Doom Emacs Configuration

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```
fatal: not a git repository (or any of the parent
directories): .git
```

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11:34 *[110]EDT

Contents

Let us change our traditional attitude to the construction of programs: Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do. — Donald Knuth

1 Intro

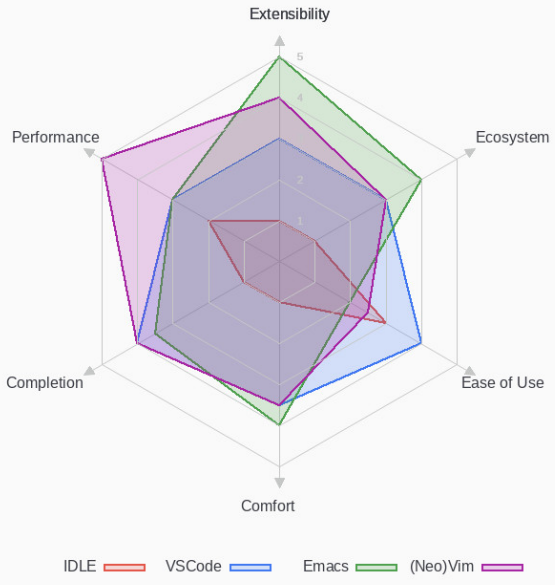
Customizing an editor can be very rewarding … until you have to leave it. For years I have been looking for ways to avoid this pain. Then I discovered vim-anywhere. The issue is

1. I use neovim (and neovide), not vim (and gvim)
2. Firenvim is only for browsers
3. Even if I found a neovim alternative, you can't do everything.

I wanted everything, in one place. Hence why I (mostly) switched to Emacs.

This was enough for me to install Emacs, but there are many other reasons to keep using it.

Editor	Extensibility	Ecosystem	Ease of Use	Comfort	Completion	Performance
IDLE	1	1	3	1	1	2
VSCode	3	3	4	3.5	4	3
Emacs	5	4	2	4	3.5	3
(Neo)Vim	4	3	2.5	3.5	4	5



2 Basic Configuration

Make this file run (slightly) faster with lexical binding

```
;;; config.el -*- lexical-binding: t; -*-
```

I want to run emacs28's new native-compiler with both -O3 and processor specific optimizations, if possible

```
(when 'native-comp-compiler-options
                (setq native-comp-speed 3
                      native-comp-compiler-options '("-O3"
                      ↪  "-march=native" "-mtune=native")))
```

I also don't want to compile my org config every time I make a change. Lets fix that

```
(remove-hook 'org-mode-hook #'+literate-enable-recompile-h)
```

2.1 Personal information

Of course we need to tell emacs who I am

```
(setq user-full-name "Shaurya Singh"
      user-mail-address "shaunsingh0207@gmail.com")
```

2.2 Authinfo

I frequently delete my `~/.emacs.d` for fun, so having authinfo in a seperate file sounds like a good idea

```
(setq auth-sources '("~/.authinfo.gpg")
      auth-source-cache-expiry nil) ; default is 7200 (2h)
```

2.3 Shell

I use the fish shell. If you use zsh/bash, be sure to change this

```
(setq explicit-shell-file-name (executable-find "fish"))
```

2.3.1 Vterm

Vterm is my terminal emulator of choice. We can tell it to use ligatures, and also tell it to compile automatically Vterm clearly wins the terminal war. Also doesn't need much configuration out of the box, although the shell integration does. You can find that in `~/.config/fish/config.fish`

1. Always compile Fixes a weird bug with native-comp

   ```
   (setq vterm-always-compile-module t)
   ```

2. Kill buffer If the process exits, kill the `vterm` buffer

   ```
   (setq vterm-kill-buffer-on-exit t)
   ```

3. Functions Useful functions for the shell-side integration provided by vterm.

   ```
   (after! vterm
     (setf (alist-get "magit-status" vterm-eval-cmds nil nil #'equal)
           '((lambda (path)
               (magit-status path)))))
   ```

4. Ligatures Use ligatures from within vterm (and eshell), we do this by redefining the variable where *not* to show ligatures

   ```
   (setq +ligatures-in-modes t)
   ```

2.4 Fonts

I like the apple fonts for programming, so I'll go with Liga SFMono Nerd Font. I prefer a rounder font for plain text, so I'll go with Overpass for that. I have a retina display as well, so lets keep the fonts light.

```
;;fonts
(setq doom-font (font-spec :family "Liga SFMono Nerd Font" :size 14)
      doom-big-font (font-spec :family "Liga SFMono Nerd Font" :size 20)
      doom-variable-pitch-font (font-spec :family "Overpass" :size 16)
```

```
      doom-unicode-font (font-spec :family "Liga SFMono Nerd Font")
      doom-serif-font (font-spec :family "Liga SFMono Nerd Font" :weight
      ↪  'light))
```

For mixed pitch, I would go with something comfier. I like Alegreya, so lets go with that

```
;;mixed pitch modes
(defvar mixed-pitch-modes '(org-mode LaTeX-mode markdown-mode gfm-mode
↪  Info-mode)
  "Modes that `mixed-pitch-mode' should be enabled in, but only after UI
  ↪  initialisation.")
(defun init-mixed-pitch-h ()
  "Hook `mixed-pitch-mode' into each mode in `mixed-pitch-modes'.
      Also immediately enables `mixed-pitch-modes' if currently in one of
  ↪  the modes."
  (when (memq major-mode mixed-pitch-modes)
    (mixed-pitch-mode 1))
  (dolist (hook mixed-pitch-modes)
    (add-hook (intern (concat (symbol-name hook) "-hook"))
    ↪  #'mixed-pitch-mode)))
(add-hook 'doom-init-ui-hook #'init-mixed-pitch-h)
(add-hook! 'org-mode-hook #'+org-pretty-mode) ;enter mixed pitch mode in
↪  org mode

;;set mixed pitch font
 (after! mixed-pitch
  (defface variable-pitch-serif
    '((t (:family "serif")))
    "A variable-pitch face with serifs."
    :group 'basic-faces)
  (setq mixed-pitch-set-height t)
  (setq variable-pitch-serif-font (font-spec :family "Alegreya" :size
  ↪  16))
  (set-face-attribute 'variable-pitch-serif nil :font
  ↪  variable-pitch-serif-font)
  (defun mixed-pitch-serif-mode (&optional arg)
    "Change the default face of the current buffer to a serifed variable
    ↪  pitch, while keeping some faces fixed pitch."
    (interactive)
    (let ((mixed-pitch-face 'variable-pitch-serif))
      (mixed-pitch-mode (or arg 'toggle)))))
```

Harfbuzz is missing the beautiful ff ffi ffj ffl fft fi fj ft Th ligatures, lets add those back in with the help of composition-function-table

```
(set-char-table-range composition-function-table ?f
↪  '(["\\(?:ff?[fijlt]\\)" 0 font-shape-gstring]))
(set-char-table-range composition-function-table ?T '(["\\(?:Th\\)" 0
↪  font-shape-gstring]))
```

Just in case the fonts aren't there, lets add a fallback

```
(defvar required-fonts '("Overpass" "Liga SFMono Nerd Font" "Alegreya" ))
(defvar available-fonts
  (delete-dups (or (font-family-list)
                   (split-string (shell-command-to-string "fc-list :
                   ↪  family")
                                 "[,\n]"))))
(defvar missing-fonts
  (delq nil (mapcar
             (lambda (font)
               (unless (delq nil (mapcar (lambda (f)
                           (string-match-p (format "^%s$" font) f))
                                         available-fonts))
                                         font))
                                         required-fonts)))
(if missing-fonts
    (pp-to-string
     `(unless noninteractive
        (add-hook! 'doom-init-ui-hook
          (run-at-time nil nil
                       (lambda ()
                         (message "%s missing the following fonts: %s"
                                  (propertize "Warning!" 'face '(bold
                                  ↪  warning))
                                  (mapconcat (lambda (font)
                                               (propertize font 'face
                                               ↪  'font-lock-variable-name-face))
                                             ',missing-fonts
                                             ", "))
                         (sleep-for 0.5))))))
  ";; No missing fonts detected")
```

```
<<detect-missing-fonts()>>
```

2.5 Themes

Right now I'm using nord, but I use doom-one-light sometimes

```
;;(setq doom-theme 'doom-one-light)
(setq doom-one-light-padded-modeline t)
(setq doom-theme 'doom-nord)
(setq doom-nord-padded-modeline t)
```

2.6 Very large files

Emacs gets super slow with large files, this helps with that

```
;;(use-package! vlf-setup
  ;;:defer-incrementally vlf-tune vlf-base vlf-write vlf-search vlf-occur
  ↪  vlf-follow vlf-ediff vlf)
```

2.7 Company

I think company is a bit too quick to recommend some stuff

```
(after! company
   (setq company-idle-delay 0.1
      company-minimum-prefix-length 1
      company-selection-wrap-around t
      company-require-match 'never
      company-dabbrev-downcase nil
      company-dabbrev-ignore-case t
      company-dabbrev-other-buffers nil
      company-tooltip-limit 5
      company-tooltip-minimum-width 50))
(set-company-backend!
  '(text-mode
    markdown-mode
    gfm-mode)
  '(:seperate
    company-yasnippet
    company-ispell
    company-files))

;;nested snippets
(setq yas-triggers-in-field t)
```

Lets add some snippets for latex

```
(use-package! aas
  :commands aas-mode)

(use-package! laas
  :hook (LaTeX-mode . laas-mode)
  :config
  (defun laas-tex-fold-maybe ()
    (unless (equal "/" aas-transient-snippet-key)
      (+latex-fold-last-macro-a)))
  (add-hook 'org-mode #'laas-mode)
```

```
  (add-hook 'aas-post-snippet-expand-hook #'laas-tex-fold-maybe))
```

And with a little help from henrik, lets use those snippets in org mode

```
(defadvice! fixed-org-yas-expand-maybe-h ()
  "Expand a yasnippet snippet, if trigger exists at point or region is
      active.
      Made for `org-tab-first-hook'."
  :override #'+org-yas-expand-maybe-h
  (when (and (featurep! :editor snippets)
             (require 'yasnippet nil t)
             (bound-and-true-p yas-minor-mode))
    (and (let ((major-mode (cond ((org-in-src-block-p t)
                                  (org-src-get-lang-mode
                                   ↪  (org-eldoc-get-src-lang)))
                                 ((org-inside-LaTeX-fragment-p)
                                  'latex-mode)
                                 (major-mode))))
           (org-src-tab-acts-natively nil) ; causes breakages
           ;; Smart indentation doesn't work with yasnippet, and
           ↪  painfully slow
           ;; in the few cases where it does.
           (yas-indent-line 'fixed))
         (cond ((and (or (not (bound-and-true-p evil-local-mode))
                         (evil-insert-state-p)
                         (evil-emacs-state-p))
                     (or (and (bound-and-true-p yas--tables)
                              (gethash major-mode yas--tables))
                         (progn (yas-reload-all) t))
                     (yas--templates-for-key-at-point))
                (yas-expand)
                t)
               ((use-region-p)
                (yas-insert-snippet)
                t)))
         ;; HACK Yasnippet breaks org-superstar-mode because yasnippets
         ↪  is
         ;;      overzealous about cleaning up overlays.
         (when (bound-and-true-p org-superstar-mode)
           (org-superstar-restart)))))
```

Source code blocks are a pain in org-mode, so lets make a few functions to help with our snippets

```
(defun +yas/org-src-header-p ()
  "Determine whether `point' is within a src-block header or
  ↪  header-args."
  (pcase (org-element-type (org-element-context))
    ('src-block (< (point) ; before code part of the src-block
```

```
                    (save-excursion (goto-char (org-element-property
                    ↪  :begin (org-element-context)))
                                    (forward-line 1)
                                    (point))))
    ('inline-src-block (< (point) ; before code part of the
    ↪  inline-src-block
                          (save-excursion (goto-char
                          ↪  (org-element-property :begin
                          ↪  (org-element-context)))
                                          (search-forward "]{")
                                          (point))))
    ('keyword (string-match-p "^header-args" (org-element-property :value
    ↪  (org-element-context))))))
```

Now let's write a function we can reference in yasnippets to produce a nice interactive way to specify header args.

```
(defun +yas/org-prompt-header-arg (arg question values)
  "Prompt the user to set ARG header property to one of VALUES with
      QUESTION.
      The default value is identified and indicated. If either default is
      selected,
      or no selection is made: nil is returned."
  (let* ((src-block-p (not (looking-back "^#\\+property:[
  ↪  \t]+header-args:.*" (line-beginning-position))))
         (default
           (or
            (cdr (assoc arg
                        (if src-block-p
                            (nth 2 (org-babel-get-src-block-info t))
                          (org-babel-merge-params
                           org-babel-default-header-args
                           (let ((lang-headers
                                  (intern (concat
                                  ↪  "org-babel-default-header-args:"
                                                  (+yas/org-src-lang)))))
                             (when (boundp lang-headers) (eval
                             ↪  lang-headers t)))))))
            ""))
         default-value)
    (setq values (mapcar
                  (lambda (value)
                    (if (string-match-p (regexp-quote value) default)
                        (setq default-value
                              (concat value " "
                                      (propertize "(default)" 'face
                                      ↪  'font-lock-doc-face)))
                      value))
                  values))
    (let ((selection (consult--read question values :default
    ↪  default-value)))
```

```
      (unless (or (string-match-p "(default)$" selection)
                  (string= "" selection))
        selection))))
```

Finally, we fetch the language information for new source blocks.

Since we're getting this info, we might as well go a step further and also provide the ability to determine the most popular language in the buffer that doesn't have any `header-args` set for it (with `#+properties`).

```
(defun +yas/org-src-lang ()
  "Try to find the current language of the src/header at `point'.
     Return nil otherwise."
  (let ((context (org-element-context)))
    (pcase (org-element-type context)
      ('src-block (org-element-property :language context))
      ('inline-src-block (org-element-property :language context))
      ('keyword (when (string-match "^header-args:\\([^ ]+\\)"
      ↪  (org-element-property :value context))
                  (match-string 1 (org-element-property :value
                  ↪  context)))))))

(defun +yas/org-last-src-lang ()
  "Return the language of the last src-block, if it exists."
  (save-excursion
    (beginning-of-line)
    (when (re-search-backward "^[ \t]*#\\+begin_src" nil t)
      (org-element-property :language (org-element-context)))))

(defun +yas/org-most-common-no-property-lang ()
  "Find the lang with the most source blocks that has no global
  ↪  header-args, else nil."
  (let (src-langs header-langs)
    (save-excursion
      (goto-char (point-min))
      (while (re-search-forward "^[ \t]*#\\+begin_src" nil t)
        (push (+yas/org-src-lang) src-langs))
      (goto-char (point-min))
      (while (re-search-forward "^[ \t]*#\\+property: +header-args" nil
      ↪  t)
        (push (+yas/org-src-lang) header-langs)))

    (setq src-langs
          (mapcar #'car
                  ;; sort alist by frequency (desc.)
                  (sort
                   ;; generate alist with form (value . frequency)
                   (cl-loop for (n . m) in (seq-group-by #'identity
                   ↪  src-langs)
                            collect (cons n (length m)))
                   (lambda (a b) (> (cdr a) (cdr b))))))
```

```
    (car (cl-set-difference src-langs header-langs :test #'string=))))
```

Lets also include « to autocomplete, as with () and {}

```
(sp-local-pair
 '(org-mode)
 "<<" ">>"
 :actions '(insert))
```

And lastly lets add some helpful snippets for org-mode, and add a better templete

```
(set-file-template! "\\.org$" :trigger "__" :mode 'org-mode)
```

2.8 LSP

I think the LSP is a bit intrusive (especially with inline suggestions), so lets make it behave a bit more

```
(use-package! lsp-ui
  :hook (lsp-mode . lsp-ui-mode)
  :config
  (setq lsp-ui-sideline-enable nil; not anymore useful than flycheck
        lsp-lens-enable t
        lsp-ui-doc-enable t
        lsp-tex-server 'digestif
        lsp-headerline-breadcrumb-enable nil
        lsp-ui-peek-enable t
        lsp-ui-peek-fontify 'on-demand
        lsp-enable-symbol-highlighting nil))
```

2.9 Better Defaults

The defaults for emacs aren't so good nowadays. Lets fix that up a bit

```
(setq undo-limit 80000000                         ;I mess up too much
      evil-want-fine-undo t                       ;By default while in
      ↪  insert all changes are one big blob. Be more granular
      scroll-margin 2                             ;having a little
      ↪  margin is nice
```

```
      auto-save-default t                           ;I dont like to lose
      ↪  work
      display-line-numbers-type nil                 ;I dislike line
      ↪  numbers
      history-length 25                             ;Slight speedup
      delete-by-moving-to-trash t                   ;delete to system
      ↪  trash instead
      browse-url-browser-function 'xwidget-webkit-browse-url
      truncate-string-ellipsis "…")                 ;default ellipses suck

(fringe-mode 0) ;;disable fringe
(global-subword-mode 1) ;;navigate through Camel Case words
```

There's issues with emacs flickering on mac (and sometimes wayland). This should fix it

```
(add-to-list 'default-frame-alist '(inhibit-double-buffering . t))
```

Instead of fundamental mode, lisp-interaction-mode seems much more useful

```
(setq doom-scratch-initial-major-mode 'lisp-interaction-mode)
```

Ask where to open splits

```
(setq evil-vsplit-window-right t
      evil-split-window-below t)
```

...and open a buffer for it

```
(defadvice! prompt-for-buffer (&rest _)
  :after '(evil-window-split evil-window-vsplit)
  (consult-buffer))
```

The default bindings of doom are pretty good. I'm not so good with motions though, so lets make life easier with avy

```
(map! :leader
      :desc "hop to word" "w w" #'avy-goto-word-0)
(map! :leader
      :desc "hop to line"
      "l" #'avy-goto-line)
```

I also fine ; more intuitive than : for entering command mode

```
(after! evil
  (map! :nmv ";" #'evil-ex))
```

When im doing regexes, its usually with /g anyways, lets make that the default

```
(after! evil
  (setq evil-ex-substitute-global t     ; I like my s/../.. to by global
  ↪  by default
        evil-move-cursor-back nil       ; Don't move the block cursor
        ↪  when toggling insert mode
        evil-kill-on-visual-paste nil)) ; Don't put overwritten text in
        ↪  the kill ring
```

Doom looks much cleaner with the dividers removed. Not sure why it isn't the default honestly

```
(custom-set-faces!
  `(vertical-border :background ,(doom-color 'bg) :foreground
  ↪  ,(doom-color 'bg)))

(when (boundp 'window-divider-mode)
  (setq window-divider-default-places nil
        window-divider-default-bottom-width 0
        window-divider-default-right-width 0)
  (window-divider-mode -1))
```

I don't like seeing the cursorline, especially while writing. Lets disable that

```
(remove-hook 'doom-first-buffer-hook #'global-hl-line-mode)
```

Doom has a weird bug with emacs-plus where the cursor will just turn white on a light theme. Lets fix that.

```
(defadvice! fix-+evil-default-cursor-fn ()
  :override #'+evil-default-cursor-fn
  (evil-set-cursor-color (face-background 'cursor)))
(defadvice! fix-+evil-emacs-cursor-fn ()
  :override #'+evil-emacs-cursor-fn
  (evil-set-cursor-color (face-foreground 'warning)))
```

I like using the minimap, even if its slow. Looks cool in my opinion, lets make it a little cooler by removing the scroll highlighting

```
(setq minimap-highlight-line nil)
(custom-set-faces!
  `(minimap-active-region-background :background unspecified))
```

I like a bit of padding on the left hand side, and lets make the line spacing comfier

```
(set-frame-parameter nil 'internal-border-width 24)
(setq-default line-spacing 0.35)
```

2.10 Selectric mode

Typewriter go br

```
(use-package! selectric-mode
  :commands selectric-mode)
```

3 Visual configuration

3.1 Modeline

Tecosaurs PDF improvements:

```
(after! doom-modeline
  (doom-modeline-def-segment buffer-name
    "Display the current buffer's name, without any other information."
    (concat
     (doom-modeline-spc)
     (doom-modeline--buffer-name)))

  (doom-modeline-def-segment pdf-icon
    "PDF icon from all-the-icons."
    (concat
     (doom-modeline-spc)
     (doom-modeline-icon 'octicon "file-pdf" nil nil
                         :face (if (doom-modeline--active)
                                   'all-the-icons-red
                                 'mode-line-inactive)
                         :v-adjust 0.02)))

  (defun doom-modeline-update-pdf-pages ()
    "Update PDF pages."
    (setq doom-modeline--pdf-pages
          (let ((current-page-str (number-to-string (eval
          ↪  `(pdf-view-current-page))))
                (total-page-str (number-to-string
                 ↪  (pdf-cache-number-of-pages))))
```

```
            (concat
             (propertize
              (concat (make-string (- (length total-page-str) (length
              ↪  current-page-str)) ? )
                      " P" current-page-str)
              'face 'mode-line)
             (propertize (concat "/" total-page-str) 'face
             ↪  'doom-modeline-buffer-minor-mode))))))

  (doom-modeline-def-segment pdf-pages
    "Display PDF pages."
    (if (doom-modeline--active) doom-modeline--pdf-pages
      (propertize doom-modeline--pdf-pages 'face 'mode-line-inactive)))

  (doom-modeline-def-modeline 'pdf
    '(bar window-number pdf-pages pdf-icon buffer-name)
    '(misc-info matches major-mode process vcs)))
```

Doom modeline already looks good, but it can be better. Lets add some icons, the battery status, and make sure we don't lose track of time

```
(after! doom-modeline
  (display-time-mode 1)                                 ;Enable time in the
  ↪  mode-line
  (display-battery-mode 1)                              ;display the battery
  (setq doom-modeline-major-mode-icon t                 ;Show major mode
  ↪  name
        doom-modeline-enable-word-count t               ;Show word count
        doom-modeline-modal-icon t                      ;Show vim mode icon
        inhibit-compacting-font-caches t))              ;Don't compact font
         ↪  caches in gc
```

The encoding is always UTF-8, so its a bit redundant. Lets take that out

```
(defun doom-modeline-conditional-buffer-encoding ()
  "We expect the encoding to be LF UTF-8, so only show the modeline when
  ↪  this is not the case"
  (setq-local doom-modeline-buffer-encoding
              (unless (and (memq (plist-get (coding-system-plist
              ↪  buffer-file-coding-system) :category)
                                 '(coding-category-undecided
                                 ↪  coding-category-utf-8))
                           (not (memq (coding-system-eol-type
                           ↪  buffer-file-coding-system) '(1 2))))
                t)))
(add-hook 'after-change-major-mode-hook
↪  #'doom-modeline-conditional-buffer-encoding) ;;remove encoding
```

3.2 Centaur tabs

There isn't much of a point having tabs when you only have one buffer open. This checks the number of tabs, and hides them if theres only one left

```
(defun centaur-tabs-get-total-tab-length ()
  (length (centaur-tabs-tabs (centaur-tabs-current-tabset))))

(defun centaur-tabs-hide-on-window-change ()
  (run-at-time nil nil
               (lambda ()
                 (centaur-tabs-hide-check
                  ↪  (centaur-tabs-get-total-tab-length)))))

(defun centaur-tabs-hide-check (len)
  (shut-up
    (cond
     ((and (= len 1) (not (centaur-tabs-local-mode))) (call-interactively
     ↪  #'centaur-tabs-local-mode))
     ((and (≥ len 2) (centaur-tabs-local-mode)) (call-interactively
     ↪  #'centaur-tabs-local-mode)))))
```

I also like to have icons with my tabs.

```
(after! centaur-tabs
  (centaur-tabs-mode -1)
  (setq centaur-tabs-height 20
        centaur-tabs-set-icons t
        centaur-tabs-gray-out-icons 'buffer)
  (add-hook 'window-configuration-change-hook
  ↪  'centaur-tabs-hide-on-window-change)
  (centaur-tabs-change-fonts "Liga SFMono Nerd Font" 105))
```

3.3 Vertico

For marginalia (vertico), lets use relative time, along with some other things

```
(after! marginalia
  (setq marginalia-censor-variables nil)

  (defadvice! +marginalia--anotate-local-file-colorful (cand)
    "Just a more colourful version of `marginalia--anotate-local-file'."
    :override #'marginalia--annotate-local-file
    (when-let (attrs (file-attributes (substitute-in-file-name
                                       (marginalia--full-candidate cand))
```

```
                                        'integer))
      (marginalia--fields
       ((marginalia--file-owner attrs)
        :width 12 :face 'marginalia-file-owner)
       ((marginalia--file-modes attrs))
       ((+marginalia-file-size-colorful (file-attribute-size attrs))
        :width 7)
       ((+marginalia--time-colorful (file-attribute-modification-time
        ↪  attrs))
        :width 12))))

  (defun +marginalia--time-colorful (time)
    (let* ((seconds (float-time (time-subtract (current-time) time)))
           (color (doom-blend
                   (face-attribute 'marginalia-date :foreground nil t)
                   (face-attribute 'marginalia-documentation :foreground
                   ↪  nil t)
                   (/ 1.0 (log (+ 3 (/ (+ 1 seconds) 345600.0)))))))
      ;; 1 - log(3 + 1/(days + 1)) % grey
      (propertize (marginalia--time time) 'face (list :foreground
      ↪  color))))

  (defun +marginalia-file-size-colorful (size)
    (let* ((size-index (/ (log10 (+ 1 size)) 7.0))
           (color (if (< size-index 10000000) ; 10m
                      (doom-blend 'orange 'green size-index)
                    (doom-blend 'red 'orange (- size-index 1)))))
      (propertize (file-size-human-readable size) 'face (list :foreground
      ↪  color)))))
```

3.4 Treemacs

Lets theme treemacs while we're at it

```
(setq treemacs-width 25)
(setq doom-themes-treemacs-theme "doom-colors")
```

3.5 Emojis

Disable some annoying emojis

```
(defvar emojify-disabled-emojis
  '(;; Org
    " " " " " " " " " " " " " " " " " " " " " " " " " "
    ;; Terminal powerline
```

```
    " "
    ;; Box drawing
    "▶" "◀")
  "Characters that should never be affected by `emojify-mode'.")

(defadvice! emojify-delete-from-data ()
  "Ensure `emojify-disabled-emojis' don't appear in `emojify-emojis'."
  :after #'emojify-set-emoji-data
  (dolist (emoji emojify-disabled-emojis)
    (remhash emoji emojify-emojis)))

(add-hook! '(mu4e-compose-mode org-msg-edit-mode) (emoticon-to-emoji 1))
```

3.6 Splash screen

Emacs can render an image as the splash screen, and the emacs logo looks pretty cool Now we just make it theme-appropriate, and resize with the frame.

```
(defvar fancy-splash-image-template
  (expand-file-name "misc/splash-images/emacs-e-template.svg"
  ↪  doom-private-dir)
  "Default template svg used for the splash image, with substitutions
  ↪  from ")

(defvar fancy-splash-sizes
  `((:height 300 :min-height 50 :padding (0 . 2))
    (:height 250 :min-height 42 :padding (2 . 4))
    (:height 200 :min-height 35 :padding (3 . 3))
    (:height 150 :min-height 28 :padding (3 . 3))
    (:height 100 :min-height 20 :padding (2 . 2))
    (:height 75  :min-height 15 :padding (2 . 1))
    (:height 50  :min-height 10 :padding (1 . 0))
    (:height 1   :min-height 0  :padding (0 . 0)))
  "list of plists with the following properties
        :height the height of the image
        :min-height minimum `frame-height' for image
        :padding `+doom-dashboard-banner-padding' (top . bottom) to apply
        :template non-default template file
        :file file to use instead of template")

(defvar fancy-splash-template-colours
  '(("$colour1" . keywords) ("$colour2" . type) ("$colour3" . base5)
  ↪  ("$colour4" . base8))
  "list of colour-replacement alists of the form (\"$placeholder\" .
  ↪  'theme-colour) which applied the template")

(unless (file-exists-p (expand-file-name "theme-splashes"
↪  doom-cache-dir))
  (make-directory (expand-file-name "theme-splashes" doom-cache-dir) t))
```

```
(defun fancy-splash-filename (theme-name height)
  (expand-file-name (concat (file-name-as-directory "theme-splashes")
                            theme-name
                            "-" (number-to-string height) ".svg")
                    doom-cache-dir))

(defun fancy-splash-clear-cache ()
  "Delete all cached fancy splash images"
  (interactive)
  (delete-directory (expand-file-name "theme-splashes" doom-cache-dir) t)
  (message "Cache cleared!"))

(defun fancy-splash-generate-image (template height)
  "Read TEMPLATE and create an image if HEIGHT with colour substitutions
      as
         described by `fancy-splash-template-colours' for the current
  ↪  theme"
  (with-temp-buffer
    (insert-file-contents template)
    (re-search-forward "$height" nil t)
    (replace-match (number-to-string height) nil nil)
    (dolist (substitution fancy-splash-template-colours)
      (goto-char (point-min))
      (while (re-search-forward (car substitution) nil t)
        (replace-match (doom-color (cdr substitution)) nil nil)))
    (write-region nil nil
                  (fancy-splash-filename (symbol-name doom-theme) height)
                  ↪  nil nil)))

(defun fancy-splash-generate-images ()
  "Perform `fancy-splash-generate-image' in bulk"
  (dolist (size fancy-splash-sizes)
    (unless (plist-get size :file)
      (fancy-splash-generate-image (or (plist-get size :template)
                                       fancy-splash-image-template)
                                   (plist-get size :height)))))

(defun ensure-theme-splash-images-exist (&optional height)
  (unless (file-exists-p (fancy-splash-filename
                          (symbol-name doom-theme)
                          (or height
                              (plist-get (car fancy-splash-sizes)
                              ↪  :height))))
    (fancy-splash-generate-images)))

(defun get-appropriate-splash ()
  (let ((height (frame-height)))
    (cl-some (lambda (size) (when (≥ height (plist-get size
    ↪  :min-height)) size))
             fancy-splash-sizes)))

(setq fancy-splash-last-size nil)
```

```
(setq fancy-splash-last-theme nil)
(defun set-appropriate-splash (&rest _)
  (let ((appropriate-image (get-appropriate-splash)))
    (unless (and (equal appropriate-image fancy-splash-last-size)
                 (equal doom-theme fancy-splash-last-theme)))
    (unless (plist-get appropriate-image :file)
      (ensure-theme-splash-images-exist (plist-get appropriate-image
      ↪  :height)))
    (setq fancy-splash-image
          (or (plist-get appropriate-image :file)
              (fancy-splash-filename (symbol-name doom-theme) (plist-get
              ↪  appropriate-image :height))))
    (setq +doom-dashboard-banner-padding (plist-get appropriate-image
    ↪  :padding))
    (setq fancy-splash-last-size appropriate-image)
    (setq fancy-splash-last-theme doom-theme)
    (+doom-dashboard-reload)))

(add-hook 'window-size-change-functions #'set-appropriate-splash)
(add-hook 'doom-load-theme-hook #'set-appropriate-splash)
```

Lets add a little phrase in there as well

```
(defvar splash-phrase-source-folder
  (expand-file-name "misc/splash-phrases" doom-private-dir)
  "A folder of text files with a fun phrase on each line.")

(defvar splash-phrase-sources
  (let* ((files (directory-files splash-phrase-source-folder nil
  ↪  "\\.txt\\'"))
         (sets (delete-dups (mapcar
                             (lambda (file)
                               (replace-regexp-in-string
                               ↪  "\\(?:-[0-9]+-\\w+\\)?\\.txt" ""
                               ↪  file))
                             files))))
    (mapcar (lambda (sset)
              (cons sset
                    (delq nil (mapcar
                               (lambda (file)
                                 (when (string-match-p (regexp-quote
                                 ↪  sset) file)
                                   file))
                               files))))
            sets))
  "A list of cons giving the phrase set name, and a list of files which
  ↪  contain phrase components.")

(defvar splash-phrase-set
  (nth (random (length splash-phrase-sources)) (mapcar #'car
  ↪  splash-phrase-sources))
```

```
  "The default phrase set. See `splash-phrase-sources'.")

(defun splase-phrase-set-random-set ()
  "Set a new random splash phrase set."
  (interactive)
  (setq splash-phrase-set
        (nth (random (1- (length splash-phrase-sources)))
             (cl-set-difference (mapcar #'car splash-phrase-sources)
             ↪  (list splash-phrase-set))))
  (+doom-dashboard-reload t))

(defvar splase-phrase--cache nil)

(defun splash-phrase-get-from-file (file)
  "Fetch a random line from FILE."
  (let ((lines (or (cdr (assoc file splase-phrase--cache))
                   (cdar (push (cons file
                                     (with-temp-buffer
                                       (insert-file-contents
                                       ↪  (expand-file-name file
                                       ↪  splash-phrase-source-folder))
                                       (split-string (string-trim
                                       ↪  (buffer-string)) "\n")))
                               splase-phrase--cache)))))
    (nth (random (length lines)) lines)))

(defun splash-phrase (&optional set)
  "Construct a splash phrase from SET. See `splash-phrase-sources'."
  (mapconcat
   #'splash-phrase-get-from-file
   (cdr (assoc (or set splash-phrase-set) splash-phrase-sources))
   " "))

(defun doom-dashboard-phrase ()
  "Get a splash phrase, flow it over multiple lines as needed, and make
  ↪  fontify it."
  (mapconcat
   (lambda (line)
     (+doom-dashboard--center
      +doom-dashboard--width
      (with-temp-buffer
        (insert-text-button
         line
         'action
         (lambda (_) (+doom-dashboard-reload t))
         'face 'doom-dashboard-menu-title
         'mouse-face 'doom-dashboard-menu-title
         'help-echo "Random phrase"
         'follow-link t)
        (buffer-string))))
   (split-string
    (with-temp-buffer
      (insert (splash-phrase))
```

```
      (setq fill-column (min 70 (/ (* 2 (window-width)) 3)))
      (fill-region (point-min) (point-max))
      (buffer-string))
    "\n")
   "\n"))

(defadvice! doom-dashboard-widget-loaded-with-phrase ()
  :override #'doom-dashboard-widget-loaded
  (setq line-spacing 0.2)
  (insert
   "\n\n"
   (propertize
    (+doom-dashboard--center
     +doom-dashboard--width
     (doom-display-benchmark-h 'return))
    'face 'doom-dashboard-loaded)
   "\n"
   (doom-dashboard-phrase)
   "\n"))
```

Lastly, the doom dashboard "useful commands" are no longer useful to me. So, we'll disable them and then for a particularly *clean* look disable the modeline, then also hide the cursor.

```
(remove-hook '+doom-dashboard-functions
↪  #'doom-dashboard-widget-shortmenu)
(add-hook! '+doom-dashboard-mode-hook (hide-mode-line-mode 1)
↪  (hl-line-mode -1))
(setq-hook! '+doom-dashboard-mode-hook evil-normal-state-cursor (list
↪  nil))
```

3.7 Writeroom

For starters, I think Doom is a bit over-zealous when zooming in

```
(setq +zen-text-scale 0.8)
```

Then, when using Org it would be nice to make a number of other aesthetic tweaks. Namely:

- Use a serif-ed variable-pitch font
- Hiding headline leading stars
- Using fleurons as headline bullets
- Hiding line numbers

- Removing outline indentation
- Centering the text
- Turning on `org-pretty-table-mode`
- Disabling `doom-modeline`

```
(defvar +zen-serif-p t
  "Whether to use a serifed font with `mixed-pitch-mode'.")
(after! writeroom-mode
  (defvar-local +zen--original-org-indent-mode-p nil)
  (defvar-local +zen--original-mixed-pitch-mode-p nil)
  (defun +zen-enable-mixed-pitch-mode-h ()
    "Enable `mixed-pitch-mode' when in `+zen-mixed-pitch-modes'."
    (when (apply #'derived-mode-p +zen-mixed-pitch-modes)
      (if writeroom-mode
          (progn
            (setq +zen--original-mixed-pitch-mode-p mixed-pitch-mode)
            (funcall (if +zen-serif-p #'mixed-pitch-serif-mode
            ↪  #'mixed-pitch-mode) 1))
        (funcall #'mixed-pitch-mode (if +zen--original-mixed-pitch-mode-p
        ↪  1 -1)))))
  (pushnew! writeroom--local-variables
            'display-line-numbers
            'visual-fill-column-width
            'org-adapt-indentation
            'org-superstar-headline-bullets-list
            'org-superstar-remove-leading-stars)
  (add-hook 'writeroom-mode-enable-hook
            (defun +zen-prose-org-h ()
              "Reformat the current Org buffer appearance for prose."
              (when (eq major-mode 'org-mode)
                (setq display-line-numbers nil
                      visual-fill-column-width 60
                      org-adapt-indentation nil)
                (when (featurep 'org-superstar)
                  (setq-local org-superstar-headline-bullets-list '(" "
                  ↪  "○" " " " " " " " " " " " "▶")
                              org-superstar-remove-leading-stars t)
                  (org-superstar-restart))               (setq
                 +zen--original-org-indent-mode-p org-indent-mode)
                (org-indent-mode -1))))
  (add-hook! 'writeroom-mode-hook
    (if writeroom-mode
        (add-hook 'post-command-hook #'recenter nil t)
      (remove-hook 'post-command-hook #'recenter t)))
  (add-hook 'writeroom-mode-enable-hook #'doom-disable-line-numbers-h)
  (add-hook 'writeroom-mode-disable-hook #'doom-enable-line-numbers-h)
  (add-hook 'writeroom-mode-disable-hook
            (defun +zen-nonprose-org-h ()
```

```
                "Reverse the effect of `+zen-prose-org'."
                (when (eq major-mode 'org-mode)
                  (when (featurep 'org-superstar)
                    (org-superstar-restart))
                  (when +zen--original-org-indent-mode-p (org-indent-mode
                  ↪  1)))))))
```

3.8 Font Display

Mixed pitch is great. As is `+org-pretty-mode`, let's use them.

```
(add-hook 'org-mode-hook #'+org-pretty-mode)
```

However, the subscripts (and superscripts) are confusing with latex fragments, so lets turn those off

```
(setq org-pretty-entities-include-sub-superscripts nil)
```

Let's make headings a bit bigger

```
(custom-set-faces!
  '(org-document-title :height 1.2)
  '(outline-1 :weight extra-bold :height 1.25)
  '(outline-2 :weight bold :height 1.15)
  '(outline-3 :weight bold :height 1.12)
  '(outline-4 :weight semi-bold :height 1.09)
  '(outline-5 :weight semi-bold :height 1.06)
  '(outline-6 :weight semi-bold :height 1.03)
  '(outline-8 :weight semi-bold)
  '(outline-9 :weight semi-bold))
```

It seems reasonable to have deadlines in the error face when they're passed.

```
(setq org-agenda-deadline-faces
      '((1.0 . error)
        (1.0 . org-warning)
        (0.5 . org-upcoming-deadline)
        (0.0 . org-upcoming-distant-deadline)))
```

We can then have quote blocks stand out a bit more by making them *italic*.

```
(setq org-fontify-quote-and-verse-blocks t)
```

```
(use-package! org-appear
  :hook (org-mode . org-appear-mode)
  :config
  (setq org-appear-autoemphasis t
        org-appear-autosubmarkers t
        org-appear-autolinks nil)
  (run-at-time nil nil #'org-appear--set-elements))
```

Org files can be rather nice to look at, particularly with some of the customisations here. This comes at a cost however, expensive font-lock. Feeling like you're typing through molasses in large files is no fun, but there is a way I can defer font-locking when typing to make the experience more responsive.

```
(defun locally-defer-font-lock ()
  "Set jit-lock defer and stealth, when buffer is over a certain size."
  (when (> (buffer-size) 50000)
    (setq-local jit-lock-defer-time 0.05
                jit-lock-stealth-time 1)))

(add-hook 'org-mode-hook #'locally-defer-font-lock)


(custom-set-faces!
  `(org-block-end-line :background ,(doom-color 'base2))
  `(org-block-begin-line :background ,(doom-color 'base2)))
```

3.8.1 Fontifying inline src blocks

Org does lovely things with `#+begin_src` blocks, like using font-lock for language's major-mode behind the scenes and pulling out the lovely colourful results. By contrast, inline `src_` blocks are somewhat neglected.

I am not the first person to feel this way, thankfully others have taken to stackexchange to voice their desire for inline src fontification. I was going to steal their work, but unfortunately they didn't perform *true* source code fontification, but simply applied the `org-code` face to the content.

We can do better than that, and we shall! Using `org-src-font-lock-fontify-block` we can apply language-appropriate syntax highlighting. Then, continuing on to `{{{results( ... )}}}`, it can have the `org-block` face applied to match, and then the value-surrounding constructs hidden by mimicking the behaviour of `prettify-symbols-mode`.

```
(defvar org-prettify-inline-results t
  "Whether to use (ab)use prettify-symbols-mode on {{{results( ... )}}}.
      Either t or a cons cell of strings which are used as substitutions
      for the start and end of inline results, respectively.")

(defvar org-fontify-inline-src-blocks-max-length 200
  "Maximum content length of an inline src block that will be
  ↪  fontified.")

(defun org-fontify-inline-src-blocks (limit)
  "Try to apply `org-fontify-inline-src-blocks-1'."
  (condition-case nil
      (org-fontify-inline-src-blocks-1 limit)
    (error (message "Org mode fontification error in %S at %d"
                    (current-buffer)
                    (line-number-at-pos)))))

(defun org-fontify-inline-src-blocks-1 (limit)
  "Fontify inline src_LANG blocks, from `point' up to LIMIT."
  (let ((case-fold-search t)
        (initial-point (point)))
    (while (re-search-forward "\\_<src_\\([^ \t\n[{]+\\)[{[]?" limit t) ;
    ↪  stolen from `org-element-inline-src-block-parser'
      (let ((beg (match-beginning 0))
            pt
            (lang-beg (match-beginning 1))
            (lang-end (match-end 1)))
        (remove-text-properties beg lang-end '(face nil))
        (font-lock-append-text-property lang-beg lang-end 'face
        ↪  'org-meta-line)
        (font-lock-append-text-property beg lang-beg 'face 'shadow)
        (font-lock-append-text-property beg lang-end 'face 'org-block)
        (setq pt (goto-char lang-end))
        ;; `org-element--parse-paired-brackets' doesn't take a limit, so
        ↪  to
        ;; prevent it searching the entire rest of the buffer we
        ↪  temporarily
        ;; narrow the active region.
        (save-restriction
          (narrow-to-region beg (min (point-max) limit (+ lang-end
          ↪  org-fontify-inline-src-blocks-max-length)))
          (when (ignore-errors (org-element--parse-paired-brackets ?\[))
            (remove-text-properties pt (point) '(face nil))
            (font-lock-append-text-property pt (point) 'face 'org-block)
            (setq pt (point)))
          (when (ignore-errors (org-element--parse-paired-brackets ?\{))
            (remove-text-properties pt (point) '(face nil))
            (font-lock-append-text-property pt (1+ pt) 'face '(org-block
            ↪  shadow))
            (unless (= (1+ pt) (1- (point)))
              (if org-src-fontify-natively
```

```
                  (org-src-font-lock-fontify-block
                   ↪  (buffer-substring-no-properties lang-beg lang-end)
                   ↪  (1+ pt) (1- (point)))
                  (font-lock-append-text-property (1+ pt) (1- (point))
                   ↪  'face 'org-block)))
              (font-lock-append-text-property (1- (point)) (point) 'face
               ↪  '(org-block shadow))
              (setq pt (point))))
          (when (and org-prettify-inline-results (re-search-forward "\\=
           ↪  {{{results(" limit t))
            (font-lock-append-text-property pt (1+ pt) 'face 'org-block)
            (goto-char pt))))
      (when org-prettify-inline-results
        (goto-char initial-point)
        (org-fontify-inline-src-results limit))))

(defun org-fontify-inline-src-results (limit)
  (while (re-search-forward "{{{results(\\(.+?\\))}}}" limit t)
    (remove-list-of-text-properties (match-beginning 0) (point)
                                    '(composition
                                      prettify-symbols-start
                                      prettify-symbols-end))
    (font-lock-append-text-property (match-beginning 0) (match-end 0)
     ↪  'face 'org-block)
    (let ((start (match-beginning 0)) (end (match-beginning 1)))
      (with-silent-modifications
        (compose-region start end (if (eq org-prettify-inline-results t)
         ↪  " " (car org-prettify-inline-results)))
        (add-text-properties start end `(prettify-symbols-start ,start
         ↪  prettify-symbols-end ,end))))
    (let ((start (match-end 1)) (end (point)))
      (with-silent-modifications
        (compose-region start end (if (eq org-prettify-inline-results t)
         ↪  " " (cdr org-prettify-inline-results)))
        (add-text-properties start end `(prettify-symbols-start ,start
         ↪  prettify-symbols-end ,end))))))

(defun org-fontify-inline-src-blocks-enable ()
  "Add inline src fontification to font-lock in Org.
     Must be run as part of `org-font-lock-set-keywords-hook'."
  (setq org-font-lock-extra-keywords
        (append org-font-lock-extra-keywords
         ↪  '((org-fontify-inline-src-blocks)))))

(add-hook 'org-font-lock-set-keywords-hook
 ↪  #'org-fontify-inline-src-blocks-enable)
```

3.9 Symbols

Firstly, I dislike the default stars for org-mode, so lets improve that

```
;;make bullets look better
(after! org-superstar
  (setq org-superstar-headline-bullets-list '(" " "○" " " " " " " " " " " " " " "
  ↪  "▶")
        org-superstar-prettify-item-bullets t ))
```

I also want to hide leading stars, since they feel redundant

```
(setq org-ellipsis " ▾ "
      org-hide-leading-stars t
      org-priority-highest ?A
      org-priority-lowest ?E
      org-priority-faces
      '((?A . 'all-the-icons-red)
        (?B . 'all-the-icons-orange)
        (?C . 'all-the-icons-yellow)
        (?D . 'all-the-icons-green)
        (?E . 'all-the-icons-blue)))
```

Lastly, lets add some ligatures for some org mode stuff

```
(appendq! +ligatures-extra-symbols
          `(:checkbox      " "
            :pending       " "
            :checkedbox    " "
            :list_property " "
            :em_dash       "—"
            :ellipses      "…"
            :arrow_right   "→"
            :arrow_left    "←"
            :property      " "
            :options       "⌥"
            :startup       "⏻"
            :html_head     " "
            :html          " "
            :latex_class   " "
            :latex_header  " "
            :beamer_header " "
            :latex         " "
            :attr_latex    " "
            :attr_html     " "
            :attr_org      " "
            :begin_quote   "❝"
            :end_quote     "❞"
            :caption       " "
            :header        "›"
            :begin_export  " "
            :end_export    " "
            :properties    " "
            :end           " "
```

```
            :priority_a   ,(propertize " " 'face 'all-the-icons-red)
            :priority_b   ,(propertize " " 'face 'all-the-icons-orange)
            :priority_c   ,(propertize "■" 'face 'all-the-icons-yellow)
            :priority_d   ,(propertize " " 'face 'all-the-icons-green)
            :priority_e   ,(propertize " " 'face 'all-the-icons-blue)))
(set-ligatures! 'org-mode
  :merge t
  :checkbox      "[ ]"
  :pending       "[-]"
  :checkedbox    "[X]"
  :list_property "::"
  :em_dash       "---"
  :ellipsis      "..."
  :arrow_right   "->"
  :arrow_left    "<-"
  :title         "#+title:"
  :subtitle      "#+subtitle:"
  :author        "#+author:"
  :date          "#+date:"
  :property      "#+property:"
  :options       "#+options:"
  :startup       "#+startup:"
  :macro         "#+macro:"
  :html_head     "#+html_head:"
  :html          "#+html:"
  :latex_class   "#+latex_class:"
  :latex_header  "#+latex_header:"
  :beamer_header "#+beamer_header:"
  :latex         "#+latex:"
  :attr_latex    "#+attr_latex:"
  :attr_html     "#+attr_html:"
  :attr_org      "#+attr_org:"
  :begin_quote   "#+begin_quote"
  :end_quote     "#+end_quote"
  :caption       "#+caption:"
  :header        "#+header:"
  :begin_export  "#+begin_export"
  :end_export    "#+end_export"
  :results       "#+RESULTS:"
  :property      ":PROPERTIES:"
  :end           ":END:"
  :priority_a    "[#A]"
  :priority_b    "[#B]"
  :priority_c    "[#C]"
  :priority_d    "[#D]"
  :priority_e    "[#E]")
(plist-put +ligatures-extra-symbols :name " ")
```

Lets also add a function that makes it easy to convert from upper to lowercase, since the ligatures don't work with Uppercase (I can make them work, but lowercase looks better anyways)

```
(defun org-syntax-convert-keyword-case-to-lower ()
  "Convert all #+KEYWORDS to #+keywords."
  (interactive)
  (save-excursion
    (goto-char (point-min))
    (let ((count 0)
          (case-fold-search nil))
      (while (re-search-forward "^[ \t]*#\\+[A-Z_]+" nil t)
        (unless (s-matches-p "RESULTS" (match-string 0))
          (replace-match (downcase (match-string 0)) t)
          (setq count (1+ count))))
      (message "Replaced %d occurances" count))))
```

3.10 Keycast

Its nice for demonstrations

```
(use-package! keycast
  :commands keycast-mode
  :config
  (define-minor-mode keycast-mode
    "Show current command and its key binding in the mode line."
    :global t
    (if keycast-mode
        (progn
          (add-hook 'pre-command-hook 'keycast--update t)
          (add-to-list 'global-mode-string '("" mode-line-keycast " ")))
      (remove-hook 'pre-command-hook 'keycast--update)
      (setq global-mode-string (remove '("" mode-line-keycast " ")
      ↪  global-mode-string))))
  (custom-set-faces!
    '(keycast-command :inherit doom-modeline-debug
                      :height 1.0)
    '(keycast-key :inherit custom-modified
                  :height 1.0
                  :weight bold)))
```

3.11 Transparency

I'm not too big of a fan of transparency, but some people like it. You can use this little function to toggle it now. On `C-c t` inactive windows will dim (85% transparency) and focused windows remain opaque

```
(defun toggle-transparency ()
  (interactive)
  (let ((alpha (frame-parameter nil 'alpha)))
    (set-frame-parameter
     nil 'alpha
     (if (eql (cond ((numberp alpha) alpha)
                    ((numberp (cdr alpha)) (cdr alpha))
                    ;; Also handle undocumented (<active> <inactive>)
                    ↪  form.
                    ((numberp (cadr alpha)) (cadr alpha)))
              100)
         '(100 . 85) '(100 . 100)))))
(global-set-key (kbd "C-c t") 'toggle-transparency)
```

3.12 Screenshots

Make it easy to take nice screenshots. I need to figure out how to make clipboard work though.

```
(use-package! screenshot
  :defer t
  :config (setq screenshot-upload-fn "upload $s 2>/dev/null"))
```

3.13 RSS

RSS is a nice simple way of getting my news. Lets set that up

```
(map! :map elfeed-search-mode-map
      :after elfeed-search
      [remap kill-this-buffer] "q"
      [remap kill-buffer] "q"
      :n doom-leader-key nil
      :n "q" #'+rss/quit
      :n "e" #'elfeed-update
      :n "r" #'elfeed-search-untag-all-unread
      :n "u" #'elfeed-search-tag-all-unread
      :n "s" #'elfeed-search-live-filter
      :n "RET" #'elfeed-search-show-entry
      :n "p" #'elfeed-show-pdf
      :n "+" #'elfeed-search-tag-all
      :n "-" #'elfeed-search-untag-all
      :n "S" #'elfeed-search-set-filter
      :n "b" #'elfeed-search-browse-url
      :n "y" #'elfeed-search-yank)
(map! :map elfeed-show-mode-map
      :after elfeed-show
```

```
      [remap kill-this-buffer] "q"
      [remap kill-buffer] "q"
      :n doom-leader-key nil
      :nm "q" #'+rss/delete-pane
      :nm "o" #'ace-link-elfeed
      :nm "RET" #'org-ref-elfeed-add
      :nm "n" #'elfeed-show-next
      :nm "N" #'elfeed-show-prev
      :nm "p" #'elfeed-show-pdf
      :nm "+" #'elfeed-show-tag
      :nm "-" #'elfeed-show-untag
      :nm "s" #'elfeed-show-new-live-search
      :nm "y" #'elfeed-show-yank)

(after! elfeed-search
  (set-evil-initial-state! 'elfeed-search-mode 'normal))
(after! elfeed-show-mode
  (set-evil-initial-state! 'elfeed-show-mode   'normal))

(after! evil-snipe
  (push 'elfeed-show-mode   evil-snipe-disabled-modes)
  (push 'elfeed-search-mode evil-snipe-disabled-modes))

 (after! elfeed

  (elfeed-org)
  (use-package! elfeed-link)

  (setq elfeed-search-filter "@1-week-ago +unread"
        elfeed-search-print-entry-function
        ↪  '+rss/elfeed-search-print-entry
        elfeed-search-title-min-width 80
        elfeed-show-entry-switch #'pop-to-buffer
        elfeed-show-entry-delete #'+rss/delete-pane
        elfeed-show-refresh-function
        ↪  #'+rss/elfeed-show-refresh--better-style
        shr-max-image-proportion 0.6)

  (add-hook! 'elfeed-show-mode-hook (hide-mode-line-mode 1))
  (add-hook! 'elfeed-search-update-hook #'hide-mode-line-mode)

  (defface elfeed-show-title-face '((t (:weight ultrabold :slant italic
  ↪  :height 1.5)))
    "title face in elfeed show buffer"
    :group 'elfeed)
  (defface elfeed-show-author-face `((t (:weight light)))
    "title face in elfeed show buffer"
    :group 'elfeed)
  (set-face-attribute 'elfeed-search-title-face nil
                      :foreground 'nil
                      :weight 'light)

  (defadvice! +rss-elfeed-wrap-h-nicer ()
```

```
    "Enhances an elfeed entry's readability by wrapping it to a width of
        `fill-column' and centering it with `visual-fill-column-mode'."
    :override #'+rss-elfeed-wrap-h
    (setq-local truncate-lines nil
                shr-width 120
                visual-fill-column-center-text t
                default-text-properties '(line-height 1.1))
    (let ((inhibit-read-only t)
          (inhibit-modification-hooks t))
      (visual-fill-column-mode)
      ;; (setq-local shr-current-font '(:family "Merriweather" :height
      ↪  1.2))
      (set-buffer-modified-p nil)))

  (defun +rss/elfeed-search-print-entry (entry)
    "Print ENTRY to the buffer."
    (let* ((elfeed-goodies/tag-column-width 40)
           (elfeed-goodies/feed-source-column-width 30)
           (title (or (elfeed-meta entry :title) (elfeed-entry-title
           ↪  entry) ""))
           (title-faces (elfeed-search--faces (elfeed-entry-tags entry)))
           (feed (elfeed-entry-feed entry))
           (feed-title
            (when feed
              (or (elfeed-meta feed :title) (elfeed-feed-title feed))))
           (tags (mapcar #'symbol-name (elfeed-entry-tags entry)))
           (tags-str (concat (mapconcat 'identity tags ",")))
           (title-width (- (window-width)
           ↪  elfeed-goodies/feed-source-column-width
                           elfeed-goodies/tag-column-width 4))

           (tag-column (elfeed-format-column
                        tags-str (elfeed-clamp (length tags-str)

                                               ↪  elfeed-goodies/tag-column-width

                                               ↪  elfeed-goodies/tag-column-width)
                        :left))
           (feed-column (elfeed-format-column
                         feed-title (elfeed-clamp
                         ↪  elfeed-goodies/feed-source-column-width

                                                 ↪  elfeed-goodies/feed-source-column-wid

                                                 ↪  elfeed-goodies/feed-source-column-wid
                         :left)))

      (insert (propertize feed-column 'face 'elfeed-search-feed-face) "
      ↪  ")
      (insert (propertize tag-column 'face 'elfeed-search-tag-face) " ")
      (insert (propertize title 'face title-faces 'kbd-help title))
      (setq-local line-spacing 0.2)))
```

```
  (defun +rss/elfeed-show-refresh--better-style ()
    "Update the buffer to match the selected entry, using a mail-style."
    (interactive)
    (let* ((inhibit-read-only t)
           (title (elfeed-entry-title elfeed-show-entry))
           (date (seconds-to-time (elfeed-entry-date elfeed-show-entry)))
           (author (elfeed-meta elfeed-show-entry :author))
           (link (elfeed-entry-link elfeed-show-entry))
           (tags (elfeed-entry-tags elfeed-show-entry))
           (tagsstr (mapconcat #'symbol-name tags ", "))
           (nicedate (format-time-string "%a, %e %b %Y %T %Z" date))
           (content (elfeed-deref (elfeed-entry-content
           ↪  elfeed-show-entry)))
           (type (elfeed-entry-content-type elfeed-show-entry))
           (feed (elfeed-entry-feed elfeed-show-entry))
           (feed-title (elfeed-feed-title feed))
           (base (and feed (elfeed-compute-base (elfeed-feed-url
           ↪  feed)))))
      (erase-buffer)
      (insert "\n")
      (insert (format "%s\n\n" (propertize title 'face
      ↪  'elfeed-show-title-face)))
      (insert (format "%s\t" (propertize feed-title 'face
      ↪  'elfeed-search-feed-face)))
      (when (and author elfeed-show-entry-author)
        (insert (format "%s\n" (propertize author 'face
        ↪  'elfeed-show-author-face))))
      (insert (format "%s\n\n" (propertize nicedate 'face
      ↪  'elfeed-log-date-face)))
      (when tags
        (insert (format "%s\n"
                        (propertize tagsstr 'face
                        ↪  'elfeed-search-tag-face))))
      ;; (insert (propertize "Link: " 'face 'message-header-name))
      ;; (elfeed-insert-link link link)
      ;; (insert "\n")
      (cl-loop for enclosure in (elfeed-entry-enclosures
      ↪  elfeed-show-entry)
               do (insert (propertize "Enclosure: " 'face
               ↪  'message-header-name))
               do (elfeed-insert-link (car enclosure))
               do (insert "\n"))
      (insert "\n")
      (if content
          (if (eq type 'html)
              (elfeed-insert-html content base)
            (insert content))
        (insert (propertize "(empty)\n" 'face 'italic)))
      (goto-char (point-min)))))

(after! elfeed-show
  (require 'url)
```

```
(defvar elfeed-pdf-dir
  (expand-file-name "pdfs/"
                    (file-name-directory (directory-file-name
                    ↪  elfeed-enclosure-default-dir))))

(defvar elfeed-link-pdfs

   ↪  '(("https://www.jstatsoft.org/index.php/jss/article/view/v0\\([^/]+\\)"
   ↪  .
   ↪  "https://www.jstatsoft.org/index.php/jss/article/view/v0\\1/v\\1.pdf")
    ("http://arxiv.org/abs/\\([^/]+\\)" .
     ↪  "https://arxiv.org/pdf/\\1.pdf"))
  "List of alists of the form (REGEX-FOR-LINK . FORM-FOR-PDF)")

(defun elfeed-show-pdf (entry)
  (interactive
   (list (or elfeed-show-entry (elfeed-search-selected
    ↪  :ignore-region))))
  (let ((link (elfeed-entry-link entry))
        (feed-name (plist-get (elfeed-feed-meta (elfeed-entry-feed
         ↪  entry)) :title))
        (title (elfeed-entry-title entry))
        (file-view-function
         (lambda (f)
           (when elfeed-show-entry
             (elfeed-kill-buffer))
           (pop-to-buffer (find-file-noselect f))))
        pdf)

    (let ((file (expand-file-name
                 (concat (subst-char-in-string ?/ ?, title) ".pdf")
                 (expand-file-name (subst-char-in-string ?/ ?,
                  ↪  feed-name)
                                   elfeed-pdf-dir))))
      (if (file-exists-p file)
          (funcall file-view-function file)
        (dolist (link-pdf elfeed-link-pdfs)
          (when (and (string-match-p (car link-pdf) link)
                     (not pdf))
            (setq pdf (replace-regexp-in-string (car link-pdf) (cdr
             ↪  link-pdf) link))))
        (if (not pdf)
            (message "No associated PDF for entry")
          (message "Fetching %s" pdf)
          (unless (file-exists-p (file-name-directory file))
            (make-directory (file-name-directory file) t))
          (url-copy-file pdf file)
          (funcall file-view-function file))))))
```

4 Org

4.1 Org-Mode

Org mode is the best writing format, no contest. The defaults are more terminal-oriented, so lets make it look a little better

I like a little padding on my org blocks, just a millimeter or two on the top and bottom should do

```
(use-package! org-padding)
(add-hook 'org-mode-hook #'org-padding-mode)
(setq org-padding-block-begin-line-padding '(1.15 . 0.15))
(setq org-padding-block-end-line-padding '(1.15 . 0.15))
```

Some hooks are a bit annoying, so lets make them shut up

```
(defadvice! shut-up-org-problematic-hooks (orig-fn &rest args)
  :around #'org-fancy-priorities-mode
  :around #'org-superstar-mode
  (ignore-errors (apply orig-fn args)))
```

I prefer to preview my images

```
(setq org-startup-with-inline-images t)
```

Lets add org pretty table as well

```
(use-package! org-pretty-table
  :commands (org-pretty-table-mode global-org-pretty-table-mode))
```

Sadly I can't always work in org, but I can import stuff into it!

```
(use-package! org-pandoc-import
  :after org)
```

I prefer /org as my directory. Lets change some other defaults too

```
(setq org-directory "~/org"                          ; let's put files here
      org-use-property-inheritance t                  ; it's convenient to
      ↪  have properties inherited
```

```
      org-log-done 'time                          ; having the time a
      ↪  item is done sounds convenient
      org-list-allow-alphabetical t               ; have a. A. a) A) list
      ↪  bullets
      org-export-in-background t                  ; run export processes
      ↪  in external emacs process
      org-catch-invisible-edits 'smart)            ; try not to
      ↪  accidently do weird stuff in invisible regions
```

I want to slightly change the default args for babel

```
(setq org-babel-default-header-args
      '((:session . "none")
        (:results . "replace")
        (:exports . "code")
        (:cache . "no")
        (:noweb . "no")
        (:hlines . "no")
        (:tangle . "no")
        (:comments . "link")))
```

Add auto-fill-mode too

```
(add-hook 'text-mode-hook #'auto-fill-mode)
```

Lastly, some nice maps for org-mode, using g + arrows to move up/down headings

```
(map! :map evil-org-mode-map
      :after evil-org
      :n "g <up>" #'org-backward-heading-same-level
      :n "g <down>" #'org-forward-heading-same-level
      :n "g <left>" #'org-up-element
      :n "g <right>" #'org-down-element)
```

I also want to change the order of bullets

```
(setq org-list-demote-modify-bullet '(("+" . "-") ("-" . "+") ("*" . "+")
↪  ("1." . "a.")))
```

Lets add some spellcheck

```
(add-hook 'org-mode-hook 'turn-on-flyspell)
```

org-ol-tree is nice for viewing the structure of an org file

```
(use-package! org-ol-tree
  :commands org-ol-tree)
(map! :map org-mode-map
      :after org
      :localleader
      :desc "Outline" "O" #'org-ol-tree)
```

4.1.1 HTML

```
(use-package! ox-gfm
  :after org)
```

:header-args:emacs-lisp: :noweb-ref ox-html-conf For some reason this only works if you have org first

```
(after! org
  (define-minor-mode org-fancy-html-export-mode
  "Toggle my fabulous org export tweaks. While this mode itself does a
      little bit,
      the vast majority of the change in behaviour comes from switch
      statements in:
       - `org-html-template-fancier'
       - `org-html--build-meta-info-extended'
       - `org-html-src-block-collapsable'
       - `org-html-block-collapsable'
       - `org-html-table-wrapped'
       - `org-html--format-toc-headline-colapseable'
       - `org-html--toc-text-stripped-leaves'
       - `org-export-html-headline-anchor'"
  :global t
  :init-value t
  (if org-fancy-html-export-mode
      (setq org-html-style-default org-html-style-fancy
            org-html-meta-tags #'org-html-meta-tags-fancy
            org-html-checkbox-type 'html-span)
    (setq org-html-style-default org-html-style-plain
          org-html-meta-tags #'org-html-meta-tags-default
          org-html-checkbox-type 'html)))

(defadvice! org-html-template-fancier (orig-fn contents info)
  "Return complete document string after HTML conversion.
      CONTENTS is the transcoded contents string.  INFO is a plist
      holding export options. Adds a few extra things to the body
      compared to the default implementation."
  :around #'org-html-template
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
  ↪  org-msg-export-in-progress))
      (funcall orig-fn contents info)
```

```
    (concat
     (when (and (not (org-html-html5-p info)) (org-html-xhtml-p info))
       (let* ((xml-declaration (plist-get info :html-xml-declaration))
              (decl (or (and (stringp xml-declaration) xml-declaration)
                        (cdr (assoc (plist-get info :html-extension)
                                    xml-declaration))
                        (cdr (assoc "html" xml-declaration))
                        "")))
         (when (not (or (not decl) (string= "" decl)))
           (format "%s\n"
                   (format decl
                           (or (and org-html-coding-system
                                    (fboundp 'coding-system-get)
                                    (coding-system-get
                                     ↪  org-html-coding-system
                                     ↪  'mime-charset))
                               "iso-8859-1")))))))
     (org-html-doctype info)
     "\n"
     (concat "<html"
             (cond ((org-html-xhtml-p info)
                    (format
                     " xmlns=\"http://www.w3.org/1999/xhtml\" lang=\"%s\"
                     ↪  xml:lang=\"%s\""
                     (plist-get info :language) (plist-get info
                     ↪  :language)))
                   ((org-html-html5-p info)
                    (format " lang=\"%s\"" (plist-get info :language))))
             ">\n")
     "<head>\n"
     (org-html--build-meta-info info)
     (org-html--build-head info)
     (org-html--build-mathjax-config info)
     "</head>\n"
     "<body>\n<input type='checkbox' id='theme-switch'><div
     ↪  id='page'><label id='switch-label' for='theme-switch'></label>"
     (let ((link-up (org-trim (plist-get info :html-link-up)))
           (link-home (org-trim (plist-get info :html-link-home))))
       (unless (and (string= link-up "") (string= link-home ""))
         (format (plist-get info :html-home/up-format)
                 (or link-up link-home)
                 (or link-home link-up))))
     ;; Preamble.
     (org-html--build-pre/postamble 'preamble info)
     ;; Document contents.
     (let ((div (assq 'content (plist-get info :html-divs))))
       (format "<%s id=\"%s\">\n" (nth 1 div) (nth 2 div)))
     ;; Document title.
     (when (plist-get info :with-title)
       (let ((title (and (plist-get info :with-title)
                         (plist-get info :title)))
             (subtitle (plist-get info :subtitle))
             (html5-fancy (org-html--html5-fancy-p info)))
```

```
        (when title
          (format
           (if html5-fancy
               "<header class=\"page-header\">%s\n<h1
               ↪  class=\"title\">%s</h1>\n%s</header>"
             "<h1 class=\"title\">%s%s</h1>\n")
           (if (or (plist-get info :with-date)
                   (plist-get info :with-author))
               (concat "<div class=\"page-meta\">"
                       (when (plist-get info :with-date)
                         (org-export-data (plist-get info :date) info))
                       (when (and (plist-get info :with-date) (plist-get
                       ↪  info :with-author)) ", ")
                       (when (plist-get info :with-author)
                         (org-export-data (plist-get info :author)
                         ↪  info))
                       "</div>\n")
             "")
           (org-export-data title info)
           (if subtitle
               (format
                (if html5-fancy
                    "<p class=\"subtitle\"
                    ↪  role=\"doc-subtitle\">%s</p>\n"
                  (concat "\n" (org-html-close-tag "br" nil info) "\n"
                          "<span class=\"subtitle\">%s</span>\n"))
                (org-export-data subtitle info))
             ""))))))
    contents
    (format "</%s>\n" (nth 1 (assq 'content (plist-get info
    ↪  :html-divs))))
    ;; Postamble.
    (org-html--build-pre/postamble 'postamble info)
    ;; Possibly use the Klipse library live code blocks.
    (when (plist-get info :html-klipsify-src)
      (concat "<script>" (plist-get info :html-klipse-selection-script)
              "</script><script src=\""
              org-html-klipse-js
              "\"></script><link rel=\"stylesheet\" type=\"text/css\"
              ↪  href=\""
              org-html-klipse-css "\"/>"))
    ;; Closing document.
    "</div>\n</body>\n</html>")))

(defadvice! org-html-toc-linked (depth info &optional scope)
  "Build a table of contents.
      Just like `org-html-toc', except the header is a link to \"#\".
      DEPTH is an integer specifying the depth of the table.  INFO is
      a plist used as a communication channel.  Optional argument SCOPE
      is an element defining the scope of the table.  Return the table
      of contents as a string, or nil if it is empty."
  :override #'org-html-toc
  (let ((toc-entries
```

```
         (mapcar (lambda (headline)
                   (cons (org-html--format-toc-headline headline info)
                         (org-export-get-relative-level headline info)))
                 (org-export-collect-headlines info depth scope))))
    (when toc-entries
      (let ((toc (concat "<div id=\"text-table-of-contents\">"
                         (org-html--toc-text toc-entries)
                         "</div>\n")))
        (if scope toc
          (let ((outer-tag (if (org-html--html5-fancy-p info)
                               "nav"
                             "div")))
            (concat (format "<%s id=\"table-of-contents\">\n" outer-tag)
                    (let ((top-level (plist-get info
                    ↪  :html-toplevel-hlevel)))
                      (format "<h%d><a href=\"#\" style=\"color:inherit;
                      ↪  text-decoration: none;\">%s</a></h%d>\n"
                              top-level
                              (org-html--translate "Table of Contents"
                              ↪  info)
                              top-level))
                    toc
                    (format "</%s>\n" outer-tag)))))))))

 (defvar org-html-meta-tags-opengraph-image
  '(:image "https://tecosaur.com/resources/org/nib.png"
    :type "image/png"
    :width "200"
    :height "200"
    :alt "Green fountain pen nib")
  "Plist of og:image:PROP properties and their value, for use in
  ↪  `org-html-meta-tags-fancy'.")

(defun org-html-meta-tags-fancy (info)
  "Use the INFO plist to construct the meta tags, as described in
  ↪  `org-html-meta-tags'."
  (let ((title (org-html-plain-text
                (org-element-interpret-data (plist-get info :title))
                ↪  info))
        (author (and (plist-get info :with-author)
                     (let ((auth (plist-get info :author)))
                       ;; Return raw Org syntax.
                       (and auth (org-html-plain-text
                                  (org-element-interpret-data auth)
                                  ↪  info))))))
    (append
     (list
      (when (org-string-nw-p author)
        (list "name" "author" author))
      (when (org-string-nw-p (plist-get info :description))
        (list "name" "description"
              (plist-get info :description)))
      '("name" "generator" "org mode")
```

```
      '("name" "theme-color" "#77aa99")
      '("property" "og:type" "article")
      (list "property" "og:title" title)
      (let ((subtitle (org-export-data (plist-get info :subtitle) info)))
        (when (org-string-nw-p subtitle)
          (list "property" "og:description" subtitle))))
     (when org-html-meta-tags-opengraph-image
       (list (list "property" "og:image" (plist-get
       ↪  org-html-meta-tags-opengraph-image :image))
             (list "property" "og:image:type" (plist-get
             ↪  org-html-meta-tags-opengraph-image :type))
             (list "property" "og:image:width" (plist-get
             ↪  org-html-meta-tags-opengraph-image :width))
             (list "property" "og:image:height" (plist-get
             ↪  org-html-meta-tags-opengraph-image :height))
             (list "property" "og:image:alt" (plist-get
             ↪  org-html-meta-tags-opengraph-image :alt))))
     (list
      (when (org-string-nw-p author)
        (list "property" "og:article:author:first_name" (car
        ↪  (s-split-up-to " " author 2))))
      (when (and (org-string-nw-p author) (s-contains-p " " author))
        (list "property" "og:article:author:last_name" (cadr
        ↪  (s-split-up-to " " author 2))))
      (list "property" "og:article:published_time"
            (format-time-string
             "%FT%T%z"
             (or
              (when-let ((date-str (cadar (org-collect-keywords
              ↪  '("DATE")))))
                (unless (string= date-str (format-time-string "%F"))
                  (ignore-errors (encode-time (org-parse-time-string
                  ↪  date-str)))))
              (if buffer-file-name
                  (file-attribute-modification-time (file-attributes
                  ↪  buffer-file-name))
                (current-time)))))
      (when buffer-file-name
        (list "property" "og:article:modified_time"
              (format-time-string "%FT%T%z"
              ↪  (file-attribute-modification-time (file-attributes
              ↪  buffer-file-name)))))))))

(unless (functionp #'org-html-meta-tags-default)
  (defalias 'org-html-meta-tags-default #'ignore))
(setq org-html-meta-tags #'org-html-meta-tags-fancy)

(setq org-html-style-plain org-html-style-default
      org-html-htmlize-output-type 'css
      org-html-doctype "html5"
      org-html-html5-fancy t)

(defun org-html-reload-fancy-style ()
```

```
  (interactive)
  (setq org-html-style-fancy
        (concat (f-read-text (expand-file-name
        ↪  "misc/org-export-header.html" doom-private-dir))
                "<script>\n"
                (f-read-text (expand-file-name "misc/org-css/main.js"
                ↪  doom-private-dir))
                "</script>\n<style>\n"
                (f-read-text (expand-file-name
                ↪  "misc/org-css/main.min.css" doom-private-dir))
                "</style>"))
  (when org-fancy-html-export-mode
    (setq org-html-style-default org-html-style-fancy)))
(org-html-reload-fancy-style)

(defvar org-html-export-collapsed nil)
(eval '(cl-pushnew '(:collapsed "COLLAPSED" "collapsed"
↪  org-html-export-collapsed t)
                   (org-export-backend-options (org-export-get-backend
                   ↪  'html))))
(add-to-list 'org-default-properties "EXPORT_COLLAPSED")

(defadvice! org-html-src-block-collapsable (orig-fn src-block contents
↪  info)
  "Wrap the usual <pre> block in a <details>"
  :around #'org-html-src-block
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
  ↪  org-msg-export-in-progress))
      (funcall orig-fn src-block contents info)
    (let* ((properties (cadr src-block))
           (lang (mode-name-to-lang-name
                  (plist-get properties :language)))
           (name (plist-get properties :name))
           (ref (org-export-get-reference src-block info))
           (collapsed-p (member (or (org-export-read-attribute :attr_html
           ↪  src-block :collapsed)
                                    (plist-get info :collapsed))
                                '("y" "yes" "t" t "true" "all"))))
      (format
       "<details id='%s' class='code'%s><summary%s>%s</summary>
           <div class='gutter'>
           <a href='#%s'>#</a>
           <button title='Copy to clipboard'
           onclick='copyPreToClipbord(this)'> </button>\
           </div>
           %s
           </details>"
       ref
       (if collapsed-p "" " open")
       (if name " class='named'" "")
       (concat
        (when name (concat "<span class=\"name\">" name "</span>"))
        "<span class=\"lang\">" lang "</span>")
```

```
       ref
       (if name
           (replace-regexp-in-string (format "<pre\\(
           ↪  class=\"[^\"]+\"\\)? id=\"%s\">" ref) "<pre\\1>"
                                     (funcall orig-fn src-block contents
                                     ↪  info))
         (funcall orig-fn src-block contents info))))))

(defun mode-name-to-lang-name (mode)
  (or (cadr (assoc mode
                   '(("asymptote" "Asymptote")
                     ("awk" "Awk")
                     ("C" "C")
                     ("clojure" "Clojure")
                     ("css" "CSS")
                     ("D" "D")
                     ("ditaa" "ditaa")
                     ("dot" "Graphviz")
                     ("calc" "Emacs Calc")
                     ("emacs-lisp" "Emacs Lisp")
                     ("fortran" "Fortran")
                     ("gnuplot" "gnuplot")
                     ("haskell" "Haskell")
                     ("hledger" "hledger")
                     ("java" "Java")
                     ("js" "Javascript")
                     ("latex" "LaTeX")
                     ("ledger" "Ledger")
                     ("lisp" "Lisp")
                     ("lilypond" "Lilypond")
                     ("lua" "Lua")
                     ("matlab" "MATLAB")
                     ("mscgen" "Mscgen")
                     ("ocaml" "Objective Caml")
                     ("octave" "Octave")
                     ("org" "Org mode")
                     ("oz" "OZ")
                     ("plantuml" "Plantuml")
                     ("processing" "Processing.js")
                     ("python" "Python")
                     ("R" "R")
                     ("ruby" "Ruby")
                     ("sass" "Sass")
                     ("scheme" "Scheme")
                     ("screen" "Gnu Screen")
                     ("sed" "Sed")
                     ("sh" "shell")
                     ("sql" "SQL")
                     ("sqlite" "SQLite")
                     ("forth" "Forth")
                     ("io" "IO")
                     ("J" "J")
                     ("makefile" "Makefile")
```

```
                        ("maxima" "Maxima")
                        ("perl" "Perl")
                        ("picolisp" "Pico Lisp")
                        ("scala" "Scala")
                        ("shell" "Shell Script")
                        ("ebnf2ps" "ebfn2ps")
                        ("cpp" "C++")
                        ("abc" "ABC")
                        ("coq" "Coq")
                        ("groovy" "Groovy")
                        ("bash" "bash")
                        ("csh" "csh")
                        ("ash" "ash")
                        ("dash" "dash")
                        ("ksh" "ksh")
                        ("mksh" "mksh")
                        ("posh" "posh")
                        ("ada" "Ada")
                        ("asm" "Assembler")
                        ("caml" "Caml")
                        ("delphi" "Delphi")
                        ("html" "HTML")
                        ("idl" "IDL")
                        ("mercury" "Mercury")
                        ("metapost" "MetaPost")
                        ("modula-2" "Modula-2")
                        ("pascal" "Pascal")
                        ("ps" "PostScript")
                        ("prolog" "Prolog")
                        ("simula" "Simula")
                        ("tcl" "tcl")
                        ("tex" "LaTeX")
                        ("plain-tex" "TeX")
                        ("verilog" "Verilog")
                        ("vhdl" "VHDL")
                        ("xml" "XML")
                        ("nxml" "XML")
                        ("conf" "Configuration File"))))
     mode))

(defadvice! org-html-table-wrapped (orig-fn table contents info)
 "Wrap the usual <table> in a <div>"
 :around #'org-html-table
 (if (or (not org-fancy-html-export-mode) (bound-and-true-p
 ↪  org-msg-export-in-progress))
     (funcall orig-fn table contents info)
   (let* ((name (plist-get (cadr table) :name))
          (ref (org-export-get-reference table info)))
```

```
      (format "<div id='%s' class='table'>
          <div class='gutter'><a href='#%s'>#</a></div>
          <div class='tabular'>
          %s
          </div>\
          </div>"
              ref ref
              (if name
                  (replace-regexp-in-string (format "<table id=\"%s\""
                  ↪  ref) "<table"
                                            (funcall orig-fn table
                                            ↪  contents info))
                (funcall orig-fn table contents info))))))


(defadvice! org-html--format-toc-headline-colapseable (orig-fn headline
↪  info)
  "Add a label and checkbox to `org-html--format-toc-headline's usual
      output,
      to allow the TOC to be a collapseable tree."
  :around #'org-html--format-toc-headline
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
  ↪  org-msg-export-in-progress))
      (funcall orig-fn headline info)
    (let ((id (or (org-element-property :CUSTOM_ID headline)
                  (org-export-get-reference headline info))))
      (format "<input type='checkbox' id='toc--%s'/><label
      ↪  for='toc--%s'>%s</label>"
              id id (funcall orig-fn headline info)))))

 (defadvice! org-html--toc-text-stripped-leaves (orig-fn toc-entries)
  "Remove label"
  :around #'org-html--toc-text
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
  ↪  org-msg-export-in-progress))
      (funcall orig-fn toc-entries)
    (replace-regexp-in-string "<input [^>]+><label
    ↪  [^>]+>\\(.+?\\)</label></li>" "\\1</li>"
                              (funcall orig-fn toc-entries))))

(setq org-html-text-markup-alist
      '((bold . "<b>%s</b>")
        (code . "<code>%s</code>")
        (italic . "<i>%s</i>")
        (strike-through . "<del>%s</del>")
        (underline . "<span class=\"underline\">%s</span>")
        (verbatim . "<kbd>%s</kbd>")))

(appendq! org-html-checkbox-types
          '((html-span
             (on . "<span class='checkbox'></span>")
             (off . "<span class='checkbox'></span>")
             (trans . "<span class='checkbox'></span>"))))
```

```
(setq org-html-checkbox-type 'html-span)

(pushnew! org-html-special-string-regexps
          '("-&gt;" . "&#8594;")
          '("&lt;-" . "&#8592;"))

(defun org-export-html-headline-anchor (text backend info)
  (when (and (org-export-derived-backend-p backend 'html)
             (not (org-export-derived-backend-p backend 're-reveal))
             org-fancy-html-export-mode)
    (unless (bound-and-true-p org-msg-export-in-progress)
      (replace-regexp-in-string
       "<h\\([0-9]\\) id=\"\\([a-z0-9-]+\\)\">\\(.*[^ ]\\)<\\/h[0-9]>" ;
       ↪  this is quite restrictive, but due to
       ↪  `org-reference-contraction' I can do this
       "<h\\1 id=\"\\2\">\\3<a aria-hidden=\"true\" href=\"#\\2\">#</a>
       ↪  </h\\1>"
       text))))

(add-to-list 'org-export-filter-headline-functions
             'org-export-html-headline-anchor)

(org-link-set-parameters "Https"
                         :follow (lambda (url arg) (browse-url (concat
                         ↪  "https:" url) arg))
                         :export #'org-url-fancy-export)

 (defun org-url-fancy-export (url _desc backend)
  (let ((metadata (org-url-unfurl-metadata (concat "https:" url))))
    (cond
     ((org-export-derived-backend-p backend 'html)
      (concat
       "<div class=\"link-preview\">"
       (format "<a href=\"%s\">" (concat "https:" url))
       (when (plist-get metadata :image)
         (format "<img src=\"%s\"/>" (plist-get metadata :image)))
       "<small>"
       (replace-regexp-in-string "//\\(?:www\\.\\)?\\([^/]+\\)/?.*" "\\1"
       ↪  url)
       "</small><p>"
       (when (plist-get metadata :title)
         (concat "<b>" (org-html-encode-plain-text (plist-get metadata
         ↪  :title)) "</b></br>"))
       (when (plist-get metadata :description)
         (org-html-encode-plain-text (plist-get metadata :description)))
       "</p></a></div>"))
     (t url))))

(setq org-url-unfurl-metadata--cache nil)
(defun org-url-unfurl-metadata (url)
  (cdr (or (assoc url org-url-unfurl-metadata--cache)
           (car (push
                 (cons
```

```
                    url
                    (let* ((head-data
                            (-filter #'listp
                                     (cdaddr
                                      (with-current-buffer (progn (message
                                      ↪  "Fetching metadata from %s" url)

                                                                  ↪  (url-retrieve-synchron
                                                                  ↪  url t
                                                                  ↪  t 5))
                                        (goto-char (point-min))
                                        (delete-region (point-min) (-
                                        ↪  (search-forward "<head") 6))
                                        (delete-region (search-forward
                                        ↪  "</head>") (point-max))
                                        (goto-char (point-min))
                                        (while (re-search-forward
                                        ↪  "<script[^\u2800]+?</script>"
                                        ↪  nil t)
                                          (replace-match ""))
                                        (goto-char (point-min))
                                        (while (re-search-forward
                                        ↪  "<style[^\u2800]+?</style>" nil
                                        ↪  t)
                                          (replace-match ""))
                                        (libxml-parse-html-region
                                        ↪  (point-min) (point-max))))))
                           (meta (delq nil
                                       (mapcar
                                        (lambda (tag)
                                          (when (eq 'meta (car tag))
                                            (cons (or (cdr (assoc 'name
                                            ↪  (cadr tag)))
                                                      (cdr (assoc 'property
                                                      ↪  (cadr tag))))
                                                  (cdr (assoc 'content
                                                  ↪  (cadr tag))))))
                                        head-data))))
                      (let ((title (or (cdr (assoc "og:title" meta))
                                       (cdr (assoc "twitter:title" meta))
                                       (nth 2 (assq 'title head-data))))
                            (description (or (cdr (assoc "og:description"
                            ↪  meta))
                                             (cdr (assoc
                                             ↪  "twitter:description"
                                             ↪  meta))
                                             (cdr (assoc "description"
                                             ↪  meta))))
                            (image (or (cdr (assoc "og:image" meta))
                                       (cdr (assoc "twitter:image"
                                       ↪  meta)))))
                        (when image
                          (setq image (replace-regexp-in-string
```

```
                                        "^/" (concat "https://"
                                        ↪  (replace-regexp-in-string
                                        ↪  "//\\([^/]+\\)/?.*" "\\1" url)
                                        ↪  "/")
                                        (replace-regexp-in-string
                                         "^//" "https://"
                                         image))))
                            (list :title title :description description :image
                            ↪  image))))
                        org-url-unfurl-metadata--cache)))))

                    (setq org-html-mathjax-options
            '((path "https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js" )
              (scale "1")
              (autonumber "ams")
              (multlinewidth "85%")
              (tagindent ".8em")
              (tagside "right")))

(setq org-html-mathjax-template
      "<script>
          MathJax = {
            chtml: {
              scale: %SCALE
            },
            svg: {
              scale: %SCALE,
              fontCache: \"global\"
            },
            tex: {
              tags: \"%AUTONUMBER\",
              multlineWidth: \"%MULTLINEWIDTH\",
              tagSide: \"%TAGSIDE\",
              tagIndent: \"%TAGINDENT\"
            }
          };
          </script>
          <script id=\"MathJax-script\" async
                  src=\"%PATH\"></script>")

)
```

There are quite a few instances where I want to modify variables defined in `ox-html`, so we'll wrap the contents of this section in a

```
(after! ox-html
  <<ox-html-conf>>
)
```

Tecosaur has a good collection of fonts, might as well take some

```
<link rel="icon" href="https://tecosaur.com/resources/org/nib.ico"
↪  type="image/ico" />
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↪  href="https://tecosaur.com/resources/org/etbookot-roman-webfont.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↪  href="https://tecosaur.com/resources/org/etbookot-italic-webfont.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↪  href="https://tecosaur.com/resources/org/Merriweather-TextRegular.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↪  href="https://tecosaur.com/resources/org/Merriweather-TextItalic.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↪  href="https://tecosaur.com/resources/org/Merriweather-TextBold.woff2">
```

```
(defun org-html-block-collapsable (orig-fn block contents info)
  "Wrap the usual block in a <details>"
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
  ↪  org-msg-export-in-progress))
      (funcall orig-fn block contents info)
    (let ((ref (org-export-get-reference block info))
          (type (pcase (car block)
                  ('property-drawer "Properties")))
          (collapsed-default (pcase (car block)
                               ('property-drawer t)
                               (_ nil)))
          (collapsed-value (org-export-read-attribute :attr_html block
          ↪  :collapsed))
          (collapsed-p (or (member (org-export-read-attribute :attr_html
          ↪  block :collapsed)
                                   '("y" "yes" "t" t "true"))
                           (member (plist-get info :collapsed)
                           ↪  '("all")))))
      (format
       "<details id='%s' class='code'%s>
           <summary%s>%s</summary>
           <div class='gutter'>\
           <a href='#%s'>#</a>
           <button title='Copy to clipboard'
           onclick='copyPreToClipbord(this)'> </button>\
           </div>
           %s\n
           </details>"
       ref
       (if (or collapsed-p collapsed-default) "" " open")
       (if type " class='named'" "")
       (if type (format "<span class='type'>%s</span>" type) "")
       ref
       (funcall orig-fn block contents info)))))

(advice-add 'org-html-example-block   :around
↪  #'org-html-block-collapsable)
(advice-add 'org-html-fixed-width     :around
↪  #'org-html-block-collapsable)
```

```
(advice-add 'org-html-property-drawer :around
↪  #'org-html-block-collapsable)
```

4.2 Org-Roam

I would like to get into the habit of using org-roam for my notes, mainly because of that cool reddit post with the server.

```
(setq org-roam-directory "~/org/roam/")
```

Lets set up the org-roam-ui as well

```
(use-package! websocket
  :after org-roam)

(use-package! org-roam-ui
  :after org-roam
  :commands org-roam-ui-open
  :hook (org-roam . org-roam-ui-mode)
  :config
      (setq org-roam-ui-sync-theme t
            org-roam-ui-follow t
            org-roam-ui-update-on-save t
            org-roam-ui-open-on-start t))
```

The doom-modeline is a bit messy with roam, lets adjust that

```
(defadvice! doom-modeline--buffer-file-name-roam-aware-a (orig-fun)
  :around #'doom-modeline-buffer-file-name ; takes no args
  (if (s-contains-p org-roam-directory (or buffer-file-name ""))
      (replace-regexp-in-string

       ↪  "\\(?:^\\|.*/\\)\\([0-9]\\{4\\}\\)\\([0-9]\\{2\\}\\)\\([0-9]\\{2\\}\\)[0-9]*-"
       " (\\1-\\2-\\3) "
       (subst-char-in-string ?_ ?  buffer-file-name))
    (funcall orig-fun)))
```

Now, I want to replace the org-roam buffer with org-roam-ui, to do that, we need to disable the regular buffer

```
(after! org-roam
   (setq +org-roam-open-buffer-on-find-file nil))
```

4.3 Org-Agenda

Set the directory

```
(setq org-agenda-files (list "~/org/school.org"
                             "~/org/todo.org"))
```

Org-super-agenda!

```
(use-package! org-super-agenda
  :commands (org-super-agenda-mode))

(after! org-agenda
  (org-super-agenda-mode))

(setq org-agenda-skip-scheduled-if-done t
      org-agenda-skip-deadline-if-done t
      org-agenda-include-deadlines t
      org-agenda-block-separator nil
      org-agenda-tags-column 100 ;; from testing this seems to be a good
      ↪  value
      org-agenda-compact-blocks t)

(setq org-agenda-custom-commands
      '(("o" "Overview"
         ((agenda "" ((org-agenda-span 'day)
                      (org-super-agenda-groups
                       '((:name "Today"
                          :time-grid t
                          :date today
                          :todo "TODAY"
                          :scheduled today
                          :order 1)))))
          (alltodo "" ((org-agenda-overriding-header "")
                       (org-super-agenda-groups
                        '((:name "Next to do"
                           :todo "NEXT"
                           :order 1)
                          (:name "Important"
                           :tag "Important"
                           :priority "A"
                           :order 6)
                          (:name "Due Today"
                           :deadline today
                           :order 2)
                          (:name "Due Soon"
                           :deadline future
                           :order 8)
                          (:name "Overdue"
                           :deadline past
```

```
                                :face error
                                :order 7)
                               (:name "Assignments"
                                :tag "Assignment"
                                :order 10)
                               (:name "Issues"
                                :tag "Issue"
                                :order 12)
                               (:name "Emacs"
                                :tag "Emacs"
                                :order 13)
                               (:name "Projects"
                                :tag "Project"
                                :order 14)
                               (:name "Research"
                                :tag "Research"
                                :order 15)
                               (:name "To read"
                                :tag "Read"
                                :order 30)
                               (:name "Waiting"
                                :todo "WAITING"
                                :order 20)
                               (:name "University"
                                :tag "uni"
                                :order 32)
                               (:name "Trivial"
                                :priority<= "E"
                                :tag ("Trivial" "Unimportant")
                                :todo ("SOMEDAY" )
                                :order 90)
                               (:discard (:tag ("Chore" "Routine"
                               ↪  "Daily")))))))))))
```

4.4 Org-Capture

Use doct

```
(use-package! doct
  :commands (doct))
```

4.4.1 Prettify

Improve the look of the capture dialog (idea borrowed from tecosaur)

```
(defun org-capture-select-template-prettier (&optional keys)
  "Select a capture template, in a prettier way than default
     Lisp programs can force the template by setting KEYS to a string."
  (let ((org-capture-templates
         (or (org-contextualize-keys
              (org-capture-upgrade-templates org-capture-templates)
              org-capture-templates-contexts)
             '(("t" "Task" entry (file+headline "" "Tasks")
                "* TODO %?\n  %u\n  %a")))))
    (if keys
        (or (assoc keys org-capture-templates)
            (error "No capture template referred to by \"%s\" keys"
                   keys))
      (org-mks org-capture-templates
               "Select a capture template\n-------------------------"
               "Template key: "
               `(("q" ,(concat (all-the-icons-octicon "stop" :face
                                'all-the-icons-red :v-adjust 0.01) "\tAbort")))))))
(advice-add 'org-capture-select-template :override
  #'org-capture-select-template-prettier)

(defun org-mks-pretty (table title &optional prompt specials)
  "Select a member of an alist with multiple keys. Prettified.
     TABLE is the alist which should contain entries where the car is a
     string.
     There should be two types of entries.
     1. prefix descriptions like (\"a\" \"Description\")
        This indicates that `a' is a prefix key for multi-letter
     selection, and
        that there are entries following with keys like \"ab\", \"ax\"…
     2. Select-able members must have more than two elements, with the
     first
        being the string of keys that lead to selecting it, and the
     second a
        short description string of the item.
     The command will then make a temporary buffer listing all entries
     that can be selected with a single key, and all the single key
     prefixes.  When you press the key for a single-letter entry, it is
     selected.
     When you press a prefix key, the commands (and maybe further
     prefixes)
     under this key will be shown and offered for selection.
     TITLE will be placed over the selection in the temporary buffer,
     PROMPT will be used when prompting for a key.  SPECIALS is an
     alist with (\"key\" \"description\") entries.  When one of these
     is selected, only the bare key is returned."
  (save-window-excursion
    (let ((inhibit-quit t)
          (buffer (org-switch-to-buffer-other-window "*Org Select*"))
          (prompt (or prompt "Select: "))
          case-fold-search
          current)
      (unwind-protect
```

```
        (catch 'exit
          (while t
            (setq-local evil-normal-state-cursor (list nil))
            (erase-buffer)
            (insert title "\n\n")
            (let ((des-keys nil)
                  (allowed-keys '("\C-g"))
                  (tab-alternatives '("\s" "\t" "\r"))
                  (cursor-type nil))
              ;; Populate allowed keys and descriptions keys
              ;; available with CURRENT selector.
              (let ((re (format "\\`%s\\(.\\)\\'"
                                (if current (regexp-quote current)
                                  "")))
                    (prefix (if current (concat current " ") "")))
                (dolist (entry table)
                  (pcase entry
                    ;; Description.
                    (`(,(and key (pred (string-match re))) ,desc)
                     (let ((k (match-string 1 key)))
                       (push k des-keys)
                       ;; Keys ending in tab, space or RET are
                       ;; equivalent.
                       (if (member k tab-alternatives)
                           (push "\t" allowed-keys)
                         (push k allowed-keys))
                       (insert (propertize prefix 'face
                                           'font-lock-comment-face) (propertize k 'face
                                           'bold) (propertize "›" 'face
                                           'font-lock-comment-face) "  " desc "…"
                                           "\n")))
                    ;; Usable entry.
                    (`(,(and key (pred (string-match re))) ,desc . ,_)
                     (let ((k (match-string 1 key)))
                       (insert (propertize prefix 'face
                                           'font-lock-comment-face) (propertize k 'face
                                           'bold) "   " desc "\n")
                       (push k allowed-keys)))
                    (_ nil))))
              ;; Insert special entries, if any.
              (when specials
                (insert "————————————————————————\n")
                (pcase-dolist (`(,key ,description) specials)
                  (insert (format "%s   %s\n" (propertize key 'face
                                  '(bold all-the-icons-red)) description))
                  (push key allowed-keys)))
              ;; Display UI and let user select an entry or
              ;; a sub-level prefix.
              (goto-char (point-min))
              (unless (pos-visible-in-window-p (point-max))
                (org-fit-window-to-buffer))
              (let ((pressed (org--mks-read-key allowed-keys prompt
                              nil)))
```

```
                    (setq current (concat current pressed))
                    (cond
                     ((equal pressed "\C-g") (user-error "Abort"))
                     ((equal pressed "ESC") (user-error "Abort"))
                     ;; Selection is a prefix: open a new menu.
                     ((member pressed des-keys))
                     ;; Selection matches an association: return it.
                     ((let ((entry (assoc current table)))
                        (and entry (throw 'exit entry))))
                     ;; Selection matches a special entry: return the
                     ;; selection prefix.
                     ((assoc current specials) (throw 'exit current))
                     (t (error "No entry available")))))))
          (when buffer (kill-buffer buffer))))))
(advice-add 'org-mks :override #'org-mks-pretty)
```

The org-capture bin is rather nice, but I'd be nicer with a smaller frame, and no modeline.

```
(setf (alist-get 'height +org-capture-frame-parameters) 15)
;; (alist-get 'name +org-capture-frame-parameters) "  Capture") ;; ATM
↪  hardcoded in other places, so changing breaks stuff
(setq +org-capture-fn
      (lambda ()
        (interactive)
        (set-window-parameter nil 'mode-line-format 'none)
        (org-capture)))
```

Sprinkle in some `doct` utility functions

```
(defun +doct-icon-declaration-to-icon (declaration)
  "Convert :icon declaration to icon"
  (let ((name (pop declaration))
        (set  (intern (concat "all-the-icons-" (plist-get declaration
        ↪  :set))))
        (face (intern (concat "all-the-icons-" (plist-get declaration
        ↪  :color))))
        (v-adjust (or (plist-get declaration :v-adjust) 0.01)))
    (apply set `(,name :face ,face :v-adjust ,v-adjust))))

(defun +doct-iconify-capture-templates (groups)
  "Add declaration's :icon to each template group in GROUPS."
  (let ((templates (doct-flatten-lists-in groups)))
    (setq doct-templates (mapcar (lambda (template)
                                   (when-let* ((props (nthcdr (if (=
                                   ↪  (length template) 4) 2 5)
                                   ↪  template))
                                               (spec (plist-get
                                               ↪  (plist-get props
                                               ↪  :doct) :icon)))
```

```
                                    (setf (nth 1 template) (concat
                                    ↪  (+doct-icon-declaration-to-icon
                                    ↪  spec)
                                                                   "\t"
                                                                   (nth
                                                                   ↪  1
                                                                   ↪  template))))
                                  template)
                                templates))))

(setq doct-after-conversion-functions '(+doct-iconify-capture-templates))
```

4.4.2 Templates

```
(setq org-capture-templates
      (doct `(("Home" :keys "h"
               :icon ("home" :set "octicon" :color "cyan")
               :file "Home.org"
               :prepend t
               :headline "Inbox"
               :template ("* TODO %?"
                          "%i %a"))
              ("Work" :keys "w"
               :icon ("business" :set "material" :color "yellow")
               :file "Work.org"
               :prepend t
               :headline "Inbox"
               :template ("* TODO %?"
                          "SCHEDULED: %^{Schedule:}t"
                          "DEADLINE: %^{Deadline:}t"
                          "%i %a"))
              ("Note" :keys "n"
               :icon ("sticky-note" :set "faicon" :color "yellow")
               :file "Notes.org"
               :template ("* *?"
                          "%i %a"))
              ("Project" :keys "p"
               :icon ("repo" :set "octicon" :color "silver")
               :prepend t
               :type entry
               :headline "Inbox"
               :template ("* %{keyword} %?"
                          "%i"
                          "%a")
               :file ""
               :custom (:keyword "")
               :children (("Task" :keys "t"
                           :icon ("checklist" :set "octicon" :color
                           ↪  "green")
```

```
                                :keyword "TODO"
                                :file +org-capture-project-todo-file)
                               ("Note" :keys "n"
                                :icon ("sticky-note" :set "faicon" :color
                                ↪  "yellow")
                                :keyword "%U"
                                :file +org-capture-project-notes-file)))
                )))
```

4.5 ORG Plot

Tell it to use the doom theme colors

```
(after! org-plot
  (defun org-plot/generate-theme (_type)
    "Use the current Doom theme colours to generate a GnuPlot preamble."
```

```
    (format "
        fgt = \"textcolor rgb '%s'\" # foreground text
        fgat = \"textcolor rgb '%s'\" # foreground alt text
        fgl = \"linecolor rgb '%s'\" # foreground line
        fgal = \"linecolor rgb '%s'\" # foreground alt line
        # foreground colors
        set border lc rgb '%s'
        # change text colors of  tics
        set xtics @fgt
        set ytics @fgt
        # change text colors of labels
        set title @fgt
        set xlabel @fgt
        set ylabel @fgt
        # change a text color of key
        set key @fgt
        # line styles
        set linetype 1 lw 2 lc rgb '%s' # red
        set linetype 2 lw 2 lc rgb '%s' # blue
        set linetype 3 lw 2 lc rgb '%s' # green
        set linetype 4 lw 2 lc rgb '%s' # magenta
        set linetype 5 lw 2 lc rgb '%s' # orange
        set linetype 6 lw 2 lc rgb '%s' # yellow
        set linetype 7 lw 2 lc rgb '%s' # teal
        set linetype 8 lw 2 lc rgb '%s' # violet
        # border styles
        set tics out nomirror
        set border 3
        # palette
        set palette maxcolors 8
        set palette defined ( 0 '%s',\
        1 '%s',\
        2 '%s',\
        3 '%s',\
        4 '%s',\
        5 '%s',\
        6 '%s',\
        7 '%s' )
        "
            (doom-color 'fg)
            (doom-color 'fg-alt)
            (doom-color 'fg)
            (doom-color 'fg-alt)
            (doom-color 'fg)
            ;; colours
            (doom-color 'red)
            (doom-color 'blue)
            (doom-color 'green)
            (doom-color 'magenta)
            (doom-color 'orange)
            (doom-color 'yellow)
            (doom-color 'teal)
            (doom-color 'violet)
```

```
            ;; duplicated
            (doom-color 'red)
            (doom-color 'blue)
            (doom-color 'green)
            (doom-color 'magenta)
            (doom-color 'orange)
            (doom-color 'yellow)
            (doom-color 'teal)
            (doom-color 'violet)
            ))
  (defun org-plot/gnuplot-term-properties (_type)
    (format "background rgb '%s' size 1050,650"
            (doom-color 'bg)))
  (setq org-plot/gnuplot-script-preamble #'org-plot/generate-theme)
  (setq org-plot/gnuplot-term-extra #'org-plot/gnuplot-term-properties))
```

4.6 View Exported File

I have to export files pretty often, lets setup some keybindings to make it easier

```
;;spc+v = view exported file
(map! :map org-mode-map
      :localleader
      :desc "View exported file" "v" #'org-view-output-file)

(defun org-view-output-file (&optional org-file-path)
  "Visit buffer open on the first output file (if any) found, using
  ↪  `org-view-output-file-extensions'"
  (interactive)
  (let* ((org-file-path (or org-file-path (buffer-file-name) ""))
         (dir (file-name-directory org-file-path))
         (basename (file-name-base org-file-path))
         (output-file nil))
    (dolist (ext org-view-output-file-extensions)
      (unless output-file
        (when (file-exists-p
               (concat dir basename "." ext))
          (setq output-file (concat dir basename "." ext)))))
    (if output-file
        (if (member (file-name-extension output-file)
        ↪  org-view-external-file-extensions)
            (browse-url-xdg-open output-file)
          (pop-to-bufferpop-to-buffer (or (find-buffer-visiting
          ↪  output-file)
                                          (find-file-noselect output-file))))
      (message "No exported file found"))))

(defvar org-view-output-file-extensions '("pdf" "md" "rst" "txt" "tex"
↪  "html")
```

```
  "Search for output files with these extensions, in order, viewing the
  ↪ first that matches")
(defvar org-view-external-file-extensions '("html")
  "File formats that should be opened externally.")
```

4.7 Dictionaries

Lets use lexic instead of the default dictionary

```
(use-package! lexic
  :commands lexic-search lexic-list-dictionary
  :config
  (map! :map lexic-mode-map
        :n "q" #'lexic-return-from-lexic
        :nv "RET" #'lexic-search-word-at-point
        :n "a" #'outline-show-all
        :n "h" (cmd! (outline-hide-sublevels 3))
        :n "o" #'lexic-toggle-entry
        :n "n" #'lexic-next-entry
        :n "N" (cmd! (lexic-next-entry t))
        :n "p" #'lexic-previous-entry
        :n "P" (cmd! (lexic-previous-entry t))
        :n "E" (cmd! (lexic-return-from-lexic) ; expand
                     (switch-to-buffer (lexic-get-buffer)))
        :n "M" (cmd! (lexic-return-from-lexic) ; minimise
                     (lexic-goto-lexic))
        :n "C-p" #'lexic-search-history-backwards
        :n "C-n" #'lexic-search-history-forwards
        :n "/" (cmd! (call-interactively #'lexic-search))))

(defadvice! +lookup/dictionary-definition-lexic (identifier &optional
↪  arg)
  "Look up the definition of the word at point (or selection) using
  ↪ `lexic-search'."
  :override #'+lookup/dictionary-definition
  (interactive
   (list (or (doom-thing-at-point-or-region 'word)
             (read-string "Look up in dictionary: "))
         current-prefix-arg))
  (lexic-search identifier nil nil t))
```

5 Latex

5.1 Basic configuration

First of all, lets use pdf-tools to preview pdfs by defaults

```
(setq +latex-viewers '(pdf-tools evince zathura okular skim sumatrapdf))
```

I also want to adjust the look of those previews

```
(after! org
  (setq org-highlight-latex-and-related '(native script entities))
  (add-to-list 'org-src-block-faces '("latex" (:inherit default :extend
  ↪  t))))

(after! org
  (plist-put org-format-latex-options :background "Transparent"))
```

Lets add cdlatex org mode integration

```
(after! org
  (add-hook 'org-mode-hook 'turn-on-org-cdlatex))

(defadvice! org-edit-latex-emv-after-insert ()
  :after #'org-cdlatex-environment-indent
  (org-edit-latex-environment))
```

I like to preview images inline too

```
(setq org-display-inline-images t)
(setq org-redisplay-inline-images t)
(setq org-startup-with-inline-images "inlineimages")
```

I prefer svgs to pngs. It takes a little more time, but scales better on HiDPI displays

```
(setq-default org-html-with-latex `dvisvgm)
(setq org-preview-latex-default-process 'dvisvgm)
```

Obviously we can't edit a png though. Let use org-fragtog to toggle between previews and text mode

```
(use-package! org-fragtog
  :hook (org-mode . org-fragtog-mode))
```

Here's just my private LaTeX config.

```
(setq org-format-latex-header "\\documentclass{article}
    \\usepackage[usenames]{xcolor}
    \\usepackage[T1]{fontenc}
    \\usepackage{booktabs}
    \\pagestyle{empty}             % do not remove
    % The settings below are copied from fullpage.sty
    \\setlength{\\textwidth}{\\paperwidth}
    \\addtolength{\\textwidth}{-3cm}
    \\setlength{\\oddsidemargin}{1.5cm}
    \\addtolength{\\oddsidemargin}{-2.54cm}
    \\setlength{\\evensidemargin}{\\oddsidemargin}
    \\setlength{\\textheight}{\\paperheight}
    \\addtolength{\\textheight}{-\\headheight}
    \\addtolength{\\textheight}{-\\headsep}
    \\addtolength{\\textheight}{-\\footskip}
    \\addtolength{\\textheight}{-3cm}
    \\setlength{\\topmargin}{1.5cm}
    \\addtolength{\\topmargin}{-2.54cm}
    ")
```

5.2 PDF-Tools

DocView gives me a headache, but pdf-tools can be improved, lets configure it a little more

```
(use-package pdf-view
  :hook (pdf-tools-enabled . pdf-view-themed-minor-mode)
  :hook (pdf-tools-enabled . hide-mode-line-mode)
  :config
  (setq pdf-view-resize-factor 1.1)
  (setq-default pdf-view-display-size 'fit-page))
```

5.3 Export

5.3.1 Conditional features

```
(defvar org-latex-italic-quotes t
  "Make \"quote\" environments italic.")
(defvar org-latex-par-sep t
  "Vertically seperate paragraphs, and remove indentation.")

(defvar org-latex-conditional-features

  '(("\\[\\[\\(?:file\\|https?\\):\\(?:[^]]\\|\\\\\\]\\)+?\\.\\(?:eps\\|pdf\\|png\\|jpe
  . image)
    ("\\[\\[\\(?:file\\|https?\\):\\(?:[^]]+?\\|\\\\\\]\\)\\.svg\\]\\]" .
     svg)
    ("^[ \t]*|" . table)
    ("cref:\\|\\cref{\\|\\[\\[[^\\]]+\\]\\]" . cleveref)
    ("[;\\\\]?\\b[A-Z][A-Z]+s?[^A-Za-z]" . acronym)
    ("\\+[^ ].*[^ ]\\+\\|_[^ ].*[^
     ]_\\|\\\\uu?line\\|\\\\uwave\\|\\\\sout\\|\\\\xout\\|\\\\dashuline\\|\\dotuline\\|\
     . underline)
    (":float wrap" . float-wrap)
    (":float sideways" . rotate)
    ("^[ \t]*#\\+caption:\\|\\\\caption" . caption)
    ("\\[\\[xkcd:" . (image caption))
    ((and org-latex-italic-quotes "^[
     \t]*#\\+begin_quote\\|\\\\begin{quote}") . italic-quotes)
    (org-latex-par-sep . par-sep)
    ("^[ \t]*\\(?:[-+*]\\|[0-9]+[.)]\\|[A-Za-z]+[.)]\\) \\[[ -X]\\]" .
     checkbox)
    ("^[ \t]*#\\+begin_warning\\|\\\\begin{warning}" . box-warning)
    ("^[ \t]*#\\+begin_info\\|\\\\begin{info}"       . box-info)
    ("^[ \t]*#\\+begin_success\\|\\\\begin{success}" . box-success)
    ("^[ \t]*#\\+begin_error\\|\\\\begin{error}"     . box-error))
  "Org feature tests and associated LaTeX feature flags.
     Alist where the car is a test for the presense of the feature,
     and the cdr is either a single feature symbol or list of feature
     symbols.
     When a string, it is used as a regex search in the buffer.
     The feature is registered as present when there is a match.
     The car can also be a
     - symbol, the value of which is fetched
     - function, which is called with info as an argument
     - list, which is `eval'uated
     If the symbol, function, or list produces a string: that is used as
     a regex
     search in the buffer. Otherwise any non-nil return value will
     indicate the
     existance of the feature.")
```

```
(defvar org-latex-caption-preamble "
    \\usepackage{subcaption}
    \\usepackage[hypcap=true]{caption}
    \\setkomafont{caption}{\\sffamily\\small}
    \\setkomafont{captionlabel}{\\upshape\\bfseries}
    \\captionsetup{justification=raggedright,singlelinecheck=true}
    \\usepackage{capt-of} % required by Org
    "
  "Preamble that improves captions.")

(defvar org-latex-checkbox-preamble "
    \\newcommand{\\checkboxUnchecked}{$\\square$}
    \\newcommand{\\checkboxTransitive}{\\rlap{\\raisebox{-0.1ex}{\\hspace{0.35ex}\\Large\\t
    -}}$\\square$}
    \\newcommand{\\checkboxChecked}{\\rlap{\\raisebox{0.2ex}{\\hspace{0.35ex}\\scriptsize
    \\ding{52}}}$\\square$}
    "
  "Preamble that improves checkboxes.")

(defvar org-latex-box-preamble "
    % args = #1 Name, #2 Colour, #3 Ding, #4 Label
    \\newcommand{\\defsimplebox}[4]{%
      \\definecolor{#1}{HTML}{#2}
      \\newenvironment{#1}[1][]
      {%
        \\par\\vspace{-0.7\\baselineskip}%
        \\textcolor{#1}{#3}
    \\textcolor{#1}{\\textbf{\\def\\temp{##1}\\ifx\\temp\\empty#4\\else##1\\fi}}%
        \\vspace{-0.8\\baselineskip}
        \\begin{addmargin}[1em]{1em}
      }{%
        \\end{addmargin}
        \\vspace{-0.5\\baselineskip}
      }%
    }
    "
  "Preamble that provides a macro for custom boxes.")
```

```
(defvar org-latex-feature-implementations
  '((image         :snippet "\\usepackage{graphicx}" :order 2)
    (svg           :snippet "\\usepackage{svg}" :order 2)
    (table         :snippet
    ↪  "\\usepackage{longtable}\n\\usepackage{booktabs}" :order 2)
    (cleveref      :snippet "\\usepackage[capitalize]{cleveref}" :order
    ↪  1)
    (underline     :snippet "\\usepackage[normalem]{ulem}" :order 0.5)
    (float-wrap    :snippet "\\usepackage{wrapfig}" :order 2)
    (rotate        :snippet "\\usepackage{rotating}" :order 2)
    (caption       :snippet org-latex-caption-preamble :order 2.1)
```

```
    (acronym       :snippet
    ↪  "\\newcommand{\\acr}[1]{\\protect\\textls*[110]{\\scshape
    ↪  #1}}\n\\newcommand{\\acrs}{\\protect\\scalebox{.91}[.84]\\hspace{0.15ex}s}"
    ↪  :order 0.4)
    (italic-quotes :snippet
    ↪  "\\renewcommand{\\quote}{\\list{}{\\rightmargin\\leftmargin}\\item\\relax\\em}\n"
    ↪  :order 0.5)
    (par-sep       :snippet
    ↪  "\\setlength{\\parskip}{\\baselineskip}\n\\setlength{\\parindent}{0pt}\n"
    ↪  :order 0.5)
    (.pifont       :snippet "\\usepackage{pifont}")
    (checkbox      :requires .pifont :order 3
                   :snippet (concat (unless (memq 'maths features)
                                      "\\usepackage{amssymb} % provides
                                      ↪  \\square")
                                    org-latex-checkbox-preamble))
    (.fancy-box    :requires .pifont    :snippet org-latex-box-preamble
    ↪  :order 3.9)
    (box-warning   :requires .fancy-box :snippet
    ↪  "\\defsimplebox{warning}{e66100}{\\ding{68}}{Warning}" :order 4)
    (box-info      :requires .fancy-box :snippet
    ↪  "\\defsimplebox{info}{3584e4}{\\ding{68}}{Information}" :order 4)
    (box-success   :requires .fancy-box :snippet
    ↪  "\\defsimplebox{success}{26a269}{\\ding{68}}{\\vspace{-\\baselineskip}}"
    ↪  :order 4)
    (box-error     :requires .fancy-box :snippet
    ↪  "\\defsimplebox{error}{c01c28}{\\ding{68}}{Important}" :order 4))
  "LaTeX features and details required to implement them.
    List where the car is the feature symbol, and the rest forms a
    plist with the
    following keys:
    - :snippet, which may be either
      - a string which should be included in the preamble
      - a symbol, the value of which is included in the preamble
      - a function, which is evaluated with the list of feature flags
    as its
        single argument. The result of which is included in the
    preamble
      - a list, which is passed to `eval', with a list of feature flags
    available
        as \"features\"
    - :requires, a feature or list of features that must be available
    - :when, a feature or list of features that when all available
    should cause this
        to be automatically enabled.
    - :prevents, a feature or list of features that should be masked
    - :order, for when ordering is important. Lower values appear
    first.
        The default is 0.
    Features that start with ! will be eagerly loaded, i.e. without
  ↪  being detected.")
```

```
(defun org-latex-detect-features (&optional buffer info)
  "List features from `org-latex-conditional-features' detected in
  ↪ BUFFER."
  (let ((case-fold-search nil))
    (with-current-buffer (or buffer (current-buffer))
      (delete-dups
       (mapcan (lambda (construct-feature)
                 (when (let ((out (pcase (car construct-feature)
                                    ((pred stringp) (car
                                    ↪ construct-feature))
                                    ((pred functionp) (funcall (car
                                    ↪ construct-feature) info))
                                    ((pred listp) (eval (car
                                    ↪ construct-feature)))
                                    ((pred symbolp) (symbol-value (car
                                    ↪ construct-feature)))
                                    (_ (user-error
                                    ↪ "org-latex-conditional-features
                                    ↪ key %s unable to be used" (car
                                    ↪ construct-feature))))))
                         (if (stringp out)
                             (save-excursion
                               (goto-char (point-min))
                               (re-search-forward out nil t))
                           out))
                   (if (listp (cdr construct-feature)) (cdr
                   ↪ construct-feature) (list (cdr
                   ↪ construct-feature)))))
               org-latex-conditional-features)))))
```

```
(defun org-latex-expand-features (features)
  "For each feature in FEATURES process :requires, :when, and :prevents
  ↪ keywords and sort according to :order."
  (dolist (feature features)
    (unless (assoc feature org-latex-feature-implementations)
      (error "Feature %s not provided in
      ↪ org-latex-feature-implementations" feature)))
  (setq current features)
  (while current
    (when-let ((requirements (plist-get (cdr (assq (car current)
    ↪ org-latex-feature-implementations)) :requires)))
      (setcdr current (if (listp requirements)
                          (append requirements (cdr current))
                        (cons requirements (cdr current)))))
    (setq current (cdr current)))
  (dolist (potential-feature
           (append features (delq nil (mapcar (lambda (feat)
                                                (when (plist-get (cdr
                                                ↪ feat) :eager)
                                                  (car feat)))

                                              ↪ org-latex-feature-implementations))))
```

```
    (when-let ((prerequisites (plist-get (cdr (assoc potential-feature
    ↪  org-latex-feature-implementations)) :when)))
      (setf features (if (if (listp prerequisites)
                             (cl-every (lambda (preq) (memq preq
                             ↪  features)) prerequisites)
                           (memq prerequisites features))
                         (append (list potential-feature) features)
                       (delq potential-feature features)))))
  (dolist (feature features)
    (when-let ((prevents (plist-get (cdr (assoc feature
    ↪  org-latex-feature-implementations)) :prevents)))
      (setf features (cl-set-difference features (if (listp prevents)
      ↪  prevents (list prevents))))))
  (sort (delete-dups features)
        (lambda (feat1 feat2)
          (if (< (or (plist-get (cdr (assoc feat1
          ↪  org-latex-feature-implementations)) :order) 1)
                 (or (plist-get (cdr (assoc feat2
                 ↪  org-latex-feature-implementations)) :order) 1))
              t nil))))
```

```
(defun org-latex-generate-features-preamble (features)
  "Generate the LaTeX preamble content required to provide FEATURES.
     This is done according to `org-latex-feature-implementations'"
  (let ((expanded-features (org-latex-expand-features features)))
    (concat
     (format "\n%% features: %s\n" expanded-features)
     (mapconcat (lambda (feature)
                  (when-let ((snippet (plist-get (cdr (assoc feature
                  ↪  org-latex-feature-implementations)) :snippet)))
                    (concat
                     (pcase snippet
                       ((pred stringp) snippet)
                       ((pred functionp) (funcall snippet features))
                       ((pred listp) (eval `(let ((features ',features))
                       ↪  (,@snippet))))
                       ((pred symbolp) (symbol-value snippet))
                       (_ (user-error "org-latex-feature-implementations
                       ↪  :snippet value %s unable to be used"
                       ↪  snippet)))
                     "\n")))
                expanded-features
                "")
     "% end features\n")))
```

```
(defvar info--tmp nil)

(defadvice! org-latex-save-info (info &optional t_ s_)
  :before #'org-latex-make-preamble
  (setq info--tmp info))
```

```
(defadvice! org-splice-latex-header-and-generated-preamble-a (orig-fn tpl
↪  def-pkg pkg snippets-p &optional extra)
  "Dynamically insert preamble content based on
  ↪  `org-latex-conditional-preambles'."
  :around #'org-splice-latex-header
  (let ((header (funcall orig-fn tpl def-pkg pkg snippets-p extra)))
    (if snippets-p header
      (concat header
              (org-latex-generate-features-preamble
              ↪  (org-latex-detect-features nil info--tmp))
              "\n"))))
```

5.3.2 Tectonic

Tectonic is the hot new thing, which also means I can get rid of my tex installation. Dependencies are nice and auto-installed, and I don't need to bother with ascii stuff

```
(setq org-latex-pdf-process '("tectonic -X compile --print --outdir=%o -Z
↪  shell-escape %f"))
```

Now, previews won't work anymore. For that we need to set emacs to use Tectonic instead of Pdflatex

```
(setq org-preview-latex-process-alist
'((dvipng :programs
                  ("tectonic" "dvipng")
                  :description "dvi > png" :message "you need to install
                  ↪  the programs: tectonic and dvipng."
                  ↪  :image-input-type "dvi" :image-output-type "png"
                  ↪  :image-size-adjust
                  (1.0 . 1.0)
                  :latex-compiler
                  ;; tectonic doesn't have a non interactive mode
                  ("tectonic --outdir %o %f")
                  :image-converter
                  ("dvipng -D %D -T tight -bg Transparent -o %O %f"))
          (dvisvgm :programs
                   ("tectonic" "dvisvgm")
                   :description "dvi > svg" :message "you need to install
                   ↪  the programs: tectonic and dvisvgm."
                   ↪  :image-input-type "dvi" :image-output-type "svg"
                   ↪  :image-size-adjust
                   (1.7 . 1.5)
                   :latex-compiler
                   ("tectonic --outdir %o %f")
                   :image-converter
                   ("dvisvgm %f -n -b min -c %S -o %O"))
```

```
          (imagemagick :programs
                       ("latex" "convert")
                       :description "pdf > png" :message "you need to
                       ↪  install the programs: latex and imagemagick."
                       ↪  :image-input-type "pdf" :image-output-type
                       ↪  "png" :image-size-adjust
                       (1.0 . 1.0)
                       :latex-compiler
                       ("tectonic --outdir %o %f")
                       :image-converter
                       ("convert -density %D -trim -antialias %f -quality
                       ↪  100 %O"))))
```

5.3.3 Classes

Now for some class setup

```
(after! ox-latex
  (add-to-list 'org-latex-classes
               '("cb-doc" "\\documentclass{scrartcl}"
                 ("\\section{%s}" . "\\section*{%s}")
                 ("\\subsection{%s}" . "\\subsection*{%s}")
                 ("\\subsubsection{%s}" . "\\subsubsection*{%s}")
                 ("\\paragraph{%s}" . "\\paragraph*{%s}")
                 ("\\subparagraph{%s}" . "\\subparagraph*{%s}"))))
```

And some saner defaults for them

```
(after! ox-latex
  (setq org-latex-default-class "cb-doc"
        org-latex-tables-booktabs t
```

```
        org-latex-hyperref-template
            "\\colorlet{greenyblue}{blue!70!green}
            \\colorlet{blueygreen}{blue!40!green}
            \\providecolor{link}{named}{greenyblue}
            \\providecolor{cite}{named}{blueygreen}
            \\hypersetup{
              pdfauthor={%a},
              pdftitle={%t},
              pdfkeywords={%k},
              pdfsubject={%d},
              pdfcreator={%c},
              pdflang={%L},
              breaklinks=true,
              colorlinks=true,
              linkcolor=,
              urlcolor=link,
              citecolor=cite\n}
            \\urlstyle{same}
            "
        org-latex-reference-command "\\cref{%s}"))
```

5.3.4 Packages

Add some packages. I'm trying to keep it basic for now, Alegreya for non-monospace and SF-Mono for code

```
(setq org-latex-default-packages-alist
      `(("AUTO" "inputenc" t
         ("pdflatex"))
        ("T1" "fontenc" t
         ("pdflatex"))
        ("" "fontspec" t)
        ("" "graphicx" t)
        ("" "grffile" t)
        ("" "longtable" nil)
        ("" "wrapfig" nil)
        ("" "rotating" nil)
        ("normalem" "ulem" t)
        ("" "amsmath" t)
        ("" "textcomp" t)
        ("" "amssymb" t)
        ("" "capt-of" nil)
        ("dvipsnames" "xcolor" nil)
        ("colorlinks=true, linkcolor=Blue, citecolor=BrickRed,
        ↪  urlcolor=PineGreen" "hyperref" nil)
    ("" "indentfirst" nil)
    "\\setmainfont[Ligatures=TeX]{Alegreya}"
    "\\setmonofont[Ligatures=TeX]{Liga SFMono Nerd Font}"))
```

5.3.5 Pretty code blocks

Teco is the goto for this, so basically just ripping off him. Engrave faces ftw

```
(use-package! engrave-faces-latex
  :after ox-latex
  :config
  (setq org-latex-listings 'engraved))
```

```
(defadvice! org-latex-src-block-engraved (orig-fn src-block contents
↪  info)
  "Like `org-latex-src-block', but supporting an engraved backend"
  :around #'org-latex-src-block
  (if (eq 'engraved (plist-get info :latex-listings))
      (org-latex-scr-block--engraved src-block contents info)
    (funcall orig-fn src-block contents info)))

(defadvice! org-latex-inline-src-block-engraved (orig-fn inline-src-block
↪  contents info)
  "Like `org-latex-inline-src-block', but supporting an engraved backend"
  :around #'org-latex-inline-src-block
  (if (eq 'engraved (plist-get info :latex-listings))
      (org-latex-inline-scr-block--engraved inline-src-block contents
      ↪  info)
    (funcall orig-fn src-block contents info)))

(defvar-local org-export-has-code-p nil)

(defadvice! org-export-expect-no-code (&rest _)
  :before #'org-export-as
  (setq org-export-has-code-p nil))

(defadvice! org-export-register-code (&rest _)
  :after #'org-latex-src-block-engraved
  :after #'org-latex-inline-src-block-engraved
  (setq org-export-has-code-p t))
```

```
(setq org-latex-engraved-code-preamble "
    \\usepackage{fvextra}
    \\fvset{
      commandchars=\\\\\\{\\},
      highlightcolor=white!95!black!80!blue,
      breaklines=true,

    breaksymbol=\\color{white!60!black}\\tiny\\ensuremath{\\hookrightarrow}}
    \\renewcommand\\theFancyVerbLine{\\footnotesize\\color{black!40!white}\\arabic{FancyVer
    \\definecolor{codebackground}{HTML}{f7f7f7}
    \\definecolor{codeborder}{HTML}{f0f0f0}
    % TODO have code boxes keep line vertical alignment
    \\usepackage[breakable,xparse]{tcolorbox}
    \\DeclareTColorBox[]{Code}{o}%
    {colback=codebackground, colframe=codeborder,
      fontupper=\\footnotesize,
      colupper=EFD,
      IfNoValueTF={#1}%
      {boxsep=2pt, arc=2.5pt, outer arc=2.5pt,
        boxrule=0.5pt, left=2pt}%
      {boxsep=2.5pt, arc=0pt, outer arc=0pt,
        boxrule=0pt, leftrule=1.5pt, left=0.5pt},
      right=2pt, top=1pt, bottom=0.5pt,
      breakable}
    ")

(add-to-list 'org-latex-conditional-features '((and org-export-has-code-p
↪  "^[ \t]*#\\+begin_src\\|^[ \t]*#\\+BEGIN_SRC\\|src_[A-Za-z]") .
↪  engraved-code) t)
(add-to-list 'org-latex-conditional-features '("^[
↪  \t]*#\\+begin_example\\|^[ \t]*#\\+BEGIN_EXAMPLE" .
↪  engraved-code-setup) t)
(add-to-list 'org-latex-feature-implementations '(engraved-code :requires
↪  engraved-code-setup :snippet (engrave-faces-latex-gen-preamble)
↪  :order 99) t)
(add-to-list 'org-latex-feature-implementations '(engraved-code-setup
↪  :snippet org-latex-engraved-code-preamble :order 98) t)

(defun org-latex-scr-block--engraved (src-block contents info)
  (let* ((lang (org-element-property :language src-block))
         (attributes (org-export-read-attribute :attr_latex src-block))
         (float (plist-get attributes :float))
         (num-start (org-export-get-loc src-block info))
         (retain-labels (org-element-property :retain-labels src-block))
         (caption (org-element-property :caption src-block))
         (caption-above-p (org-latex--caption-above-p src-block info))
         (caption-str (org-latex--caption/label-string src-block info))
         (placement (or (org-unbracket-string "[" "]" (plist-get
         ↪  attributes :placement))
                        (plist-get info :latex-default-figure-position)))
         (float-env
          (cond
           ((string= "multicolumn" float)
```

```
          (format "\\begin{listing*}[%s]\n%s%%s\n%s\\end{listing*}"
                  placement
                  (if caption-above-p caption-str "")
                  (if caption-above-p "" caption-str)))
         (caption
          (format "\\begin{listing}[%s]\n%s%%s\n%s\\end{listing}"
                  placement
                  (if caption-above-p caption-str "")
                  (if caption-above-p "" caption-str)))
         ((string= "t" float)
          (concat (format "\\begin{listing}[%s]\n"
                          placement)
                  "%s\n\\end{listing}"))
         (t "%s")))
       (options (plist-get info :latex-minted-options))
       (content-buffer
        (with-temp-buffer
          (insert
           (let* ((code-info (org-export-unravel-code src-block))
                  (max-width
                   (apply 'max
                          (mapcar 'length
                                  (org-split-string (car code-info)
                                                    "\n")))))
             (org-export-format-code
              (car code-info)
              (lambda (loc _num ref)
                (concat
                 loc
                 (when ref
                   ;; Ensure references are flushed to the right,
                   ;; separated with 6 spaces from the widest line
                   ;; of code.
                   (concat (make-string (+ (- max-width (length loc))
                   ↪  6)
                                        ?\s)
                           (format "(%s)" ref)))))
              nil (and retain-labels (cdr code-info))))))
          (funcall (org-src-get-lang-mode lang))
          (engrave-faces-latex-buffer)))
       (content
        (with-current-buffer content-buffer
          (buffer-string)))
       (body
        (format

         ↪  "\\begin{Code}\n\\begin{Verbatim}[%s]\n%s\\end{Verbatim}\n\\end{Code}"
         ;; Options.
         (concat
          (org-latex--make-option-string
           (if (or (not num-start) (assoc "linenos" options))
               options
             (append
```

```
                `(("linenos")
                  ("firstnumber" ,(number-to-string (1+ num-start))))
                options)))
            (let ((local-options (plist-get attributes :options)))
              (and local-options (concat "," local-options))))
          content)))
    (kill-buffer content-buffer)
    ;; Return value.
    (format float-env body)))

(defun org-latex-inline-scr-block--engraved (inline-src-block _contents
↪  info)
  (let ((options (org-latex--make-option-string
                  (plist-get info :latex-minted-options)))
        code-buffer code)
    (setq code-buffer
          (with-temp-buffer
            (insert (org-element-property :value inline-src-block))
            (funcall (org-src-get-lang-mode
                      (org-element-property :language inline-src-block)))
            (engrave-faces-latex-buffer)))
    (setq code (with-current-buffer code-buffer
                 (buffer-string)))
    (kill-buffer code-buffer)
    (format "\\Verb%s{%s}"
            (if (string= options "") ""
              (format "[%s]" options))
            code)))

(defadvice! org-latex-example-block-engraved (orig-fn example-block
↪  contents info)
  "Like `org-latex-example-block', but supporting an engraved backend"
  :around #'org-latex-example-block
  (let ((output-block (funcall orig-fn example-block contents info)))
    (if (eq 'engraved (plist-get info :latex-listings))
        (format "\\begin{Code}[alt]\n%s\n\\end{Code}" output-block)
      output-block)))
```

5.3.6 ox-chameleon

Nice little package to color stuff for us.

```
(use-package! ox-chameleon
  :after ox)
```

5.3.7 Async

Run export processes in a background … process

```
(setq org-export-in-background t)
```

5.3.8 (sub|super)script characters

Annoying having to gate these, so let's fix that

```
(setq org-export-with-sub-superscripts '{})
```

6 Mu4e

I'm trying out emails in emacs, should be nice. Related, check .mbsyncrc to setup your emails first

10 minutes is a reasonable update time

```
(setq mu4e-update-interval 300)
```

```
(set-email-account! "shaunsingh0207"
  '((mu4e-sent-folder       . "/Sent Mail")
    (mu4e-drafts-folder     . "/Drafts")
    (mu4e-trash-folder      . "/Trash")
    (mu4e-refile-folder     . "/All Mail")
    (smtpmail-smtp-user     . "shaunsingh0207@gmail.com")))

;; don't need to run cleanup after indexing for gmail
(setq mu4e-index-cleanup nil
      mu4e-index-lazy-check t)

(after! mu4e
  (setq mu4e-headers-fields
        '((:flags . 6)
          (:account-stripe . 2)
          (:from-or-to . 25)
          (:folder . 10)
          (:recipnum . 2)
          (:subject . 80)
          (:human-date . 8))
```

```
        +mu4e-min-header-frame-width 142
        mu4e-headers-date-format "%d/%m/%y"
        mu4e-headers-time-format "  %H:%M"
        mu4e-headers-results-limit 1000
        mu4e-index-cleanup t)

  (add-to-list 'mu4e-bookmarks
               '(:name "Yesterday's messages" :query "date:2d..1d" :key
               ↪  ?y) t)

  (defvar +mu4e-header--folder-colors nil)
  (appendq! mu4e-header-info-custom
            '((:folder .
               (:name "Folder" :shortname "Folder" :help "Lowest level
               ↪  folder" :function
                (lambda (msg)
                  (+mu4e-colorize-str
                   (replace-regexp-in-string "\\`.*/" ""
                   ↪  (mu4e-message-field msg :maildir))
                   '+mu4e-header--folder-colors))))))
```

We can also send messages using msmtp

```
(after! mu4e
  (setq sendmail-program "~/.nix-profile/bin/msmtp"
        send-mail-function #'smtpmail-send-it
        message-sendmail-f-is-evil t
        message-sendmail-extra-arguments '("--read-envelope-from")
        message-send-mail-function #'message-send-mail-with-sendmail))
```

Notifications are quite nifty, especially if I'm as lazy as I am

```
;;(setq alert-default-style 'osx-notifier)
```

7 Browsing

7.1 Webkit

Eventually I want to use emacs for everything. Instead of using xwidgets, which requires a custom (non-cached) build of emacs. Emacs-webkit is a good alternative, but is quite buggy right now. Once its stable, I'll fix this config

```
;;(use-package org
;;  :demand t)

(use-package webkit
  :defer t
  :commands webkit
  :init
  (setq webkit-search-prefix "https://google.com/search?q="
        webkit-history-file nil
        webkit-cookie-file nil
        browse-url-browser-function 'webkit-browse-url
        webkit-browse-url-force-new t
        webkit-download-action-alist '(("\\.pdf\\'" .
        ↪  webkit-download-open)
                                       ("\\.png\\'" .
                                       ↪  webkit-download-save)
                                       (".*" . webkit-download-default)))

  (defun webkit--display-progress (progress)
    (setq webkit--progress-formatted
          (if (equal progress 100.0)
              ""
            (format "%s%.0f%%  " (all-the-icons-faicon "spinner")
            ↪  progress)))
    (force-mode-line-update)))
```

I also want to use evil bindings with this. It's not upstreamed yet, so I'll steal the ones from the repo

```
(use-package evil-collection-webkit
   :defer t
   :config
   (evil-collection-xwidget-setup))
```

7.2 IRC

I'm trying to move everything to emacs, and discord is the one electron app I need to ditch. With bitlbee and circe it should be possible

To make this easier, I

1. Have everything (serverinfo and passwords) in an authinfo.gpg file
2. Tell circe to use it
3. Use org syntax for formatting

4. Add emoji support

5. Set it up with discord

```
(defun auth-server-pass (server)
  (if-let ((secret (plist-get (car (auth-source-search :host server))
  ↪  :secret)))
      (if (functionp secret)
          (funcall secret) secret)
    (error "Could not fetch password for host %s" server)))

(defun register-irc-auths ()
  (require 'circe)
  (require 'dash)
  (let ((accounts (-filter (lambda (a) (string= "irc" (plist-get a
  ↪  :for)))
                           (auth-source-search :require '(:for) :max
                           ↪  10))))
    (appendq! circe-network-options
              (mapcar (lambda (entry)
                        (let* ((host (plist-get entry :host))
                               (label (or (plist-get entry :label) host))
                               (_ports (mapcar #'string-to-number
                                               (s-split "," (plist-get
                                               ↪  entry :port))))
                               (port (if (= 1 (length _ports)) (car
                               ↪  _ports) _ports))
                               (user (plist-get entry :user))
                               (nick (or (plist-get entry :nick) user))
                               (channels (mapcar (lambda (c) (concat "#"
                               ↪  c))
                                                 (s-split "," (plist-get
                                                 ↪  entry :channels)))))
                          `(,label
                            :host ,host :port ,port :nick ,nick
                            :sasl-username ,user :sasl-password
                            ↪  auth-server-pass
                            :channels ,channels)))
                      accounts))))
```

We'll just call `(register-irc-auths)` on a hook when we start Circe up.

Now we're ready to go, let's actually wire-up Circe, with one or two configuration tweaks.

```
(after! circe
  (setq-default circe-use-tls t)
  (setq circe-notifications-alert-icon
  ↪  "/usr/share/icons/breeze/actions/24/network-connect.svg"
        lui-logging-directory "~/.emacs.d/.local/etc/irc"
        lui-logging-file-format "{buffer}/%Y/%m-%d.txt"
```

```
        circe-format-self-say "{nick:+13s} | {body}")

  (custom-set-faces!
    '(circe-my-message-face :weight unspecified))

  (enable-lui-logging-globally)
  (enable-circe-display-images)

  <<org-emph-to-irc>>

  <<circe-emojis>>
  <<circe-emoji-alists>>

  (defun named-circe-prompt ()
    (lui-set-prompt
     (concat (propertize (format "%13s > " (circe-nick))
                         'face 'circe-prompt-face)
             "")))
  (add-hook 'circe-chat-mode-hook #'named-circe-prompt)

  (appendq! all-the-icons-mode-icon-alist
            '((circe-channel-mode all-the-icons-material "message" :face
            ↪  all-the-icons-lblue)
              (circe-server-mode all-the-icons-material
               ↪  "chat_bubble_outline" :face all-the-icons-purple))))

<<irc-authinfo-reader>>

(add-transient-hook! #'=irc (register-irc-auths))
```

Let's do our **bold**, *italic*, and underline in org-syntax, using IRC control characters.

```
(defun lui-org-to-irc ()
  "Examine a buffer with simple org-mode formatting, and converts the
      empasis:
      *bold*, /italic/, and _underline_ to IRC semi-standard escape
      codes.
      =code= is converted to inverse (highlighted) text."
  (goto-char (point-min))
  (while (re-search-forward
  ↪  "\\_<\\(?1:[*/_=]\\)\\(?2:[^[:space:]]\\(?:.*?[^[:space:]]\\)?\\)\\1\\_>"
  ↪  nil t)
    (replace-match
     (concat (pcase (match-string 1)
               ("*" "")
               ("/" "")
               ("_" "")
               ("=" ""))
             (match-string 2)
             "") nil nil)))
```

```
(add-hook 'lui-pre-input-hook #'lui-org-to-irc)
```

Let's setup Circe to use some emojis

```
(defun lui-ascii-to-emoji ()
  (goto-char (point-min))
  (while (re-search-forward "\\( \\)?::?\\([^[:space:]:]+\\):\\( \\)?"
  ↪  nil t)
    (replace-match
     (concat
      (match-string 1)
      (or (cdr (assoc (match-string 2) lui-emojis-alist))
          (concat ":" (match-string 2) ":"))
      (match-string 3))
     nil nil)))

(defun lui-emoticon-to-emoji ()
  (dolist (emoticon lui-emoticons-alist)
    (goto-char (point-min))
    (while (re-search-forward (concat " " (car emoticon) "\\( \\)?") nil
    ↪  t)
      (replace-match (concat " "
                             (cdr (assoc (cdr emoticon)
                             ↪  lui-emojis-alist))
                             (match-string 1))))))

(define-minor-mode lui-emojify
  "Replace :emojis: and ;) emoticons with unicode emoji chars."
  :global t
  :init-value t
  (if lui-emojify
      (add-hook! lui-pre-input #'lui-ascii-to-emoji
      ↪  #'lui-emoticon-to-emoji)
    (remove-hook! lui-pre-input #'lui-ascii-to-emoji
    ↪  #'lui-emoticon-to-emoji)))
```

Now, some actual emojis to use.

```
(defvar lui-emojis-alist
  '(("grinning"                    . " ")
    ("smiley"                      . " ")
    ("smile"                       . " ")
    ("grin"                        . " ")
    ("laughing"                    . " ")
    ("sweat_smile"                 . " ")
    ("joy"                         . " ")
    ("rofl"                        . " ")
    ("relaxed"                     . " ")
    ("blush"                       . " ")
    ("innocent"                    . " ")
```

```
    ("slight_smile"                  . " ")
    ("upside_down"                   . " ")
    ("wink"                          . " ")
    ("relieved"                      . " ")
    ("heart_eyes"                    . " ")
    ("yum"                           . " ")
    ("stuck_out_tongue"              . " ")
    ("stuck_out_tongue_closed_eyes"  . " ")
    ("stuck_out_tongue_wink"         . " ")
    ("zanzy"                         . " ")
    ("raised_eyebrow"                . " ")
    ("monocle"                       . " ")
    ("nerd"                          . " ")
    ("cool"                          . " ")
    ("star_struck"                   . " ")
    ("party"                         . " ")
    ("smirk"                         . " ")
    ("unamused"                      . " ")
    ("disapointed"                   . " ")
    ("pensive"                       . " ")
    ("worried"                       . " ")
    ("confused"                      . " ")
    ("slight_frown"                  . " ")
    ("frown"                         . " ")
    ("persevere"                     . " ")
    ("confounded"                    . " ")
    ("tired"                         . " ")
    ("weary"                         . " ")
    ("pleading"                      . " ")
    ("tear"                          . " ")
    ("cry"                           . " ")
    ("sob"                           . " ")
    ("triumph"                       . " ")
    ("angry"                         . " ")
    ("rage"                          . " ")
    ("exploding_head"                . " ")
    ("flushed"                       . " ")
    ("hot"                           . " ")
    ("cold"                          . " ")
    ("scream"                        . " ")
    ("fearful"                       . " ")
    ("disapointed"                   . " ")
    ("relieved"                      . " ")
    ("sweat"                         . " ")
    ("thinking"                      . " ")
    ("shush"                         . " ")
    ("liar"                          . " ")
    ("blank_face"                    . " ")
    ("neutral"                       . " ")
    ("expressionless"                . " ")
    ("grimace"                       . " ")
    ("rolling_eyes"                  . " ")
    ("hushed"                        . " ")
```

```
    ("frowning"                    . " ")
    ("anguished"                   . " ")
    ("wow"                         . " ")
    ("astonished"                  . " ")
    ("sleeping"                    . " ")
    ("drooling"                    . " ")
    ("sleepy"                      . " ")
    ("dizzy"                       . " ")
    ("zipper_mouth"                . " ")
    ("woozy"                       . " ")
    ("sick"                        . " ")
    ("vomiting"                    . " ")
    ("sneeze"                      . " ")
    ("mask"                        . " ")
    ("bandaged_head"               . " ")
    ("money_face"                  . " ")
    ("cowboy"                      . " ")
    ("imp"                         . " ")
    ("ghost"                       . " ")
    ("alien"                       . " ")
    ("robot"                       . " ")
    ("clap"                        . " ")
    ("thumpup"                     . " ")
    ("+1"                          . " ")
    ("thumbdown"                   . " ")
    ("-1"                          . " ")
    ("ok"                          . " ")
    ("pinch"                       . " ")
    ("left"                        . " ")
    ("right"                       . " ")
    ("down"                        . " ")
    ("wave"                        . " ")
    ("pray"                        . " ")
    ("eyes"                        . " ")
    ("brain"                       . " ")
    ("facepalm"                    . " ")
    ("tada"                        . " ")
    ("fire"                        . " ")
    ("flying_money"                . " ")
    ("lighbulb"                    . " ")
    ("heart"                       . " ")
    ("sparkling_heart"             . " ")
    ("heartbreak"                  . " ")
    ("100"                         . " ")))

(defvar lui-emoticons-alist
  '((":)"   . "slight_smile")
    (";)"   . "wink")
    (":D"   . "smile")
    ("=D"   . "grin")
    ("xD"   . "laughing")
    (";("   . "joy")
    (":P"   . "stuck_out_tongue")
```

```
    (";D"    . "stuck_out_tongue_wink")
    ("xP"    . "stuck_out_tongue_closed_eyes")
    (":("    . "slight_frown")
    (";("    . "cry")
    (";'("   . "sob")
    (">:("   . "angry")
    (">>:(" . "rage")
    (":o"    . "wow")
    (":O"    . "astonished")
    (":/"    . "confused")
    (":-/"   . "thinking")
    (":|"    . "neutral")
    (":-|"   . "expressionless")))
```

7.3 Nyxt

If we can't have a browser in emacs, a browser like emacs is the next best thing

```
(defcustom cl-ide 'sly
  "What IDE to use to evaluate Common Lisp.
      Defaults to Sly because it has better integration with Nyxt."
  :options (list 'sly 'slime))

(defvar emacs-with-nyxt-delay
  0.1
  "Delay to wait for `cl-ide' commands to reach Nyxt.")

(setq slime-protocol-version 'ignore)

(defun emacs-with-nyxt-connected-p ()
  "Is `cl-ide' connected to nyxt."
  (cond
   ((eq cl-ide 'slime) (slime-connected-p))
   ((eq cl-ide 'sly) (sly-connected-p))))  ;; TODO this should check it
                                           ;; is connected to Nyxt and
                                           ;; not just to cl-ide
                                           ;; session

(defun emacs-with-nyxt--connect (host port)
  "Connect `cl-ide' to HOST and PORT."
  (cond
   ((eq cl-ide 'slime) (slime-connect host port))
   ((eq cl-ide 'sly) (sly-connect host port))))

(defun emacs-with-nyxt-connect (host port)
  "Connect `cl-ide' to HOST and PORT ignoring version mismatches."
  (emacs-with-nyxt--connect host port)
  (while (not (emacs-with-nyxt-connected-p))
    (message "Starting %s connection..." cl-ide)
```

```
    (sleep-for emacs-with-nyxt-delay)))

(defun emacs-with-nyxt-eval (string)
  "Send STRING to `cl-ide'."
  (cond
   ((eq cl-ide 'slime) (slime-repl-eval-string string))
   ((eq cl-ide 'sly) (sly-eval `(slynk:interactive-eval-region
    ↪  ,string)))))

(defun emacs-with-nyxt-send-sexps (&rest s-exps)
  "Evaluate S-EXPS with Nyxt `cl-ide' session."
  (let ((s-exps-string (s-join "" (--map (prin1-to-string it) s-exps))))
    (defun true (&rest args) 't)
    (if (emacs-with-nyxt-connected-p)
        (emacs-with-nyxt-eval s-exps-string)
      (error (format "%s is not connected to Nyxt. Run
       ↪  `emacs-with-nyxt-start-and-connect-to-nyxt' first" cl-ide)))))

(add-to-list
 'org-capture-templates
 `("wN" "Web link" entry (file+headline ,(car org-agenda-files) "Links to
 ↪  read later")
   "* TODO %?%a :readings: \nSCHEDULED: %(org-insert-time-stamp
    ↪  (org-read-date nil t \"Fri\"))\n"
   :immediate-finish t :empty-lines 2))

(defun on/slug-string (title)  (let ((slug-trim-chars '(;; Combining
↪  Diacritical Marks https://www.unicode.org/charts/PDF/U0300.pdf
                                                       768 ; U+0300
                                                        ↪  COMBINING
                                                        ↪  GRAVE ACCENT
                                                       769 ; U+0301
                                                        ↪  COMBINING
                                                        ↪  ACUTE ACCENT
                                                       770 ; U+0302
                                                        ↪  COMBINING
                                                        ↪  CIRCUMFLEX
                                                        ↪  ACCENT
                                                       771 ; U+0303
                                                        ↪  COMBINING
                                                        ↪  TILDE
                                                       772 ; U+0304
                                                        ↪  COMBINING
                                                        ↪  MACRON
                                                       774 ; U+0306
                                                        ↪  COMBINING
                                                        ↪  BREVE
                                                       775 ; U+0307
                                                        ↪  COMBINING DOT
                                                        ↪  ABOVE
                                                       776 ; U+0308
                                                        ↪  COMBINING
                                                        ↪  DIAERESIS
```

```
                                                  777 ; U+0309
                                                  ↪  COMBINING
                                                  ↪  HOOK ABOVE
                                                  778 ; U+030A
                                                  ↪  COMBINING
                                                  ↪  RING ABOVE
                                                  780 ; U+030C
                                                  ↪  COMBINING
                                                  ↪  CARON
                                                  795 ; U+031B
                                                  ↪  COMBINING
                                                  ↪  HORN
                                                  803 ; U+0323
                                                  ↪  COMBINING DOT
                                                  ↪  BELOW
                                                  804 ; U+0324
                                                  ↪  COMBINING
                                                  ↪  DIAERESIS
                                                  ↪  BELOW
                                                  805 ; U+0325
                                                  ↪  COMBINING
                                                  ↪  RING BELOW
                                                  807 ; U+0327
                                                  ↪  COMBINING
                                                  ↪  CEDILLA
                                                  813 ; U+032D
                                                  ↪  COMBINING
                                                  ↪  CIRCUMFLEX
                                                  ↪  ACCENT BELOW
                                                  814 ; U+032E
                                                  ↪  COMBINING
                                                  ↪  BREVE BELOW
                                                  816 ; U+0330
                                                  ↪  COMBINING
                                                  ↪  TILDE BELOW
                                                  817 ; U+0331
                                                  ↪  COMBINING
                                                  ↪  MACRON BELOW
                                                 )))
                                    (cl-flet* ((nonspacing-mark-p (char)
                                                                  (memq char
                                                                  ↪  slug-trim-chars))
                                               (strip-nonspacing-marks (s)

                                                                       ↪  (ucs-normalize-NFC-

                                                                        ↪  (apply
                                                                        ↪  #'string
                                                                        ↪  (seq-remove
                                                                        ↪  #'nonspacing-mark-
```

```
                                        (cl-replace (title pair)
                                                    (replace-regexp-in-string
                                                    (car pair)
                                                    (cdr pair)
                                                    title)))
                                    (let* ((pairs
                                    `(("[^[:alnum:][:digit:]]" . "_")
                                    ;; convert anything not
                                    alphanumeric
                                                ("__*" . "_") ;;
                                                remove sequential
                                                underscores
                                                ("^_" . "") ;; remove
                                                starting
                                                underscore
                                                ("_$" . ""))) ;;
                                                remove ending
                                                underscore
                                           (slug (-reduce-from
                                           #'cl-replace
                                           (strip-nonspacing-marks
                                           title) pairs)))
                                      (downcase slug)))))

(defun on/make-filepath (title now &optional zone)
  "Make filename from note TITLE and NOW time (assumed in the current
  time ZONE)."
  (concat
   org-roam-directory
   (format-time-string "%Y%m%d%H%M%S_" now (or zone (current-time-zone)))
   (s-truncate 70 (on/slug-string title) "")
   ".org"))

(defun on/insert-org-roam-file (file-path title &optional links sources
  text quote)
  "Insert org roam file in FILE-PATH with TITLE, LINKS, SOURCES, TEXT,
  QUOTE."
  (with-temp-file file-path
    (insert
     "* " title "\n"
     "\n"
     "- tags :: " (--reduce (concat acc ", " it) links) "\n"
     (if sources (concat "- source :: " (--reduce (concat acc ", " it)
      sources) "\n") "")
     "\n"
     (if text text "")
     "\n"
     "\n"
     (if quote
         (concat "#+begin_src text \n"
                 quote "\n"
                 "#+end_src")
```

```
      ""))))
  (with-file file-path
             (org-id-get-create)
             (save-buffer)))

(defun emacs-with-nyxt-current-package ()
  "Return current package set for `cl-ide'."
  (cond
   ((eq cl-ide 'slime) (slime-current-package))
   ((eq cl-ide 'sly) (with-current-buffer (sly-mrepl--find-buffer)
    ↪  (sly-current-package)))))

(defun emacs-with-nyxt-start-and-connect-to-nyxt (&optional no-maximize)
  "Start Nyxt with swank capabilities. Optionally skip window
  ↪  maximization with NO-MAXIMIZE."
  (interactive)
  (async-shell-command (format "nyxt -e \"(nyxt-user::start-swank)\""))
  (while (not (ignore-errors (not (emacs-with-nyxt-connect "localhost"
  ↪  "4006"))))
    (message "Starting Swank connection...")
    (sleep-for emacs-with-nyxt-delay))
  (while (not (ignore-errors (string= "NYXT-USER" (upcase
  ↪  (emacs-with-nyxt-current-package)))))
    (progn (message "Setting %s package to NYXT-USER..." cl-ide)
           (sleep-for emacs-with-nyxt-delay)))
  (emacs-with-nyxt-send-sexps
   `(load "~/quicklisp/setup.lisp")
   `(defun replace-all (string part replacement &key (test #'char=))
      "Return a new string in which all the occurences of the part is
      ↪  replaced with replacement."
      (with-output-to-string (out)
                             (loop with part-length = (length part)
                                   for old-pos = 0 then (+ pos
                                   ↪  part-length)
                                   for pos = (search part string
                                                     :start2 old-pos
                                                     :test test)
                                   do (write-string string out
                                                    :start old-pos
                                                    :end (or pos (length
                                                    ↪  string)))
                                   when pos do (write-string replacement
                                   ↪  out)
                                   while pos)))

   `(defun eval-in-emacs (&rest s-exps)
      "Evaluate S-EXPS with emacsclient."
      (let ((s-exps-string (replace-all
                            (write-to-string
                             `(progn ,@s-exps) :case :downcase)
                            ;; Discard the package prefix.
                            "nyxt::" "")))
        (format *error-output* "Sending to Emacs:~%~a~%" s-exps-string)
```

```
      (uiop:run-program
       (list "emacsclient" "--eval" s-exps-string))))
`(ql:quickload "cl-qrencode")
`(define-command-global my/make-current-url-qr-code () ; this is going
↪  to be redundant: https://nyxt.atlas.engineer/article/qr-url.org
   "Something else."
   (when (equal (mode-name (current-buffer)) 'web-buffer))
   (progn
     (cl-qrencode:encode-png (quri:render-uri (url (current-buffer)))
     ↪  :fpath "/tmp/qrcode.png")
     (uiop:run-program (list "nyxt" "/tmp/qrcode.png"))))
'(define-command-global my/open-html-in-emacs ()
   "Open buffer html in Emacs."
   (when (equal (mode-name (current-buffer)) 'web-buffer))
   (with-open-file
    (file "/tmp/temp-nyxt.html" :direction :output
          :if-exists :supersede
          :if-does-not-exist :create)
    (write-string (ffi-buffer-get-document (current-buffer)) file))
   (eval-in-emacs
    `(progn (switch-to-buffer
             (get-buffer-create ,(render-url (url (current-buffer)))))
            (erase-buffer)
            (insert-file-contents-literally "/tmp/temp-nyxt.html")
            (html-mode)
            (indent-region (point-min) (point-max))))
   (delete-file "/tmp/temp-nyxt.html"))

`(define-command-global eval-expression ()
   "Prompt for the expression and evaluate it, echoing result to the
   ↪  `message-area'."
   (let ((expression-string
          ;; Read an arbitrary expression. No error checking, though.
          (first (prompt :prompt "Expression to evaluate"
                         :sources (list (make-instance
                         ↪  'prompter:raw-source))))))
     ;; Message the thing to the message-area down below.
     (echo "~S" (eval (read-from-string expression-string)))))

`(define-configuration nyxt/web-mode:web-mode
   ;; Bind eval-expression to M-:, but only in emacs-mode.
   ((keymap-scheme (let ((scheme %slot-default%))
                     (keymap:define-key (gethash scheme:emacs scheme)
                                        "M-:" 'eval-expression)
                     scheme))))
`(define-command-global org-capture ()
   "Org-capture current page."
   (eval-in-emacs
    `(let ((org-link-parameters
            (list (list "nyxt"
                        :store
                        (lambda ()
                          (org-store-link-props
```

```
                                :type "nyxt"
                                :link ,(quri:render-uri (url
                                ↪  (current-buffer)))
                                :description ,(title
                                ↪  (current-buffer)))))))))
          (org-capture nil "wN"))
        (echo "Note stored!")))
    `(define-command-global org-roam-capture ()
       "Org-capture current page."
       (let ((quote (%copy))
             (title (prompt
                     :input (title (current-buffer))
                     :prompt "Title of note:"
                     :sources (list (make-instance
                     ↪  'prompter:raw-source))))
             (text (prompt
                    :input ""
                    :prompt "Note to take:"
                    :sources (list (make-instance
                    ↪  'prompter:raw-source)))))
         (eval-in-emacs
          `(let ((file (on/make-filepath ,(car title) (current-time))))
             (on/insert-org-roam-file
              file
              ,(car title)
              nil
              (list ,(render-url (url (current-buffer))))
              ,(car text)
              ,quote)
             (find-file file)
             (org-id-get-create)))
         (echo "Org Roam Note stored!")))
    `(define-configuration nyxt/web-mode:web-mode
       ;; Bind org-capture to C-o-c, but only in emacs-mode.
       ((keymap-scheme (let ((scheme %slot-default%))
                         (keymap:define-key (gethash scheme:emacs scheme)
                                            "C-c o c" 'org-capture)
                         scheme))))
    `(define-configuration nyxt/web-mode:web-mode
       ;; Bind org-roam-capture to C-c n f, but only in emacs-mode.
       ((keymap-scheme (let ((scheme %slot-default%))
                         (keymap:define-key (gethash scheme:emacs scheme)
                                            "C-c n f" 'org-roam-capture)
                         scheme))))
    )
  (unless no-maximize
    (emacs-with-nyxt-send-sexps
     '(toggle-fullscreen))))

(defun emacs-with-nyxt-browse-url-nyxt (url &optional buffer-title)
  "Open URL with Nyxt and optionally define BUFFER-TITLE."
  (interactive "sURL: ")
  (emacs-with-nyxt-send-sexps
```

```
   (cl-concatenate
    'list
    (list
     'buffer-load
     url)
    (if buffer-title
        `(:buffer (make-buffer :title ,buffer-title))
      nil))))

(defun emacs-with-nyxt-close-nyxt-connection ()
  "Close Nyxt connection."
  (interactive)
  (emacs-with-nyxt-send-sexps '(quit)))

(defun browse-url-nyxt (url &optional new-window)
  "Browse URL with Nyxt. NEW-WINDOW is ignored."
  (interactive "sURL: ")
  (unless (emacs-with-nyxt-connected-p)
  ↪  (emacs-with-nyxt-start-and-connect-to-nyxt))
  (emacs-with-nyxt-browse-url-nyxt url url))

(defun emacs-with-nyxt-search-first-in-nyxt-current-buffer (string)
  "Search current Nyxt buffer for STRING."
  (interactive "sString to search: ")
  (unless (emacs-with-nyxt-connected-p)
  ↪  (emacs-with-nyxt-start-and-connect-to-nyxt))
  (emacs-with-nyxt-send-sexps
   `(nyxt/web-mode::highlight-selected-hint
     :link-hint
     (car (nyxt/web-mode::matches-from-json
           (nyxt/web-mode::query-buffer :query ,string)))
     :scroll 't)))

(defun emacs-with-nyxt-make-qr-code-of-current-url ()
  "Open QR code of current url."
  (interactive)
  (if (file-exists-p "~/quicklisp/setup.lisp")
      (progn
        (unless (emacs-with-nyxt-connected-p)
        ↪  (emacs-with-nyxt-start-and-connect-to-nyxt))
        (emacs-with-nyxt-send-sexps
         '(ql:quickload "cl-qrencode")
         '(cl-qrencode:encode-png (quri:render-uri (url
         ↪  (current-buffer))) :fpath "/tmp/qrcode.png"))
        (find-file "/tmp/qrcode.png")
        (auto-revert-mode))
    (error "You cannot use this until you have Quicklisp installed! Check
    ↪  how to do that at:
    ↪  https://www.quicklisp.org/beta/#installation")))

(defun emacs-with-nyxt-get-nyxt-buffers ()
  "Return nyxt buffers."
  (when (emacs-with-nyxt-connected-p)
```

```
    (read
     (emacs-with-nyxt-send-sexps
      '(map 'list (lambda (el) (slot-value el 'title)) (buffer-list))))))

(defun emacs-with-nyxt-nyxt-switch-buffer (&optional title)
  "Interactively switch nyxt buffers.  If argument is provided switch to
  ↪ buffer with TITLE."
  (interactive)
  (if (emacs-with-nyxt-connected-p)
      (let ((title (or title (completing-read "Title: "
      ↪ (emacs-with-nyxt-get-nyxt-buffers)))))
        (emacs-with-nyxt-send-sexps
         `(switch-buffer :id (slot-value (find-if #'(lambda (el) (equal
         ↪ (slot-value el 'title) ,title)) (buffer-list)) 'id))))
    (error (format "%s is not connected to Nyxt. Run
    ↪ `emacs-with-nyxt-start-and-connect-to-nyxt' first" cl-ide))))

(defun emacs-with-nyxt-get-nyxt-commands ()
  "Return nyxt commands."
  (when (emacs-with-nyxt-connected-p)
    (read
     (emacs-with-nyxt-send-sexps
      `(let ((commands (make-instance 'command-source)))
        (map 'list (lambda (el) (slot-value el 'name)) (funcall
        ↪ (slot-value commands 'prompter:CONSTRUCTOR) commands)))))))

(defun emacs-with-nyxt-nyxt-run-command (&optional command)
  "Interactively run nyxt COMMAND."
  (interactive)
  (if (emacs-with-nyxt-connected-p)
      (let ((command (or command (completing-read "Execute command: "
      ↪ (emacs-with-nyxt-get-nyxt-commands)))))
        (emacs-with-nyxt-send-sexps `(nyxt::run-async ',(read command))))
    (error (format "%s is not connected to Nyxt. Run
    ↪ `emacs-with-nyxt-start-and-connect-to-nyxt' first" cl-ide))))

(defun emacs-with-nyxt-nyxt-take-over-prompt ()
  "Take over the nyxt prompt and let Emacs handle completions."
  (interactive)
  (emacs-with-nyxt-send-sexps
   `(progn
      (defun flatten (structure)
        (cond ((null structure) nil)
              ((atom structure) (list structure))
              (t (mapcan #'flatten structure))))

      (defun prompt (&REST args)
        (flet ((ensure-sources (specifiers)
                               (mapcar (lambda (source-specifier)
                                         (cond
                                          ((and (symbolp
                                          ↪ source-specifier)
```

```
                                                (c2cl:subclassp
                                                 ↪  source-specifier
                                                 ↪  'source))
                                               (make-instance
                                                ↪  source-specifier))
                                              (t source-specifier)))
                                            (uiop:ensure-list specifiers))))
                (sleep 0.1)
                (let* ((promptstring (list (getf args :prompt)))
                       (sources (ensure-sources (getf args :sources)))
                       (names (mapcar (lambda (ol) (slot-value ol
                        ↪  'prompter:attributes)) (flatten (mapcar (lambda
                        ↪  (el) (slot-value el
                        ↪  'PROMPTER::INITIAL-SUGGESTIONS)) sources))))
                       (testing (progn
                                  (setq my-names names)
                                  (setq my-prompt promptstring)))
                       (completed (read-from-string (eval-in-emacs
                        ↪  `(emacs-with-nyxt-nyxt-complete ',promptstring
                        ↪  ',names))))
                       (suggestion
                        (find-if (lambda (el) (equal completed (slot-value
                         ↪  el 'PROMPTER::ATTRIBUTES))) (flatten (mapcar
                         ↪  (lambda (el) (slot-value el
                         ↪  'PROMPTER::INITIAL-SUGGESTIONS)) sources))))
                       (selected-class (find-if (lambda (el) (find
                        ↪  suggestion (slot-value el
                        ↪  'PROMPTER::INITIAL-SUGGESTIONS))) sources)))
                  (if selected-class
                      (funcall (car (slot-value selected-class
                       ↪  'PROMPTER::ACTIONS)) (list (slot-value suggestion
                       ↪  'PROMPTER:VALUE)))
                    (funcall (car (slot-value (car sources)
                     ↪  'PROMPTER::ACTIONS)) (list completed)))))))))

(defun emacs-with-nyxt-nyxt-complete (prompt names)
  "Completion function for nyxt completion."
  (let* ((completions (--map (s-join "\t" (--map (s-join ": " it) it))
  ↪  names))
         (completed-string (completing-read (s-append ": " (car prompt))
          ↪  completions))
         (completed-index (-elem-index  completed-string completions)))
    (if (numberp completed-index)
        (nth completed-index names)
      completed-string)))
```