Optimize your Engineering Life
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Outline

General

Meta-optimizations
Outline

General
  Mouse Selection
  Bash
  - Jobs
  - Directory stack
  - History
  - Editor mode
    Vim
    Screen

Meta-optimizations
Selecting Using the Mouse

To select multiple words:

Double-click to select a word
Drag to extend the selection (word-at-a-time)

To select multiple lines:

Triple-click to select a line
Drag to extend the selection (line-at-a-time)

Editing code: to move one or more lines:

Triple-click select and cut
Move to beginning of the desired paste line
Paste

Bonus: Don’t delete selected text before typing
Job Handling in Bash

Run command in background
  command &
List background and suspended jobs
  jobs
Suspend foreground job
  <Ctrl-Z>
Put current suspended job in background
  bg
Bring background job to foreground
  %job_number
Directory Stack

Change directories and push onto stack
- `pushd dirName`

Pop current directory off stack
- `popd`

Swap top two directories
- `pushd`

List directories
- `dirs`

Switch to last directory you were in (doesn’t use the stack)
- `cd -`

Show contents of top two directories
- `ls ~1 ~2`
History

Show last 20 commands
  history 20
Rerun last command
  !!
Rerun command with given number
  !command_number
Rerun last command beginning with prefix
  !bla
Rerun last command containing string
  !?bla
Run last command substituting foo for bar
  ^foo^bar

Rerun last command substituting all instances of foo with bar
  !!:gs/bar/foo

List (don’t run) last command starting with foo
  !foo:p

Last parameter of last command
  !$

All parameters of last command
  !*
Add to ~/.bashrc

    set -o vi

Enter vi mode

    <ESC>

Within vi mode:

    Use vi commands (f, ^, $, i, …)

Exit vi mode:

    <ESC> (or <return> to execute command)
Screen

Window manager in terminal window

Create new screen session
  `screen`

Restore existing screen session
  `screen -r`

Create new screen
  `<Ctrl-A>`c

Switch screens
  `<Ctrl-A>`p

Enter/exit scrollback mode
  `<Ctrl-A>`<ESC>

Help
  `<Ctrl-A>`?
Outline

General

Meta-optimizations
Meta-optimizations

Learn your tools

Become {bash, vim, emacs, Eclipse, ...}-savvy

Keep notes

~/notebook

Performance curve when learning:

Learning is an investment: pay some immediate productivity for increased future productivity
Increase the amount of work done

\[
\frac{\text{work done}}{\text{lifetime}} = \frac{\text{work done}}{\text{keystroke}} \times \frac{\text{keystroke}}{\text{lifetime}}
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Become a master of your tools!
Increase the amount of work done

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\]
Increase the number of keystrokes in your lifetime

\[
\text{keystroke} \quad \frac{\text{lifetime}}{\text{lifetime}} = \frac{\text{keystrokes}}{\text{minute}} \times \frac{\text{minutes}}{\text{lifetime}}
\]
Increase the number of keystrokes in your lifetime

\[
\text{keystroke \over \text{lifetime}} = \text{keystrokes \over \text{minute}} \times \text{minutes \over \text{lifetime}}
\]

Option 1: Increase your remaining lifetime

- Vitamin-D
- Fish oil
- Get plenty of sleep
- Exercise regularly, including strength training
- Avoid sugar/carbohydrates
Increase the number of keystrokes in your lifetime

\[
\frac{\text{keystroke}}{\text{lifetime}} \equiv \frac{\text{keystrokes}}{\text{minute}} \times \frac{\text{minutes}}{\text{lifetime}}
\]

Option 1: Increase the frequency of keystrokes

Type faster!
Type faster!

Learn to touch-type in 4 easy steps:

1. Print out keyboard chart
   Chart from http://en.wikipedia.org/wiki/Touch_ttyping

2. Mount chart near your monitor

3. Don’t ever look at your keyboard while typing (if temptation is too great, buy a keyboard with blank keys)

4. Always use the “correct” fingering