Incanter Cheat Sheet
Functions and Macros Overview

Documentation (http://incanter.org/docs/api)

```
doc find-doc source (clojure.contrib.repl-utils)
```

Charts and Plots (incanter.charts)

XY Plots

Create:	`xy-plot scatter-plot`
Add data:	`add-lines add-points`
	`add-function`
Appearance:	`clear-background set-alpha`
	`set-background set-title`
	`set-x-label set-y-label`
Annotate:	`add-points add-polygon, add-text`
View:	`view`
Save PNG:	`save`

Category Charts

Create:	`bar-chart line-chart`
Add data:	`add-category`
Appearance:	`clear-background set-alpha`
	`set-background set-title`
	`set-x-label set-y-label`
View:	`view`
Save PNG:	`save`

Histograms

Create:	`histogram`
Add data:	`add-histogram add-lines`
	`add-function`
Appearance:	`clear-background set-alpha`
	`set-background set-title`
	`set-x-label set-y-label`
View:	`view`
Save PNG:	`save`

Box Plots

Create:	`box-plot`
Add data:	`add-box-plot`
Appearance:	`clear-background set-alpha`
	`set-background set-title`
	`set-x-label set-y-label`
View:	`view`
Save PNG:	`save`

Misc. Plots

Create:	`qq-plot trace-plot`
	`bland-altman-plot`
Appearance:	`clear-background set-alpha`
	`set-background set-title`
	`set-x-label set-y-label`
View:	`view`
Save PNG:	`save`

Math (incanter.core)

Operations:	`plus minus mult div exp log`
	`log10 log2 pow sqr sq sum prod`
	`abs`
Trigonometry:	`cos sign tan acos asin atan`
Special fns:	`beta gamma regularized-beta`
	`incomplete-beta`
Misc. fns:	`choose factorial`
	`sum-of-squares solve-quadratic`

Matrices (incanter.core)

Create:	`matrix diag identity-matrix`
	`symmetric-matrix`
	`bind-columns bind-rows`
	`to-matrix`
Properties:	`dim ncol nrow rank`
	`condition matrix?`
Selection:	`sel diag group-by`
Element-wise ops:	`plus minus mult div exp log`
	`log10 log2 pow sin cos tan`
	`asin acos atan abs`
Matrix ops:	`mmult kronecker solve trace`
	`det`
Transformation:	`trans vectorize`
	`half-vectorize to-list`
	`to-vect`
Decomposition:	`decomp-cholesky`
	`decomp-eigenvalue decomp-lu`
	`decomp-qr decomp-svd`
View:	`view`
Save to file:	`save`

IO (incanter.io)

Read Data:	`read-dataset`
Write Data:	`save`

Probability (incanter.stats)

PDF:	`pdf-beta pdf-binomial pdf-chisq`
	`pdf-exp pdf-f pdf-gamma`
	`pdf-neg-binomial pdf-normal`
	`pdf-poisson pdf-t pdf-uniform`
CDF:	`cdf-beta cdf-binomial cdf-chisq`
	`cdf-empirical cdf-exp cdf-f`
	`cdf-gamma cdf-neg-binomial`
	`cdf-normal cdf-poisson cdf-t`
	`cdf-uniform`
Quantile:	`quantile quantile-normal`
	`quantile-t`
Sampling:	`sample sample-beta sample-binomial`
	`sample-chisq sample-dirichlet`
	`sample-exp sample-gamma`
	`sample-inv-wishart sample-mvn`
	`sample-neg-binomial sample-normal`
	`sample-poisson sample-t`
	`sample-uniform sample-wishart`

Statistics (incanter.stats)

Summary:	`mean variance sd skewness`
	`kurtosis median cumulative-mean`
	`tabulate detabulate`
Association:	`covariance correlation`
Tests:	`chisq-test t-test permutations`
	`bootstrap`
Regression:	`linear-model`

Bayesian Inference (incanter.bayes)

Sampling:	`sample-model-params`
	`sample-multinomial-params`
	`sample-proportions`
Plots:	`trace-plot histogram`

Optimization (incanter.optimize)

```
non-linear-model gradient hessian derivative
integrate
```

Censored Data (incanter.censored)

```
censored-mean-lower censored-mean-two-sided
censored-mean-upper censored-variance-lower
censored-variance-two-sided
censored-variance-upper truncated-variance
```