Exercise 4: Imagine a set of N measurements t_i, with uncertainty variances $s_{t_i}^2$, all of the same (unknown) quantity T. Assuming the generative model that each t_i differs from T by a Gaussian-distributed offset, taken from a Gaussian with zero mean and variance $s_{t_i}^2$, write down an expression for the log likelihood ln L for the data given the model parameter T. Take a derivative and show that the maximum likelihood value for T is the usual weighted mean.

Stuff