St. Louis Clojure

Clojure Incanter

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Why Incanter?

- charts

- statistics

- data

- graphics

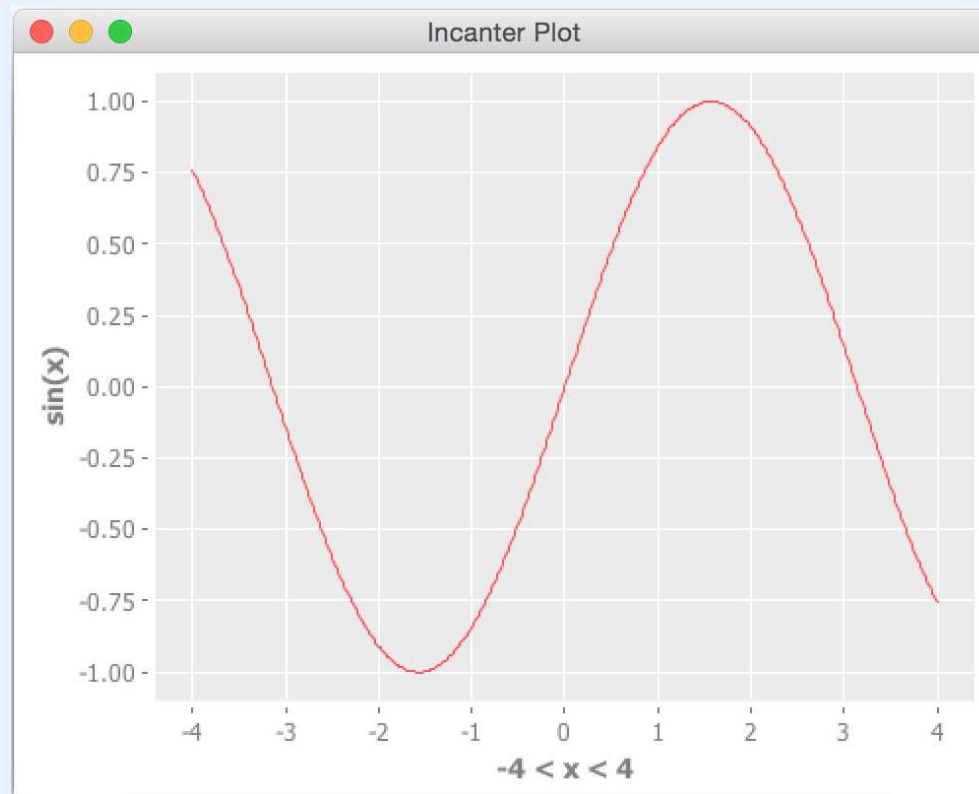- don't have to use R or MATLAB!

Getting Started: Your `project.clj`

```
:dependencies [...
                [incanter "1.5.6"]
                ...]
```

Getting Started: Your Namespace Declaration

```clojure
(ns cgore.talks.about.incanter
  "Howdy␣Incanter!"
  (:require [incanter.core :as i
                            :refer [$ dim view]]
            [incanter.stats :as is]
            [incanter.charts :as ic
                             :refer [histogram]]
            [incanter.io :as iio
                         :refer [read-dataset]]))
```

Sine Waves

```
(view (ic/function-plot #(Math/sin %) -4 4
                        :y-label "sin(x)"))
```

Data Sets

You probably want to look at data if you are interested in Incanter.

```
(let [small-data (dataset ["x" "y" "theta"]
                          [[1    2    3]
                           [4    5    6]
                           [7    8    9]])
      big-data (read-dataset "../path/to/data.csv"
                             :header true)]
  ... do stuff ...)
```
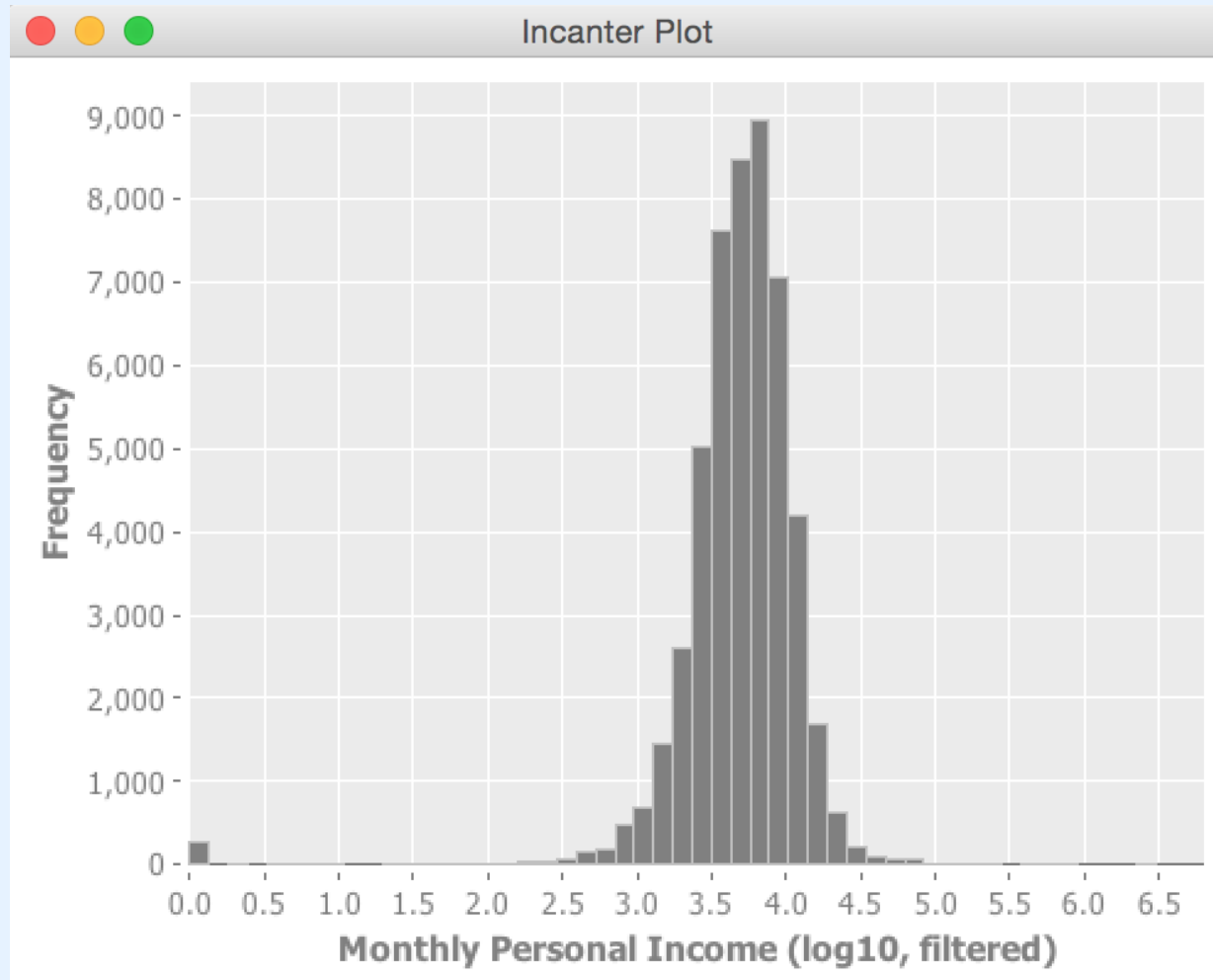
Histograms

What's my data look like?

```clojure
(defn mpi [dataset]
  ($ (keyword "Monthly Personal Income") dataset))
(let [mpi-pass (mpi (read-dataset
                      "../datasets/01/Pass.csv"
                      :header true))
      pass-filtered (filter #(< 0 %) mpi-pass)
      pass-log10 (map #(Math/log10 %) pass-filtered)]
  (view (histogram pass-log10
                    :x-label "Monthly Personal Income"
                    :nbins 50)))
```

Histograms

Questions?