Quick guide for TI calculators

1. Lists and matrices

- Lists can be edited via `STAT - EDIT`. Leave using `2nd QUIT`.
- Lists can be used as arguments in most functions; the function is then computed for every element in the list, and the results form a list. Lists can be added, subtracted, multiplied, etc.; the operations are then performed element by element.
- `2nd LIST - OPS - seq`: `seq(...,X,first,last,step)` computes an expression (...) for all numbers from `first` to `last` with a step length of `step`. The result is stored in a list. If no value of `step` is given the default value 1 is used. Example: `seq(X^2,X,1,5)`.
- `2nd LIST - MATH - sum`: sums the elements of a list.
- Matrices can be edited via `MATRIX - EDIT`. Leave using `2nd QUIT`.

2. Miscellaneous

- `MATH - PRB - nCr`: combinatorial coefficient $\binom{n}{k}$. Example: `10 nCr 6`.
- `STAT - CALC - 1-Var Stats`: summary of statistics for one sample. Example: `1-Var Stats(L1)` computes statistics for the elements in the list `L1`.
- `STAT - CALC - 2-Var Stats`: summary of statistics for two samples. Example: `2-Var Stats(L1,L2)` computes statistics for the elements in the lists `L1` and `L2`.

3. Distributions

The functions are found under `2nd DISTR`. The suffix `cdf` is short for *cumulative distribution function* and the suffix `pdf` is short for *probability density function*.

- `normalpdf`(x, μ, σ): density function for the normal distribution with expectation μ and standard deviation σ. If no values of μ and σ are given the default values 0 and 1 are used.
- `normalcdf`(a, b, μ, σ): probability for the interval $[a, b]$, given the distribution $\mathrm{N}(\mu, \sigma)$. Use `1E99` and `-1E99`, respectively, to indicate the values $\pm\infty$ for a or b (`E` is obtained via `2nd EE`).

- `tpdf(`x, f`)` and `tcdf(`a, b, f`)`: the corresponding functions for the t-distribution with f degrees of freedom.
- `X2pdf(`x, f`)` and `X2cdf(`a, b, f`)`: the corresponding functions for χ^2-distribution with f degrees of freedom.
- `binompdf(`n, p, x`)` and `binomcdf(`n, p, x`)`: probability function and distribution function for Bin(n, p).
- `poissonpdf(`μ, x`)` and `poissoncdf(`μ, x`)`: probability function and distribution function for Po(μ).
- `geometpdf(`p, x`)` and `geometcdf(`p, x`)`: probability function and distribution function for fft(p).
- `invnorm(`x, μ, σ`)`: the inverse function (quantiles) of the distribution function for N(μ, σ).

4. Confidence intervals and tests

The functions are found under `STAT - TESTS`.

- `ZInterval` and `Z-Test`: confidence interval and test, respectively, for the expectation of a normal distribution with known variance (one sample). The functions can work with `Data` (data is given in a list) or `Stats` (data is given in terms of statistics).
- `TInterval` and `T-Test`: confidence interval and test, respectively, for the expectation of a normal distribution with unknown variance (one sample).
- `2-SampZInt` and `2-SampZTest`: confidence interval and test, respectively, for the difference between expectations in two normal distributions with known variances (two samples).
- `2-SampTInt` and `2-SampTTest`: confidence interval and test, respectively, for the difference between expectations in two normal distributions with unknown variances (two samples). The choice for `Pooled` (no/yes) determines whether the variance estimates for the two samples should be pooled in to a common variance estimate or not.
- `1-PropZInt` and `1-PropZTest`: confidence interval and test (based on the normal approximation), respectively, for the proportion in a binomial distribution
- `2-PropZInt` and `2-PropZTest`: confidence interval and test (based on the normal approximation), respectively, for the difference between proportions in two binomial distributions.

- `LinRegTTest`: test for slope in linear regression; estimates of the model parameters are also computed.
- `X2-Test`: χ^2-test of homogeneity or independence. Data is given in a matrix (chosen under `Observed`), and the expected number under the null hypothesis is stored by the calculator in another matrix (chosen under `Expected`).