rethinking generates Stan code

```stan
data{
    vector[352] y;
    vector[352] x;
}
parameters{
    real a;
    real<lower=0> b;
    real<lower=0> sigma;
}
model{
    vector[352] mu;
    sigma ~ exponential( 1 );
    b ~ lognormal( 0 , 1 );
    a ~ normal( 0 , 20 );
    for ( i in 1:352 ) {
        mu[i] = a + b * x[i];
    }
    y ~ normal( mu , sigma );
}
```

Stan

https://mc-stan.org/

Stan Dev

https://github.com/stan-dev/stan

Sampler arguments

- Chains: fit the model several times

- Cores: do the fits in parallel

- Iterations: how many total samples

- Warm-up (or burn-in): starting samples that get discarded

Chains and convergence

Model summary

```
> precis(fit)
         mean   sd    5.5%   94.5% n_eff Rhat4
a      112.97 2.00 109.83 116.19  1013  1.01
b        0.92 0.04   0.86   0.99  1004  1.01
sigma    5.08 0.20   4.78   5.40  1543  1.00
```