Clojure Art
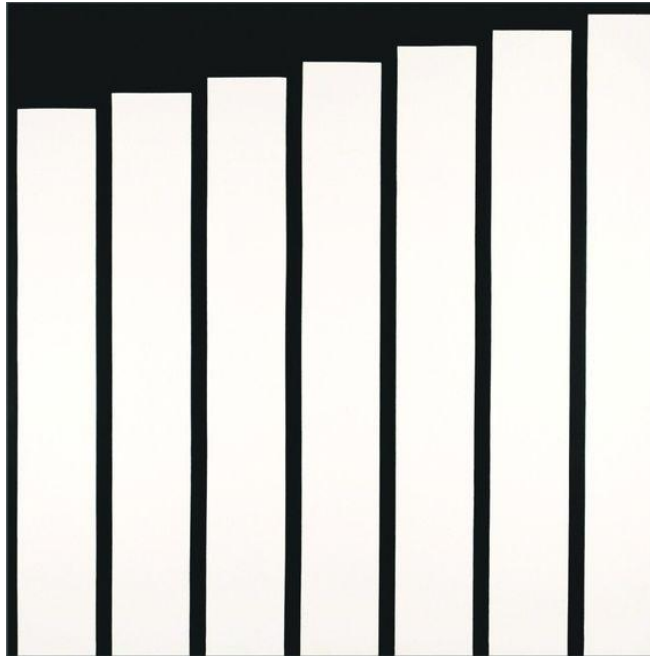
Kindergarten for adults!

Drawing Art - Examples of what we will be drawing
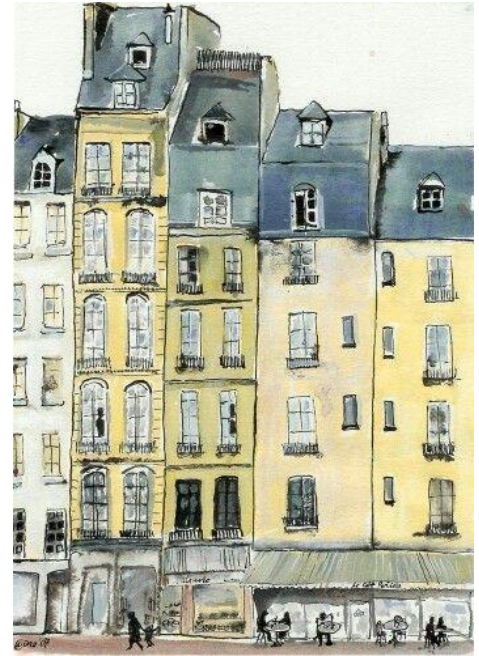
More art here: https://www.pinterest.com/ccalato/clojurebridge/

Verticals by Carmen Herrera
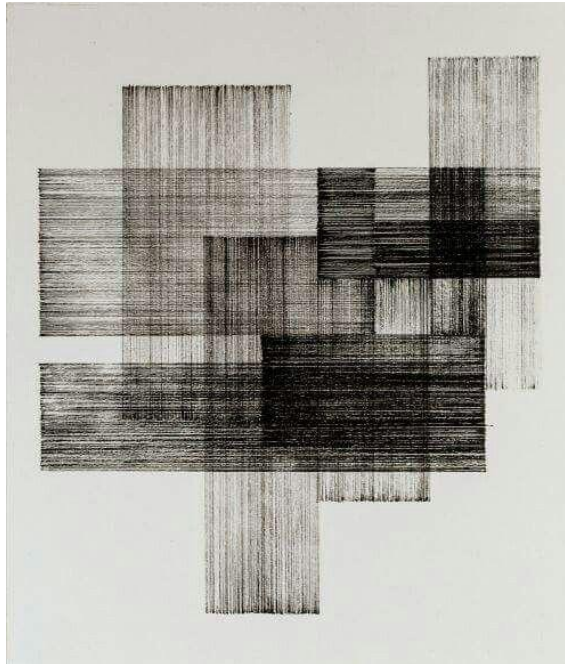
Tassia Bianchini

A Bit of Paris by (can't read the signature)

Some basics on the default 'canvas'

x: 485
y: 300

485 pixels tall

x: 0
y: 0

x: 485
y: 0

300 pixels wide
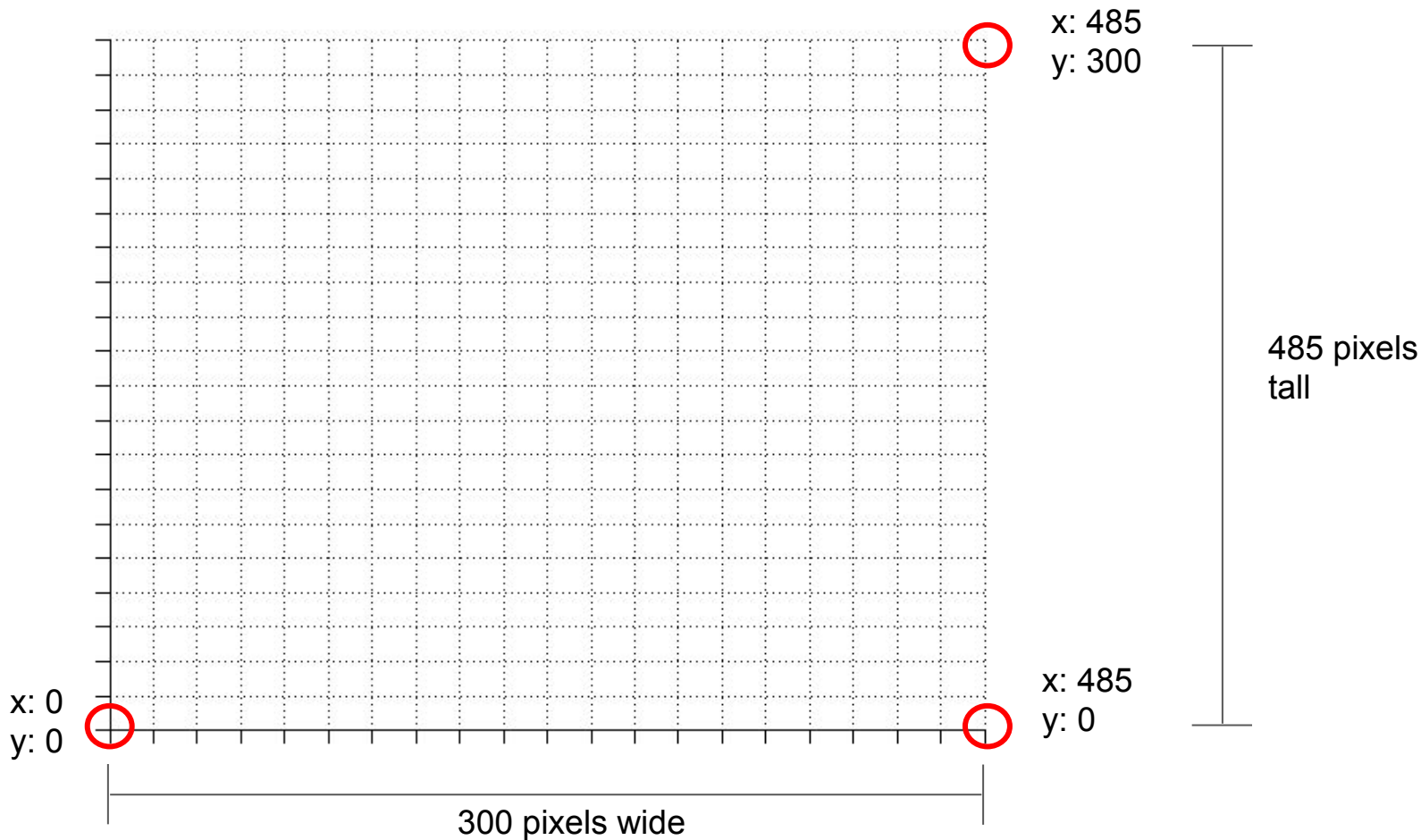
Let's modify some core source code!

- Open up src/clojurebridge_turtle/core.clj
- Find this function:

```clojure
(defn create-turtle-panel []
  (when-not @panel-exists?
    (q/defsketch clojurebridge-turtle
          :title "Walk your turtles!"        ;; Set the title of the sketch
          :setup setup                       ;; Specify the setup fn
          :draw draw                         ;; Specify the draw fn
          :on-close #(reset! panel-exists? false) ;; Called when window is closed
          :features [:keep-on-top]           ;; Keep the window on top
          :size [485 300])))                  ;; You struggle to beat the golden ratio
```

Size of the canvas
x=485, y=300

Note: If you get stuck, code samples here:
https://github.com/clojurebridge-nyc/syllabus-nyc-2017/tree/master/slides/beginner/day2/code_samples

Modify it to look like this:

```
;; Add these 2 lines
(def CANVAS-WIDTH 485)
(def CANVAS-HEIGHT 300)

(defn create-turtle-panel []
  (when-not @panel-exists?
    (q/defsketch clojurebridge-turtle
        :title "Walk your turtles!"        ;; Set the title of the sketch
        :setup setup                        ;; Specify the setup fn
        :draw draw                          ;; Specify the draw fn
        :on-close #(reset! panel-exists? false) ;; Called when window is closed
        :features [:keep-on-top]            ;; Keep the window on top
        :size [CANVAS-WIDTH CANVAS-HEIGHT]))) ;; You struggle to beat the golden
ratio
```

Now add a new function!   (set-location x y)

Underneath the create-turtle-panel function, add...

```
(defn set-location
  "moves the specified turtle to the x, y position given.
   if no name is given, :trinity will be moved."
  ([x y]
   (when-onlyone (set-location turtle x y)))
  ([n x y]
   (update-turtle n (fn [m] (merge m
                                   {:x (- x (/ CANVAS-WIDTH 2))
                                    :y (- y (/ CANVAS-HEIGHT 2))
                                    :angle 90})))
   n))
```

Usage

```
;; set the turtle location to the bottom left corner
(set-location 0 0)

;; set the turtle location to the middle of the canvas
(set-location 242 150)

;; also sets the turtle location to the middle of the canvas
(set-location
  (/ CANVAS-WIDTH 2)
  (/ CANVAS-HEIGHT 2))

;; sets a specific turtle (:trinity) to x=10, y=20
(set-location :trinity 10 20)
```
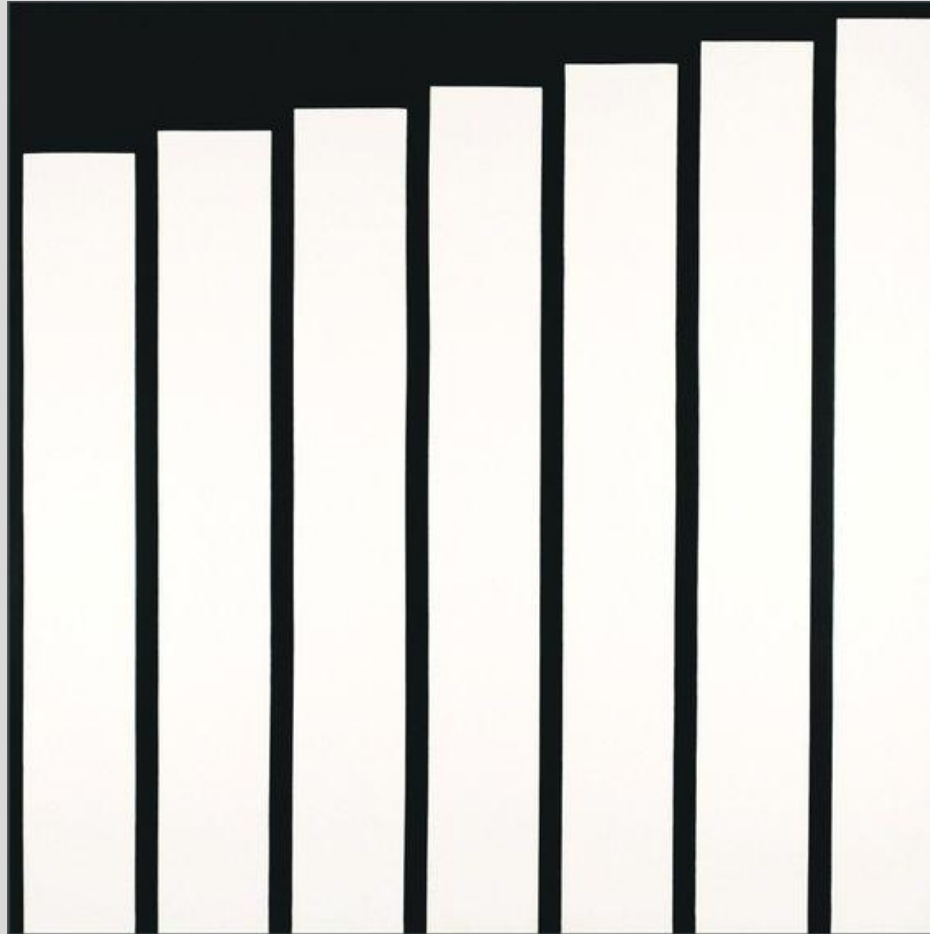
Art part 1:

Task:
- Draw this piece of art using Turtles

Things to consider:
- Simplify!
- Start small
- Build on each step

Verticals by Carmen Herrera

Discussion: Building blocks of art

Shapes:

- Lines
- Squares
- Triangles
- Circles

Technical challenges:

- How to fill them in?
- How to tilt them?
- What order to draw them in?

Code review Part 1

1-3 volunteers:

- Show off your work!
- How did you accomplish it?
- What was difficult?
- What was easy?
- How easy is it to change it?
- What could be improved?

NO EGOS!!!!