Review

- ***notes #2***

1. Unix account
2. Login: with a terminal or using telnet or ssh
3. Change password
4. Must logout!
5. Emails: (a) mutt (b) pine (c) .forward file
6. Basic commands: who, ls, cat, more, man

Unix Editors

Unix Editors

- Editors in Unix come in two general flavours:
  - modal editors have "modes"
    - generally input mode and command mode
      - input mode allows entry of text
      - command mode allows positioning within the file and more sophisticated text modification
    - primary Unix examples: ed and vi
  - modeless editors (or WYSIWYG: What You See Is What You Get) have only one mode
    - positioning and text manipulation are done by special key sequences (like arrow keys and function keys)
      - could also be done by mouse actions or menus
    - primary Unix examples: emacs or pico

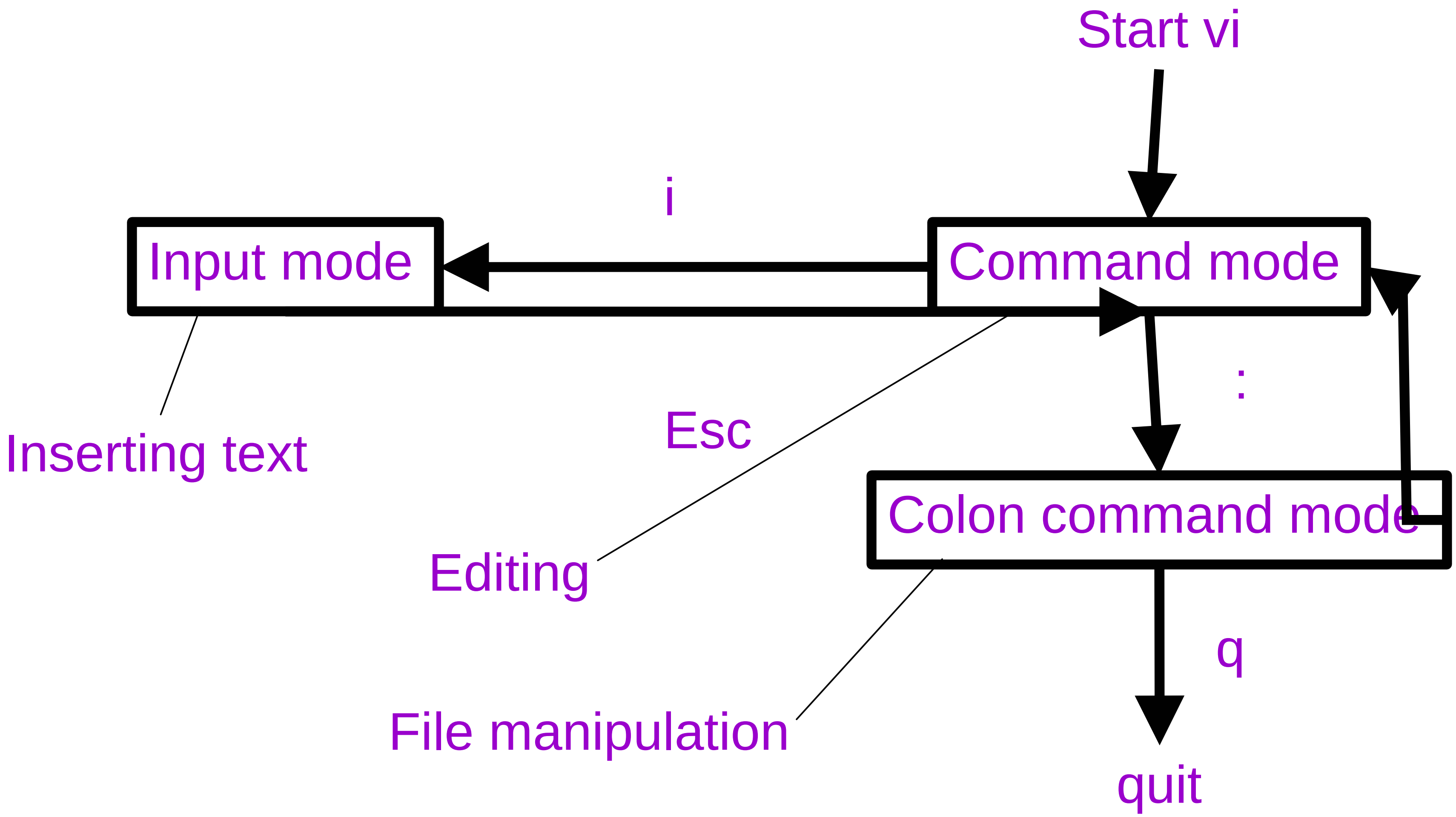
ed

- ed is the original line editor
- Still one of the most powerful editors available
  - Isn't a screen editor so people dislike it
    - It doesn't give you a “local” or screen picture of what is in your file
  - Ability to make massive changes with one command
- We will meet its power base later:

  regular expressions
- Many of its capabilities have been incorporated into newer editors like vi and emacs

vi (1)

- Developed by UCB and comes with all versions of Unix.
- Difficult to use, but very fast for experienced users.
- Has three modes:



vi (2)

- Starting vi

```
obelix[21] > vi filename
```

- Several basic commands

arrow keys	move the cursor
x	delete the current character
dd	delete the current line
u	undo the change
/	search for the text following /
i	change to input mode
esc	go to command mode
:w	write to file
:wq	save and quit
:q	quit (if no change after the last saving)
:q!	exit without save

vi (3)

Cursor Movement

- h move one char left
- j move one line down
- k move one line up
- l move one char right

- w move to next word
- e move to end of current word
- b move to beginning of previous word
- 0 move to the beginning of the current line
- $ move to the end of the current line

Screen Movement

- H move to top of screen
- L move to bottom of screen
- ^F scroll down one page
- ^B scroll up one page
- ^U scroll up one half page
- ^D scroll down one half page

Search

- / search for something
- ? search backwards for something

Adding Text

- o (O) opens new line below (above) the current line
- i (I) inserts text before current char (beginning of line)
- a (A) appends text after current char (end of line)

vi (4)

Deletion Commands

- x delete character under cursor
- D delete to end of line
- dd delete entire line
- d$ delete to end of line
- d0 delete to beginning of line
- dw delete the next word
- db delete the previous word

Other Commands

- . redo last modification command
- u undo the last command
- :w file write the buffer to this file
- :r file read this file into the buffer

Change Commands

- s substitute a string for current char (end with ESC)
- r replace current char with another
- R overwrite text (end with ESC)
- C replace to end of current line (end with ESC)
- c0 replace to beginning of current line (end with ESC)
- cw replace the current word (end with ESC)
- cb replace the previous word (end with ESC)

emacs (1)

- Emacs: (Editor MACroS)
  - developed by Richard Stallman and James Gosling amongst many others
  - modeless
  - has versions for Unix, Windows, and other systems
  - menu-driven and mouse-driven under X-windows
  - to avoid using X-windows (for instance in a terminal)
    - **`emacs –nw …`**
- Emacs uses special keys (ESC and CTRL) to perform editor functions other than input
- This editor can do <u>everything</u>
  - Contains a complete programming language (a LISP interpreter) which can be used to write functions for use in the editor

emacs (2)

- Key combination: a sequence of (special) keys
  - C-x "Control X"
    - Hold down Control key while typing x.
  - C-x C-c
    - Hold down Control key while typing x and c.
    - Or hold down control key while typing x, then release, then hold down control while typing c.
  - C-x u
    - Hold down the Control key, keep it down while typing x. Release the Control key and type u.
  - ESC x "Escape x" or "Meta x"
    - What always works:
      - Type the Escape key. Release. Type x.
    - What sometimes works (and is convenient):
      - Hold down the Alt key and x key at the same time

emacs (3)

- Starting Emacs on a file:

```
obelix[23]% emacs myfile
```

  - myfile is either a new or existing filename.
- The following happen:
  - If the filename you typed was an existing file, you will see the first page of the file on your screen.
  - If you typed a new filename, you will be faced with a blank screen, and you may type the file.
  - The file name will appear at the bottom of the screen.

emacs (4)

- When you encounter problems ...
  - Emacs is a very powerful editor
    - No matter what key combination you press, it probably does something!
    - Sometimes it does something you didn't want!
  - UNDO
    - To undo last operation: Ctrl-_ (Control & underscore)
    - You can also use: Ctrl-x u
    - Can be repeated to keep undoing operations
  - Cancel
    - If you get to a mode which you don't want
      - e.g: you typed Ctrl-x and emacs expects more
    - Type Ctrl-g
      - It will usually back you out of almost anything

emacs (5)

Cursor Movement

- Arrow keys move the cursor around screen.
- Alternatively, use:
  - Ctrl-f Forward a character (Right)
  - Ctrl-b Back a character (Left)
  - Ctrl-n Next line (Down)
  - Ctrl-p Previous line (Up)

Other Movements:

- Ctrl-a Beginning of line.
- Ctrl-e End of line.
- Ctrl-v View next screen.
- ESC v View previous screen.
- ESC < Start of file.
- ESC > End of file.
- ESC f Forward a word.
- ESC b Back a word.
- ESC x goto-line Goes to a given line number.

emacs (6)

Cut and Paste

- To move a block of text

  Move cursor to start of block

  Ctrl-@ Set mark

  Move cursor to end of block.

  Ctrl-w Wipe out (Cut)

  ESC w Copy.

  Move cursor to new location

  Ctrl-y Yank back last thing killed (Paste).

  - The Ctrl-y may be repeated for multiple copies.

Text Deletion

- Backspace
  - Kill character before cursor
- C-k
  - Kill line - deletes to end of line.
- C-d
  - Delete character at cursor
- ESC d
  - Delete next word.
- C-x u Undo last change.
  - Repeat to undo as many changes as you wish.
- ESC x revert-buffer
  - Undo all changes since last save.

emacs (7)

Save / Exit

- Ctrl-x Ctrl-s
  - Save file (over-write original)
- Ctrl-x Ctrl-c
  - Exit from emacs.
- Ctrl-x Ctrl-w
  - Save in different file
  - You are prompted for name

Emacs creates extra files.

- When you save using Ctrl-x Ctrl-s, the old file will be kept as filename~.
- If you exit without saving, the modified unsaved file will be saved as #filename#.

Other Commands

- Check spelling
  - Type ESC $

    Check spelling of 1 word.
  - ESC x spell-buffer or
    ESC x ispell-buffer

    Check spelling of file.
- Insert a file
  - Ctrl-x i

    Insert a file at current cursor position.
- Reformat regions
  - ESC q Reformat paragraph
  - To reformat a region:

    Move cursor to start of block.

    Ctrl-@

    Move cursor to end of block.

    ESC q

emacs (8)

Searching

- Search allows you to search for a string
- Search from the cursor position to the end of file.
- To search for a string, type

  Ctrl-s string

  - Ctrl-s again repeats
  - Ctrl-g to quit

Search and Replace

- Replace all occurrences of one string with another
  - ESC x replace-string
    - you are prompted for the replacement text
- Query-replace asks before replacing each occurrence.
  - Type: ESC %
  - you are prompted for search & replace strings.
- At each occurrence, respond:
  - y/n to replace/not replace.
  - ! to replace all remaining
  - ESC to exit
  - ? for lots more options

Pico

- pico is the PIne COmposer
  - the text editor used in the University of Washington’s popular pine e-mail program
- pico is a modeless editor like emacs
  - always in “insert” mode
  - command keys available are always listed at the bottom of the screen
  - examples:

Ctrl-g	Gets help
Ctrl-r	Reads a file
Ctrl-o	Writes a file
Ctrl-x	Exits pico

Exercise 1

- Use vi or emacs to edit a **.plan** file in your “home directory”.
  - **`finger your_usr_name`**
  - Or **`/usr/bin/finger –l your_usr_name`**