Fitting the model

We have pretty good computers

Math

$$y_i \sim N(\mu, \sigma)$$

$$\mu \sim N(0,1)$$

$$\sigma \sim Exp(1)$$

R Code

```
library(rethinking)

df <- data.frame(y = rnorm(100, 3, 1))
fit <- ulam(alist(
          y ~ normal(mu, sigma),
          mu ~ normal(0, 1),
          sigma ~ exponential(1)),
          data = df)
```

Model fit and parameter estimates

```
> precis(fit, prob = 0.95)
       mean   sd 2.5% 97.5% rhat ess_bulk
mu     3.09 0.09 2.91  3.26    1  1289.83
sigma 0.91 0.06 0.79  1.04    1  1416.83
```

Estimates!

Confidence intervals

Model Diagnostics