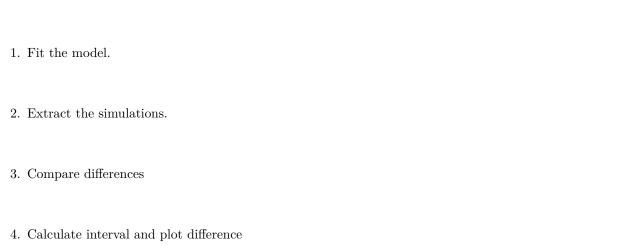
## Prediction and Bayesian Inference: Coding Exercise

**Contrasts and Functions of Parameters** Bayesian inference also allows easy computation of contrasts and more generally functions of parameters.

Consider the contrast (predicted mean difference) between a weekend day with max\_tmp = 20 and a weekday with max\_tmp = 30. This would be a difficult problem to solve analytically, but it is straightforward using simulation.

Note that a contrast of this sort (or any time), could also be calculated from a classical perspective, but, strictly speaking, the simulation approach is not permitted. Rather an analytical calculation, likely with a normal approximation (delta method?) would be necessary.



## Prediction

- 1. Predict the expected (or average) consumption for max temperature of 25, weekend = 1, and precip = 0.
- 2. Predict the consumption for a new day with a max temperature of 25, weekday = 1, and precip = 0.
- 3. Create a figure to show a comparison of the predicted distributions.