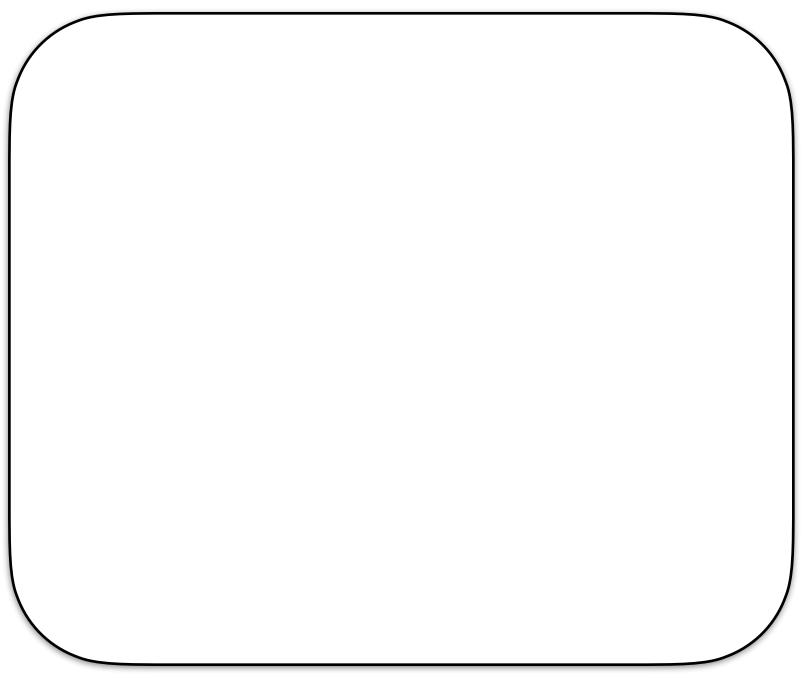




POSTERIOR SAMPI



 $y_i \sim Normal(\mu_i, \sigma)$ $\mu_i = \alpha + \beta x_i$ $\alpha \sim Normal(0, 20)$ $\beta \sim lognormal(0, 1)$

 $\sigma \sim Exponential(1)$

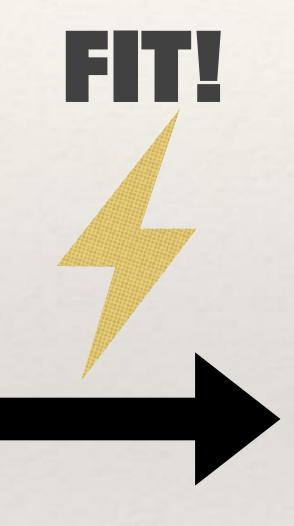
```
samples
 A tibble: 2,000 × 3
                               sigma
            a
   <dbl[1d]> <dbl[1d]> <dbl[1d]>
         115.
                   0.889
                                4.78
 2
         109.
                   1.02
                                5.30
 3
         112.
                                5.07
                   0.928
         111.
                   0.949
                                5.30
 5
                   0.955
         111.
                                5.04
 6
                                5.19
         115.
                   0.872
         109.
                   1.01
                                5.13
 8
         117.
                   0.844
                                5.00
         115.
                   0.882
                                4.94
10
         112.
                   0.939
                                4.95
# ... with 1,990 more rows
```





POSTERIOR SAMPLES

```
y_{i} \sim Normal(\mu_{i}, \sigma)
\mu_{i} = \alpha + \beta x_{i}
\alpha \sim Normal(0, 20)
\beta \sim lognormal(0, 1)
\sigma \sim Exponential(1)
```



```
samples
# A tibble: 2,000 × 3
                            sigma
   <dbl[1d]> <dbl[1d]> <dbl[1d]>
        115.
                 0.889
                             4.78
        109.
                             5.30
                 1.02
        112.
                 0.928
                             5.07
                             5.30
        111.
                  0.949
        111.
                 0.955
                             5.04
 6
        115.
                             5.19
                 0.872
                             5.13
        109.
                  1.01
                  0.844
                             5.00
        117.
        115.
                 0.882
                             4.94
        112.
                 0.939
                             4.95
10
# ... with 1,990 more rows
```

POSTERIOR MEAN ESTIMATES

```
E_{y}[\theta] = \begin{bmatrix} \text{> colMeans(samples)} \\ \text{a} & \text{b} \\ \text{112.9296580} \\ \text{0.9253803} \end{bmatrix} 5.0453651
```