CSCI 211
UNIX Lab

Text Editor - Vi

Dr. Jiang Li

Jiang Li, Ph.D.
Department of Computer Science

Basics of vi Editor

- `vi` – A non-GUI *text editor* in Linux
  - It's designed to be small and simple
  - Like "notepad" on Windows, `vi` is a popular software for creating/editing **plain text** file on Linux

- A text file may hold one or more lines of text.
  - "one line of text": the end is marked by the invisible character "\n"
  - Sometimes, a line may appear as a paragraph of multiple lines on the screen (e.g., a lengthy line on a small screen), which can confuse the reader.

Three Different Modes in `vi`

- Vi can be in one of 3 modes
    - (a) **Edit mode**, (b) **Input mode**, and (c) **Command mode**
    - We have to press certain key(s) to switch between modes.
    - ***Right after opening a file or being invoked,*** Vi is in the *Edit* mode.
- Edit mode (*press <ESC> to enter this mode*)
    - Move cursor, delete, copy, paste, search, replace patterns
- Input mode (*press a/i/o/R to enter this mode*)
    - Enter/Edit text
- Command mode (*press <:> to enter this mode*)
    - Save, configure environment, get help, exit

How to move the cursor?

- Must be in *edit mode* (by pressing the <ESC> key)
- **h**/**j**/**k**/**l**: move to left/down/up/right by one char
  - You can also use arrow keys to achieve this
- **b**/**w**: move to the beginning of the previous/next word
- **0**/**$**: move to the beginning/end of the line
- **H**/**L**: move to the beginning/end of the current screen
- **Ctrl-b**/**Ctrl-f**: show the previous/next screen
- n**G**: move to the beginning of the n-th line
  - e.g.: 3G, move to the 3rd line of the text
- **G**: move to the end of the file.

HOWARD
UNIVERSITY

Copy and Paste

- Must be in **edit mode** (by typing <ESC>)

- Copy (yank)
  - **yy**: copy one line at the cursor
  - n**yy**: copy the **n lines** from the current line
  - n**yw**: copy the n word(s) starting at the cursor
  - **y0:** copy everything from the beginning of the line to the cursor
  - **y$:** copy everything from the cursor to the end of the line
  - **y**n**G**: copy everything from *n-th line* to the current line
  - **yG**: copy everything from the current line to the end

- Paste
  - **p**: paste the copied content at the cursor (or **under** the current line if one or more lines were copied)
  - **P**: paste the copied content before the cursor (or **above** the current line if one or more lines were copied)

Jiang Li, Ph.D.
Department of Computer Science

Delete Some Text

- **Operations in edit mode**
  - **x**: delete one character at the cursor
  - n**x**: delete *n* characters starting at the cursor
  - **dw:** delete one word at the cursor
  - n**dw:** delete *n* words starting at the cursor
  - **dd**: delete one line at the cursor
  - n**dd**: delete *n* lines starting at the cursor
  - **d0:** delete everything from the beginning of the line to the cursor
  - **d$:** delete everything from the cursor to the end of the line
  - **d**n**G**: delete everything from *n-th* line to the current line
  - **dG**: delete everything from the current line to the end

Undo/Redo

- Must be in **edit mode** (by pressing the <ESC> key)

- **u**: undo the previous action

- **Ctrl-r**: redo the previous action

Input Text

- Input mode
  - Used to input/modify/delete the content of text
  - `vi` is in edit mode at the beginning

- Switch to **input mode** to input/modify text
  - **a**: insert text after the cursor
  - **i**: insert text at the cursor
  - **o**: insert text under the current line
  - **cw**: delete the word at the cursor and insert text
  - **R**: replace character at the cursor

You should see
-- INSERT --
in the status line

You should see
-- REPLACE --
in the status line

- Delete character in input mode
  - Press `<Delete>` or `<Backspace>` key

- Exit the input mode, press `<ESC>` key

How to search a string?

- Must be in **edit mode** (by typing <ESC>)
- **/**string: Search forward for string
- **?**string: Search backward for string
  - Matched strings will be highlighted
- **n**: move cursor to the next matched string
- **N**: move cursor to the previous matched string

Replace All Instances of a string

- Must be in **command mode** (by typing `<ESC>` and then **:**)

- **n,m s/**original**/**replacement**/g**
  - Replace all original with replacement from n-th line to m-th line, case sensitive.

- **n,m s/**original**/**replacement**/ig**
  - Replace all original with replacement from n-th line to m-th line, case insensitive.

- **1,$ s/**original**/**replacement**/g**

- **1,$ s/**original**/**replacement**/ig**
  - Replace across the whole file.

Jiang Li, Ph.D.
Department of Computer Science

Save and Quit

- Must be in **command mode** (by typing `<ESC>` and then **:**)

- **w**: Save the file

- **q**: Quit

- **wq**: Save and quit

- **q!**: Quit without saving

HOWARD
UNIVERSITY

Cache File

- When 'filename' is being edited
  - A cache file named '.filename.swp' is automatically created,
  - and removed automatically at exit.

- If cache file was not removed for some reason
  - Remove it manually before opening the file.

```
E325: ATTENTION
Found a swap file by the name ".t.swp"
          owned by: csci    dated: Mon Mar 28 16:22:53 2016
          [cannot be read]
While opening file "t"

(1)  Another program may be editing the same file.
     If this is the case, be careful not to end up with two
     different instances of the same file when making changes.
     Quit, or continue with caution.

(2)  An edit session for this file crashed.
     If this is the case, use ":recover" or "vim -r t"
     to recover the changes (see ":help recovery").
     If you did this already, delete the swap file ".t.swp"
     to avoid this message.

Swap file ".t.swp" already exists!
[O]pen Read-Only, (E)dit anyway, (R)ecover, (Q)uit, (A)bort, (D)elete it:
```

Jiang Li, Ph.D.
Department of Computer Science

HOWARD
UNIVERSITY