

“Prof” Joe's Tutorial on

The Basics of the vi editor

Joseph Phillips
2013 October 21

What is vi?

- A **primitive** but **powerful** text editor for Unix-style operating systems
 - **Mode based**
 - Move around mode
 - Edit mode
 - Command mode
 - Search mode
 - Pronounced by saying the letters in English: “v-i”
 - “vim” (said like a word): vi-compatible Linux editor
- **Other editors** on Unix/Linux:
 - emacs
 - gedit
 - nano

Why use vi?

- **CON:**
 - Primitive
 - Have to learn funky commands
- **PRO:**
 - Present on practically all Unix systems
 - Powerful
- “*Well, which editor(s) do you use, 'Prof' Joe?*”
 - Extensive editing: ***emacs***
 - Quick-n-dirty edits: ***vi***

Starting vi

- Just type “***vi***”
- You start out in “moving around” mode (but right now there is no where to go)

The screenshot shows a terminal window titled "instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...". The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". On the left side of the terminal area are vertical blue tilde (~) symbols representing line numbers. The main content displays the Vim startup message:

VIM - Vi IMproved

version 7.3.515
by Bram Moolenaar et al.
Modified by <bugzilla@redhat.com>
Vim is open source and freely distributable

Help poor children in Uganda!

type :help iccf<Enter> for information

type :q<Enter> to exit

type :help<Enter> or <F1> for on-line help

type :help version7<Enter> for version info

The right side of the terminal has a scrollbar and navigation arrows.

Our first text (1)

- Now press lowercase “*i*” to enter “edit mode”
- Now type “*Hello*”

```
instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...  
File Edit View Search Terminal Help  
  
~  
~  
~  
~  
VIM - Vi IMproved  
~  
version 7.3.515  
by Bram Moolenaar et al.  
Modified by <bugzilla@redhat.com>  
Vim is open source and freely distributable  
~  
Become a registered Vim user!  
type :help register<Enter>   for information  
~  
type :q<Enter>                to exit  
type :help<Enter> or <F1>    for on-line help  
type :help version7<Enter>  for version info  
~  
~  
-- INSERT --
```

A screenshot of a terminal window. The title bar at the top reads "instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...". Below the title bar is a menu bar with the options "File", "Edit", "View", "Search", "Terminal", and "Help". The main area of the terminal shows the text "Hello" on the first line. On the left side of the terminal, there are several small blue icons representing different file types or directories. On the right side, there is a vertical scrollbar. At the bottom of the terminal, the text "-- INSERT --" is visible.

Our first text (2)

- Now press “**Esc**” to get back to “moving around” mode
- Now press “**:**” to enter command mode, then enter “**w hello.txt**” to save your file.
- You are returned to moving-around mode



A screenshot of a terminal window titled 'instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...'. The window shows a file editor with a menu bar (File, Edit, View, Search, Terminal, Help) and the text 'Hello' on the first line. The rest of the file is empty, indicated by tilde symbols (~).



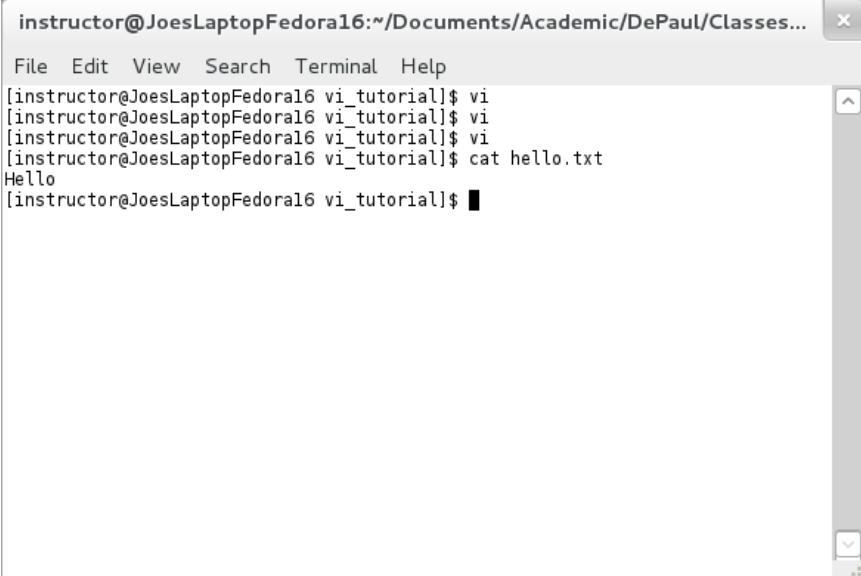
A screenshot of a terminal window titled 'instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...'. The window shows a file editor with a menu bar (File, Edit, View, Search, Terminal, Help) and the text 'Hello' on the first line. The rest of the file is empty, indicated by tilde symbols (~). At the bottom of the window, a status bar displays '"hello.txt" [New] 1L, 6C written'.

Our first text (3)

- To quit press “**:**” to enter command mode, then enter “**q**”
- To see our file from the command line, type “**cat hello.txt**”



A screenshot of a text editor window titled "instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The text area contains the word "Hello" on the first line, followed by several empty lines. At the bottom left, the command mode prompt ":" is visible, followed by a cursor.

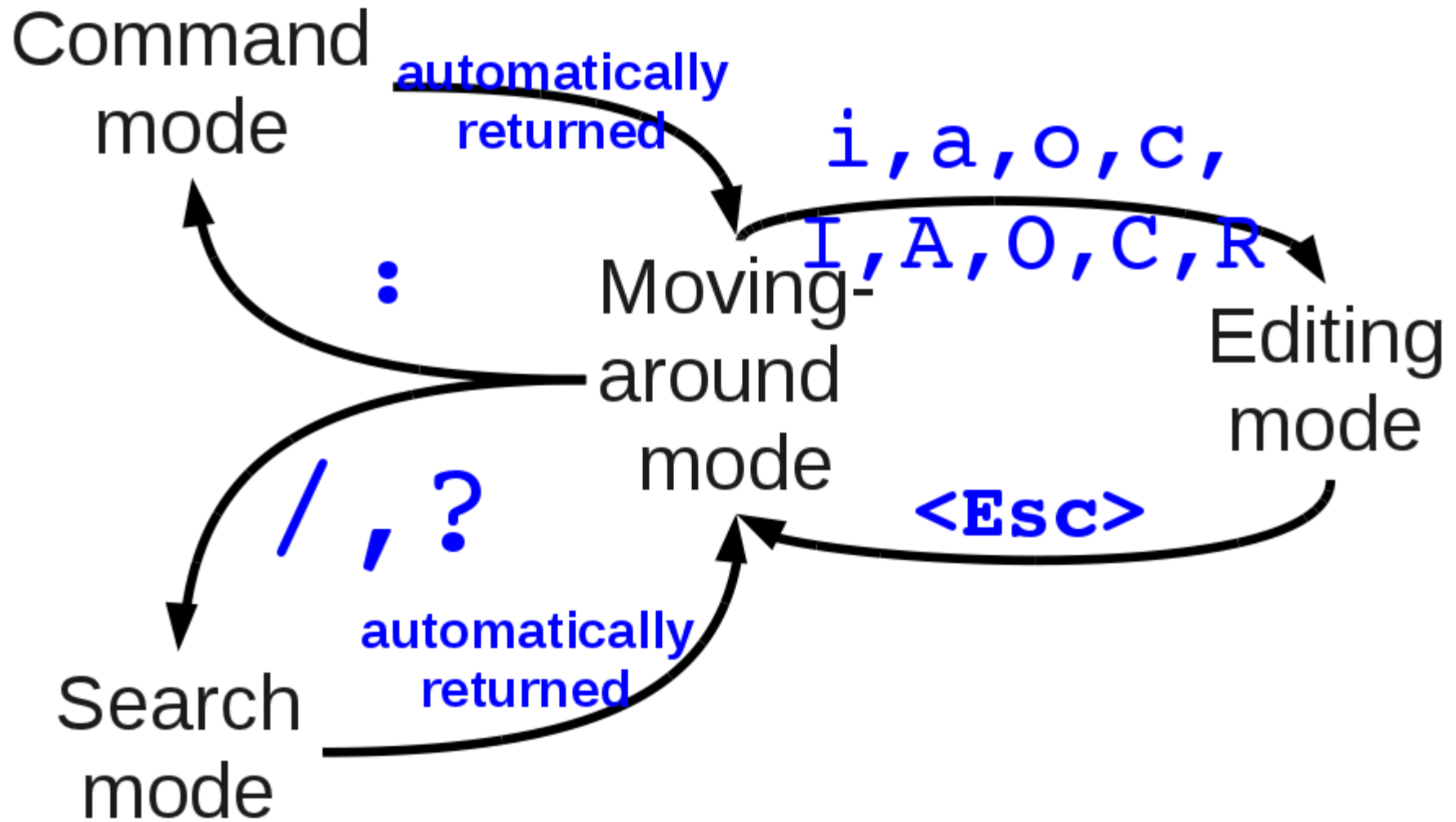


A screenshot of a terminal window titled "instructor@JoesLaptopFedora16:~/Documents/Academic/DePaul/Classes...". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal shows a series of commands and their outputs: [instructor@JoesLaptopFedora16 vi_tutorial]\$ vi, [instructor@JoesLaptopFedora16 vi_tutorial]\$ vi, [instructor@JoesLaptopFedora16 vi_tutorial]\$ vi, [instructor@JoesLaptopFedora16 vi_tutorial]\$ cat hello.txt, and the output "Hello". The prompt [instructor@JoesLaptopFedora16 vi_tutorial]\$ is visible at the bottom.

General themes of vi commands

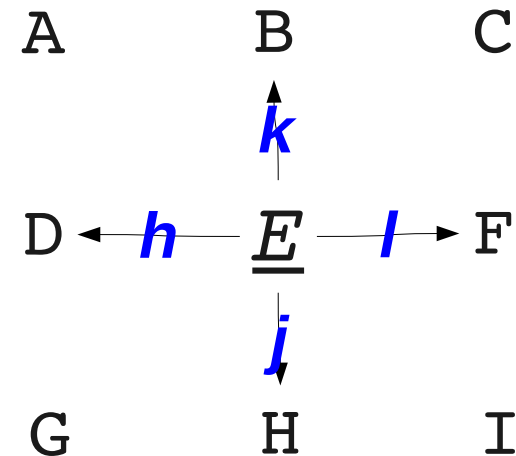
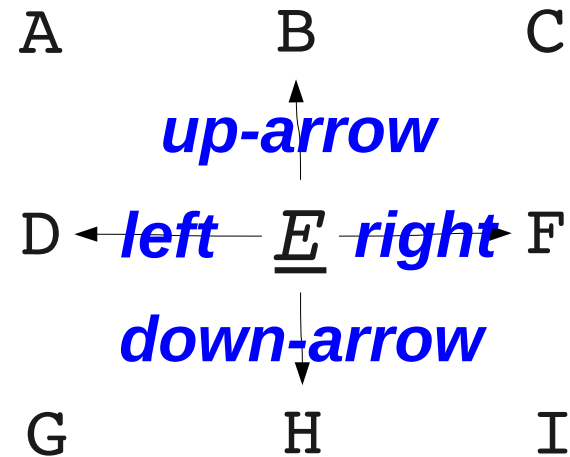
- **Abbreviation-based:**
 - **c** = change, **i** = insert, **r** = replace, **a** = append, *etc.*
- **Little letters** do one thing, **big letters** do something similar but different
 - **little-w**: advance one word (punctuation)
 - **Big-W**: advance one word (whitespace)
 - **little-i**: insert where you are
 - **Big-I**: insert at beginning of line
- Misc:
 - **0** (the digit): the beginning (first of the Natural Numbers)
 - **\$**: the end (end-of-string marker in some languages like Perl)

How do all these modes work?



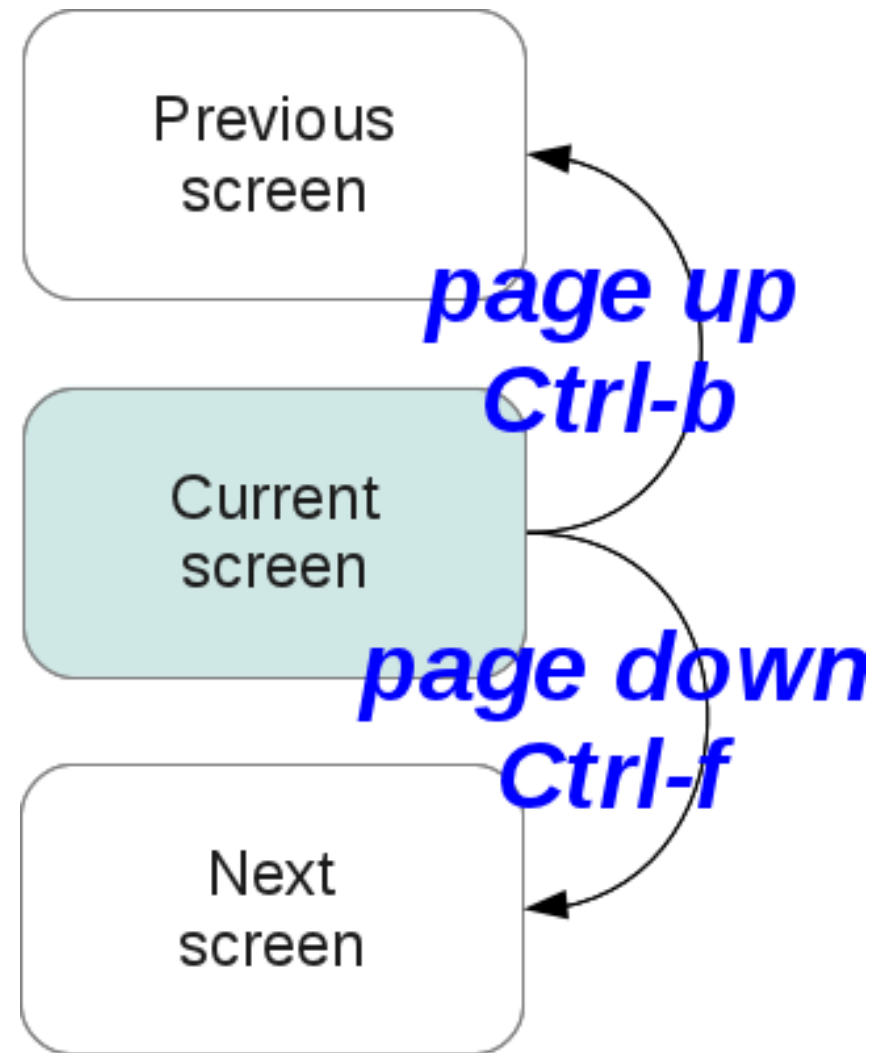
Moving-around mode: adjacent chars

- Of course, the keys let you move *left*, *down*, *up*, *right*.
- So do the keys *h*(left), *j*(down), *k*(up), *l*(right).



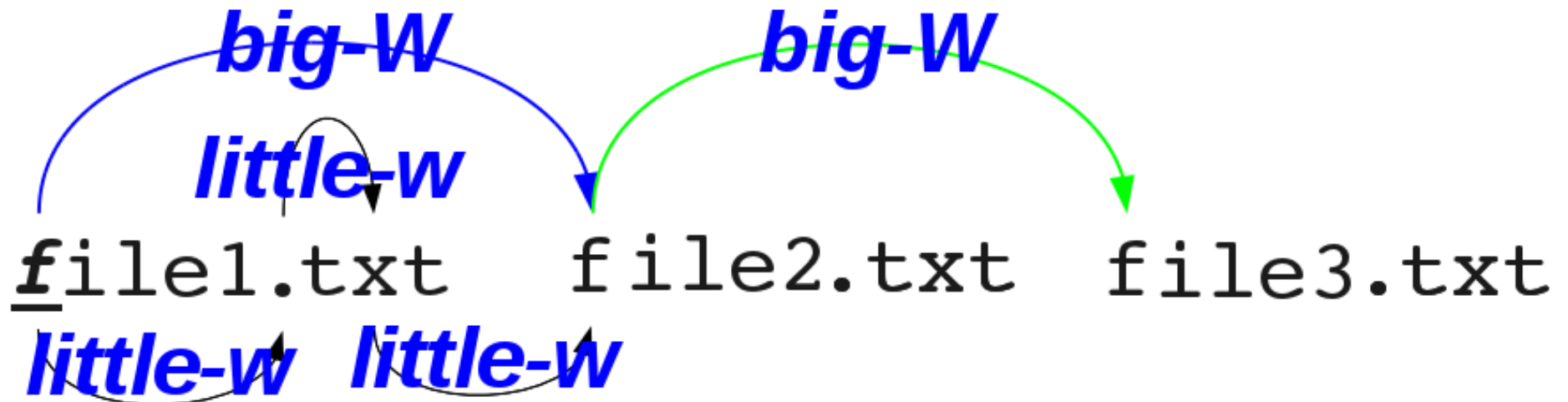
Moving-around mode: Page up, page down

- **Page-Up** works
- So does **Ctrl-b** (“back”)
- **Page-Dn** works
- So does **Ctrl-f** (“forward”)



Moving-around mode: Next word, previous word

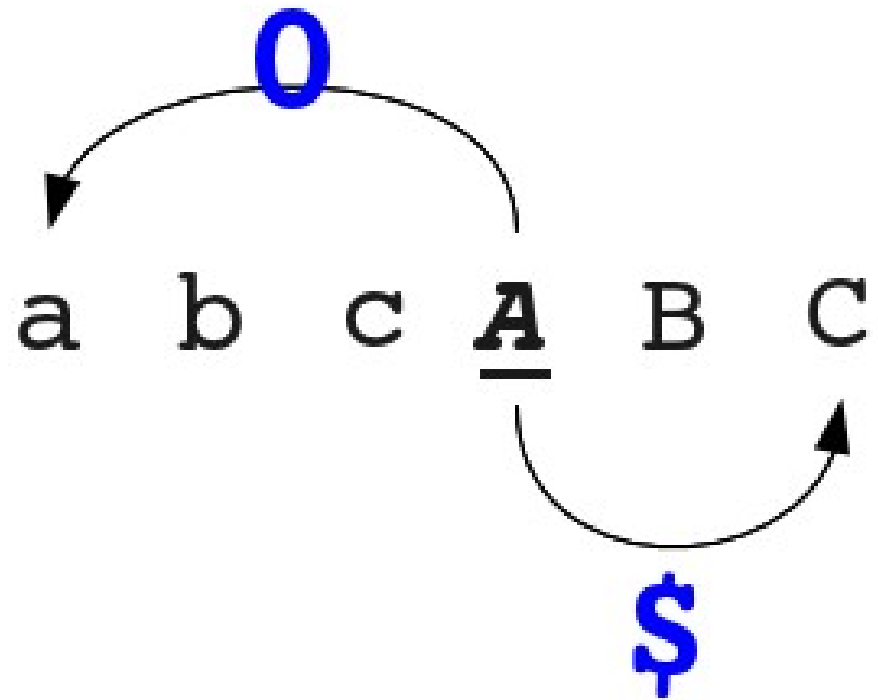
- **little-w**: move to next word (punctuation)
- **Big-W**: move to next word (whitespace)
- **little-b**: move **back** to prev word (punctuation)
- **Big-B**: move **back** to prev word (whitespace)



Moving-around mode:

First char of line, last char of line

- **0**: (the digit) takes you to the beginning of the line
 - “0” as in “the first of the Natural numbers”
- **\$**: takes you to the end
 - “\$” sometimes marks the end of strings (e.g. Perl)



Moving around: General

- **:<number><enter>**: Go to line numbered <number>
- **:0<enter>**: Go to first line
- **:\$<enter>**: Go to last line
- **[[**: Go back to previous top-level function.
- **]]**: Go forward to next top-level function.

Moving-around mode: Deleting

- **dl** (“delete-letter”): deletes current letter
 - **x**: also deletes current letter
- **dw**, **dW**: delete rest of word from cursor
- **dd**: delete current line
 - **d0**: on current line delete from beginning to cursor
 - **d\$**: on current line delete from cursor to end
- **u** (“undo”): when back in move-around mode, undo previous delete

Moving-around mode: Replacing and Joining:

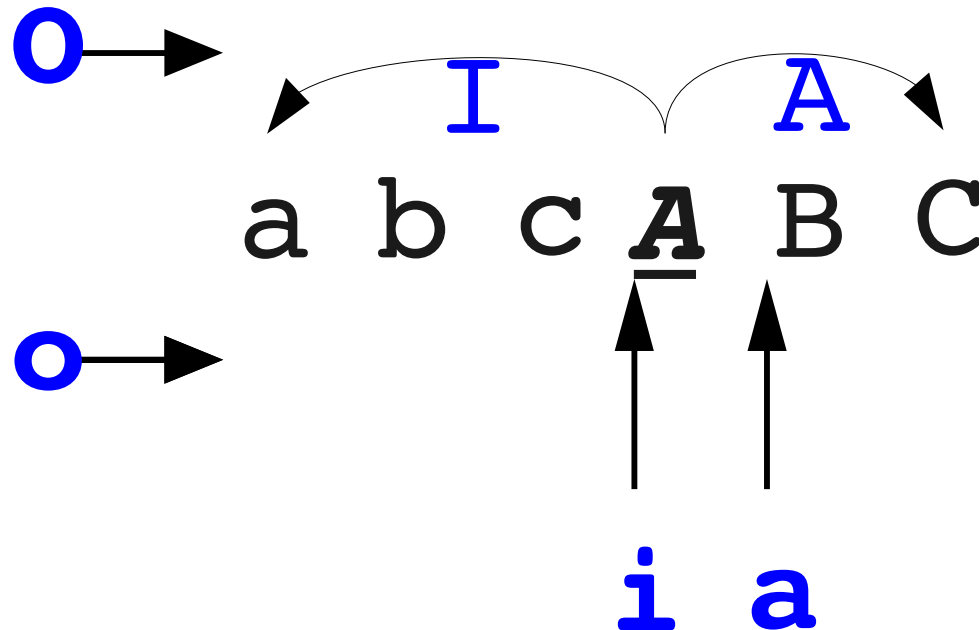
- ***r***: ***Replace*** the current char (no need for ***Esc***)
- ***R***: ***Replace*** chars starting from the current until press ***Esc***.
- ***J***: ***Join*** this line with the next by placing the next line at the end of the current one.

Moving-around mode: Changing

- ***cl***: change (i.e. delete) current letter, stay in insert mode until press ***Esc***.
- ***cc***: change (i.e. delete and retype) current line until press ***Esc***.
- ***c0***: change (i.e. delete) current line from beginning to cursor, stay in insert mode until press ***Esc***.
- ***c\$***: change (i.e. delete) current line from beginning to cursor, stay in insert mode until press ***Esc***.

Editing mode, entering


- **little-i**: insert where you are
- **little-a** (append): insert after cursor
- **little-o**: create new line after and insert there
- **Big-I**: insert at beginning of line
- **Big-A**: append at end of line
- **Big-o**: create new line before and insert there



Editing mode, inside

- Whatever you type is entered into document
- **Backspace** and **Delete** keys remove text
- (Cursor was at A, typed “**i**” then “**123**”)

a b c **1** **2** **3** **A** B C



Editing mode, leaving

- ***Esc***: leaves editing mode
 - Goes back to moving-around mode
- ***u*** (“undo”): Once back in moving-around mode, undo previous editing

Cutting and pasting

- ***yy***: “yanks” current line into buffer
- ***p*** (little): “pastes” it at line below
- ***P*** (big): “pastes” it at line above

Cool stuff

- **u**: Undo (you know this already)
- **.** (period): Do the most recent insertion or deletion again.
- **<number><command>**: Do **<command>** **<number>** times:
 - **4w**: “Go forward 4 words”
 - **4yy**: “Yank 4 lines into buffer”
 - **6x**: “Delete the next 6 characters”
- **Ctrl-G**: Tells current filename, line number and total number of lines

Search:

- Basic search:
 - **/**: Brings you to bottom line (command line) and lets you enter text for which to search (forward)
 - **?**: Same thing, but searches backwards
 - After the search you're back in move-around mode
- Do it again!
 - **n**: in move-around mode, search for the next match
 - **N**: in move-around mode, go back to the previous match
- Misc.
 - Pressed **/** or **?** accidentally? Just press backspace

Commands

- Except for “**zz**”, all commands begin with “**:**”

Command	Description
:e <filename>	Stop editing current file and start editing file <filename>
:n	Get the next file to edit on the command line
:r <filename>	Insert file <filename> into current file
:w	Save (“write”) current file
:w <filename>	Save (“write”) current file as <filename>
:w!	<i>“I don't care that it is write-protected, write it!”</i>
:q	Exit (“quit”) the editor
:q!	<i>“I don't care that I didn't save, quit!”</i>
:wq or zz	Save and then immediately quit

“But wait, there's more!”

- More sophisticated commands to:
 - Access multiple yank-buffers
 - Write specific lines only
- Try the following tutorial: “***vimtutor***”
- Type “***vi commands***” into your favorite web browser!