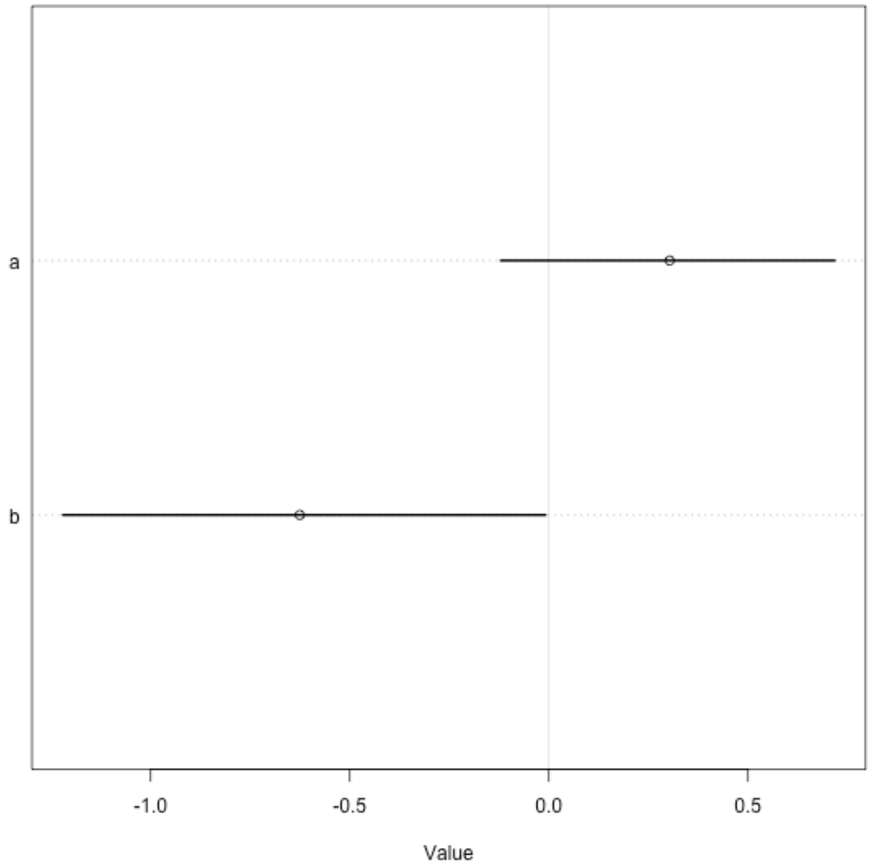
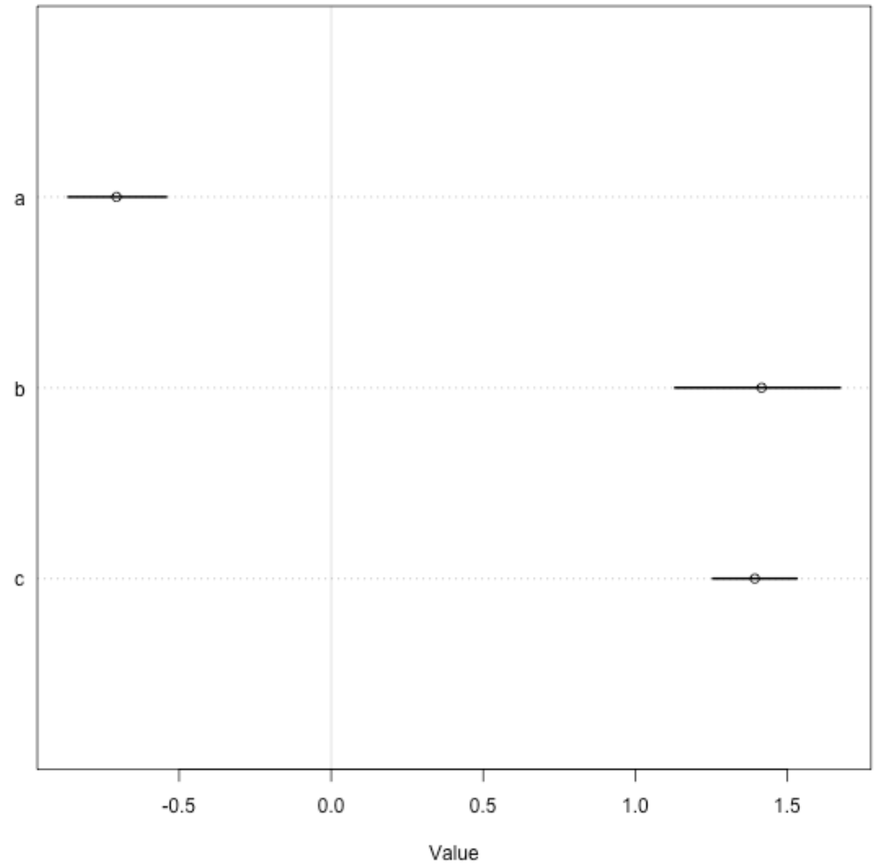
Comparing model estimates

$$y_i \sim N(\mu_i, \sigma)$$
$$\mu_i = \alpha + \beta x_i$$



$$y_i \sim N(\mu_i, \sigma)$$
$$\mu_i = \alpha + \beta_1 x_{i1} + \beta_2 x_{i2}$$



Why do the coefficients change?

Multiple regression as control

- Coefficients are comparisons, and adding predictors to a regression has the same effect as **stratifying** the data

- The objetive of adding more predictors to a linear model is to compare **like-to-like**:

  1. What is the difference between treatments for plants of the same initial size?

  2. What is the effect of initial size given a particular treatment?