

Ashesi University College
Networks and Distributed Computing LAB
Year IV,
VI Editor

Objective: Part I: to be able edit, compile and execute an program (on a remote server), while learning a common unix editor.

{Where this is going: Part II: creation and execution of shell script; Part III: sockets programming}

The vi editor is the ‘notepad’ of the unix world. Other editors are emacs and joe, pico and nano. (Explore that on your own, the last 2, if available are particularly easy to use)

Overview: Type vi <filename> to create or edit a file. There are two modes of operation. The Command mode and the edit mode. In the edit mode, can enter text. In the command mode, every character is a command (and commands are case sensitive). By default, vi opens in the command mode. Press ESC at any time to enter command mode. Press i to go to insert/edit mode. Type away. To save, press ESC :w (ie escape, then colon, then w). This will save the file. To exit, press ESC :q If you are already in the command mode, you do not need to press an additional ESC.

Starting, saving, exiting

vi filename edit filename starting at line 1
:x<Return> quit vi, writing out modified file to file named in original invocation
:wq<Return> quit vi, writing out modified file to file named in original invocation
:q<Return> quit (or exit) vi
:q!<Return> quit vi even though latest changes have not been saved for this vi call

Navigation

0 (zero) move cursor to start of current line (the one with the cursor)
\$ move cursor to end of current line
w move cursor to beginning of next word
b move cursor back to beginning of preceding word
:0<Return> or 1G move cursor to first line in file
:n<Return> or nG move cursor to line n
:\$<Return> or G move cursor to last line in file

u **UNDO WHATEVER YOU JUST DID;** a simple toggle
(dot) repeat last command
U undoes all commands on one line
xp deletes first character and inserts after
second (swap)
J join current line with the next line
^G display current line number
% if at one parenthesis, will jump to its mate

i insert text before cursor, until <Esc> hit
I insert text at beginning of current line, until <Esc> hit
a append text after cursor, until <Esc> hit
A append text to end of current line, until <Esc> hit
o open and put text in a new line below current line, until <Esc> hit
O open and put text in a new line above current line, until <Esc> hit

copying and pasting

r replace single character under cursor (no <Esc> needed)
x delete single character under cursor
Nx delete N characters, starting with character under cursor
dw delete the single word beginning with character under cursor
dNw delete N words beginning with character under cursor;

e.g., d5w deletes 5 words

D delete the remainder of the line, starting with current cursor position

dd delete entire current line

Ndd or dNd delete N lines, beginning with the current line;

e.g., 5dd deletes 5 lines

yy copy (yank, cut) the current line into the buffer

Nyy or yNy copy (yank, cut) the next N lines, including the current line, into the buffer

p put (paste) the line(s) in the buffer into the text after the current line

searching

/string search forward for occurrence of string in text

?string search backward for occurrence of string in text

n move to next occurrence of search string

N move to next occurrence of search string in opposite direction

saving files

:r filename<Return> read file named filename and insert after current line
(the line with cursor)

:w<Return> write current contents to file named in original vi call

:w newfile<Return> write current contents to a new file named newfile

:w! prevfile<Return> write current contents over a pre-existing file named prevfile

indenting:

<< Shifts the current line to the left by one shift width.

>> Shifts the current line to the right by one shift width.

buffers: (36buffers)

"mdd uses the buffer m, and the last two characters stand for delete current line.

"mp pastes the contents of buffer m after the current cursor position

Refs:

<http://www.cs.colostate.edu/helpdocs/vi.html>

<http://www.cs.rit.edu/~cslab/vi.html>

<http://www.eng.hawaii.edu/Tutor/vi.html>

LAB:

Using the vi editor, write a simple Java, C, or C++ program that simply displays an output like this:

```
*****
*****
*****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****      Networks!                     ****
****      <username>                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
*****
*****
```

To compile a C program: if the file is named file.c, compile as

gcc file.c

To compile a C++ program named file.cpp, compile as *g++ file.cpp*

Note that the output in both cases is a.out. Run it as *./a.out*

(endeavor to try it out)

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