Model in the computer

Centering both variables is always a good idea

```
df <- data.frame(growth = c(12, 10, 8, 11, 6, 7, 2, 3, 3),
                 tannin = c(0, 1, 2, 3, 4, 5, 6, 7, 8))
df$tannin = scale(df$tannin, scale = FALSE)
df$growth = scale(df$growth, scale = FALSE)

fit  = ulam(alist(growth ~ normal(mu, sigma),
                  mu <- a + b*tannin,
                  a ~ normal(0, 1),
                  b ~ normal(0, 1),
                  sigma ~ exponential(1)),
            data = df)
```

$$
\begin{aligned}
y_i &\sim N(\mu_i, \sigma) \\
\mu_i &= \alpha + \beta x_i \\
\alpha &\sim N(0,1) \\
\beta &\sim N(0,1) \\
\sigma &\sim Exp(1)
\end{aligned}
$$

Model fit

```
> precis(fit, prob = 0.95)
       mean   sd  2.5% 97.5% rhat ess_bulk
a      0.00 0.52 -1.03  1.04 1.00  1468.82
b     -1.15 0.24 -1.61 -0.64 1.01  1056.27
sigma  1.75 0.46  1.07  2.86 1.00  1195.20
```

Estimates!

```
plot(precis(fit, prob = 0.95))
```