right one character
k	up one line
j or <Enter>	down one line
b	left one word
w	right one word
(	start of sentence
)	end of sentence
{	start of paragraph
}	end of paragraph

Moving the cursor continued

Keys pressed	Effect
1G	top of file
nG	line n
G	end of file
<Ctrl>W	first character of insertion
<Ctrl>U	up ½ screen
<Ctrl>D	down ½ screen
<Ctrl>B	up one screen
<Ctrl>F	down one screen

vi - inserting text

Keys pressed	Text inserted
a	after the cursor
A	after last character on the line
i	before the cursor
I	before first character on the line
o	open line below current line
O	open line above current line

vi - changing and replacing text

Keys pressed	Text changed or replaced
cw	word
3cw	three words
cc	current line
5cc	five lines
r	current character only
R	current character and those to its right
s	current character
S	current line
~	switch between lowercase and uppercase

vi - deleting text

Keys pressed	Text deleted
x	character under cursor
12x	12 characters
X	character to left of cursor
dw	word
3dw	three words
d0	to beginning of line
d$	to end of line
dd	current line
5dd	five lines
d{	to beginning of paragraph
d}	to end of paragraph
:1,. d	to beginning of file
:.,$ d	to end of file
:1,$ d	whole file

vi - searching for text

Search	Finds
/and	next occurrence of ``and'', for example, ``and'', ``stand'', ``grand''
?and	previous occurrence of ``and''
/^The	next line that starts with ``The'', for example, ``The'', ``Then'', ``There''
/^The\>	next line that starts with the word ``The''
/end$	next line that ends with ``end''
/[bB]ox	next occurrence of ``box'' or ``Box''
n	repeat the most recent search, in the same direction
N	repeat the most recent search, in the opposite direction

vi - searching and replacing text

Command	Description
:s/pear/peach/g	replace all occurrences of ``pear'' with ``peach'' on current line
:/orange/s//lemon/g	change all occurrences of ``orange'' into ``lemon'' on next line containing ``orange''
:.,$^<file/directory/g	replace all words starting (note word anchor ^<) with ``file'' by ``directory'' on every line from current line onward, for example, ``filename'' becomes ``directoryname''
:g/one/s//1/g	replace every occurrence of ``one'' with 1, for example, ``oneself'' becomes ``1self'', ``someone'' becomes ``some1''

A few helpful vi links

- vi Manual (on our department's web pages)
  - http://www.cs.fsu.edu/general/vimanual.html
- vi Reference Card
  - http://limestone.truman.edu/~dbindner/mirror/vi-ref.pdf
- vi Cheat Sheet
  - http://www.lagmonster.org/docs/vi.html