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# How to Use the vi Editor*

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The vi editor is available on almost all Unix systems. vi can be used from any type of terminal because it does not depend on arrow keys and function keys--it uses the standard alphabetic keys for commands.

vi (pronounced "vee-eye") is short for "vi"sual editor. It displays a window into the file being edited that shows 24 lines of text. vi is a text editor, not a "what you see is what you get" word processor. vi lets you add, change, and delete text, but does not provide such formatting capabilities as centering lines or indenting paragraphs.

This help note explains the basics of vi:

- opening and closing a file
- moving around in a file
- elementary editing

vi has many other commands and options not described here. The following resources can help you get started using the vi editor, and are available at the UW University Book Store:

- "vi Tutorial." Specialized Systems Consultants (SSC).
- "vi Reference." Specialized Systems Consultants (SSC).
- "Learning the vi Editor." Linda Lamb, 1990.

## Starting vi

You may use vi to open an already existing file by typing

        vi filename

where "filename" is the name of the existing file. If the file is not in your current directory, you must use the full pathname.

Or you may create a new file by typing

        vi newname

where "newname" is the name you wish to give the new file.

To open a new file called "testvi," enter

```
vi testvi
```

On-screen, you will see blank lines, each with a tilde (~) at the left, and a line at the bottom giving the name and status of the new file:

~

```
"testvi" [New file]
```

# vi Modes

vi has two modes:

- command mode
- insert mode

In command mode, the letters of the keyboard perform editing functions (like moving the cursor, deleting text, etc.). To enter command mode, press the escape <Esc> key.

In insert mode, the letters you type form words and sentences. Unlike many word processors, vi starts up in command mode.

# Entering Text

In order to begin entering text in this empty file, you must change from command mode to insert mode. To do this, type

```
i
```

Nothing appears to change, but you are now in insert mode and can begin typing text. In general, vi's commands do not display on the screen and do not require the Return key to be pressed.

Type a few short lines and press <Return> at the end of each line. If you type a long line, you will notice the vi does not word wrap, it merely breaks the line unceremoniously at the edge of the screen.

If you make a mistake, pressing <Backspace> or <Delete> may remove the error, depending on your terminal type.

# Moving the Cursor

To move the cursor to another position, you must be in command mode. If you have just finished typing text, you are still in insert mode. Go back to command mode by pressing <Esc>. If you are not sure which mode you are in, press <Esc> once or twice until you hear a beep. When you hear the beep, you are in command mode.

The cursor is controlled with four keys: h, j, k, l.

```
Key         Cursor Movement
---         ---------------

h           left one space
j           down one line
k           up one line
l           right one space
```

When you have gone as far as possible in one direction, the cursor stops moving and you hear a beep. For example, you cannot use l to move right and wrap around to the next line, you must use j to move down a line. See the section entitled "Moving Around in a File" for ways to move more quickly through a file.

# Basic Editing

Editing commands require that you be command mode. Many of the editing commands have a different function depending on whether they are typed as upper- or lowercase. Often, editing commands can be preceded by a number to indicate a repetition of the command.

# Deleting Characters

To delete a character from a file, move the cursor until it is on the incorrect letter, then type

```
x
```

The character under the cursor disappears. To remove four characters (the one under the cursor and the next three) type

```
4x
```

To delete the character before the cursor, type

```
X (uppercase)
```

# Deleting Words

To delete a word, move the cursor to the first letter of the word, and type

```
dw
```

This command deletes the word and the space following it.

To delete three words type

```
3dw
```

# Deleting Lines

To delete a whole line, type

```
dd
```

The cursor does not have to be at the beginning of the line. Typing dd deletes the entire line containing the cursor and places the cursor at the start of the next line. To delete two lines, type

```
2dd
```

To delete from the cursor position to the end of the line, type

```
D (uppercase)
```

# Replacing Characters

To replace one character with another:

1. Move the cursor to the character to be replaced.
2. Type r
3. Type the replacement character.

The new character will appear, and you will still be in command mode.

# Replacing Words

To replace one word with another, move to the start of the incorrect word and type

```
cw
```

The last letter of the word to be replaced will turn into a $. You are now in insert mode and may type the replacement. The new text does not need to be the same length as the original. Press <Esc> to get back to command mode. To replace three words, type

```
3cw
```

# Replacing Lines

To change text from the cursor position to the end of the line:

1. Type C (uppercase).
2. Type the replacement text.
3. Press <Esc>.

# Inserting Text

To insert text in a line:

1. Position the cursor where the new text should go.

2. Type i
3. Enter the new text.

The text is inserted BEFORE the cursor.

4. Press <Esc> to get back to command mode.

# Appending Text

To add text to the end of a line:

1. Position the cursor on the last letter of the line.
2. Type a
3. Enter the new text.

This adds text AFTER the cursor.

4. Press <Esc> to get back to command mode.

# Opening a Blank Line

To insert a blank line below the current line, type

- (lowercase)

To insert a blank line above the current line, type

```
O (uppercase)
```

# Joining Lines

To join two lines together:

1. Put the cursor on the first line to be joined.
2. Type J

To join three lines together:

1. Put the cursor on the first line to be joined.
2. Type 3J

# Undoing

To undo your most recent edit, type

```
u
```

To undo all the edits on a single line, type

```
U (uppercase)
```

Undoing all edits on a single line only works as long as the cursor stays on that line. Once you move the cursor off a line, you cannot use U to restore the line.

# Moving Around in a File

There are shortcuts to move more quickly though a file. All these work in command mode.

```
Key             Movement
---             --------

w               forward word by word
b               backward word by word
$               to end of line
0 (zero)        to beginning of line
H               to top line of screen
M               to middle line of screen
L               to last line of screen
G               to last line of file
1G              to first line of file
<Control>f      scroll forward one screen
<Control>b      scroll backward one screen
<Control>d      scroll down one-half screen
<Control>u      scroll up one-half screen
```

# Moving by Searching

To move quickly by searching for text, while in command mode:

1. Type / (slash).
2. Enter the text to search for.
3. Press <Return>.

The cursor moves to the first occurrence of that text.

To repeat the search in a forward direction, type

```
n
```

To repeat the search in a backward direction, type

```
N
```

# Closing and Saving a File

With vi, you edit a copy of the file, rather than the original file. Changes are made to the original only when

you save your edits.

To save the file and quit vi, type

```
ZZ
```

The vi editor editor is built on an earler Unix text editor called ex. ex commands can be used within vi. ex commands begin with a : (colon) and end with a <Return>. The command is displayed on the status line as you type. Some ex commands are useful when saving and closing files.

To save the edits you have made, but leave vi running and your file open:

1. Press <Esc>.
2. Type :w
3. Press <Return>.

To quit vi, and discard any changes your have made since last saving:

1. Press <Esc>.
2. Type :q!
3. Press <Return>.

# Command Summary

STARTING vi

```
vi filename     edit a file named "filename"
vi newfile      create a new file named "newfile"
```

ENTERING TEXT

```
i               insert text left of cursor
a               append text right of cursor
```

MOVING THE CURSOR

```
h               left one space
j               down one line
k               up one line
l               right one space
```

BASIC EDITING

```
x          delete character
nx         delete n characters
X          delete character before cursor
dw         delete word
ndw        delete n words
dd         delete line
ndd        delete n lines
D          delete characters from cursor to end of line
```

```
r          replace character under cursor
cw         replace a word
ncw        replace n words
C          change text from cursor to end of line
o          insert blank line below cursor
                (ready for insertion)
O          insert blank line above cursor
                (ready for insertion)
J          join succeeding line to current cursor line
nJ         join n succeeding lines to current cursor line
u          undo last change
U          restore current line
```

## MOVING AROUND IN A FILE

```
w          forward word by word
b          backward word by word
$          to end of line
0 (zero)   to beginning of line
H          to top line of screen
M          to middle line of screen
L          to last line of screen
G          to last line of file
1G         to first line of file
<Control>f scroll forward one screen
<Control>b scroll backward one screen
<Control>d scroll down one-half screen
<Control>u scroll up one-half screen
n          repeat last search in same direction
N          repeat last search in opposite direction
```

## CLOSING AND SAVING A FILE

```
ZZ          save file and then quit
:w          save file
:q!          discard changes and quit file
```