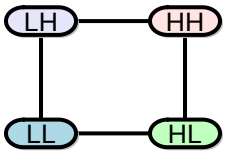
Your Turn!

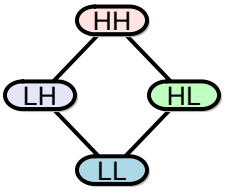
Ordinal constraints

Let's consider the three models just presented:

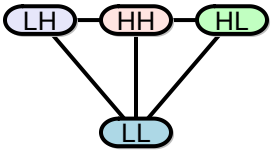
M_4: Disgust Only



M_1: Consistent +



M_2: + Equality



1. Read in the data, `bugs.csv`. Note that the design is within-participant (i.e. each participant evaluated a bug in each cell of the design). For convenience I get the data from wide format to long format.

```
dat <- read.csv("../data/bugs.csv")
datl <- melt(dat, id.vars = c("Subject", "Gender", "Region", "Education"))
datl$condition <- factor(datl$variable, labels = c("LL", "LH", "HL", "HH"))
datl$fear <- with(datl, ifelse(condition %in% c("LL", "HL"), 0 , 1))
datl$disgust <- with(datl, ifelse(condition %in% c("LL", "LH"), 0 , 1))
datl <- subset(datl, !is.na(value))
```

2. Use `lmBF()` to compute the Bayes factors between the intercept-only model and all three encompassing models. Use the `posterior()` function to draw posterior samples (`iterations = 20000` should be enough).
3. Compute Bayes factors between the three encompassing models and the three restricted models using the encompassing approach. You already know the prior probability of the constraint, now you also need the posterior probability of the constraint.
4. Make a table with the Bayes factors between these three models and the general unconstrained model.