HYPER PARAMETERS

- We want to introduce some dependency between the different player's avgs.
- This allows the information in the joint distribution of all players to inform individual estimates.
- All estimates p_i come from the same distribution, and, therefore, depend on each other.

$$y_i \sim Binomial(n_i, p_i)$$

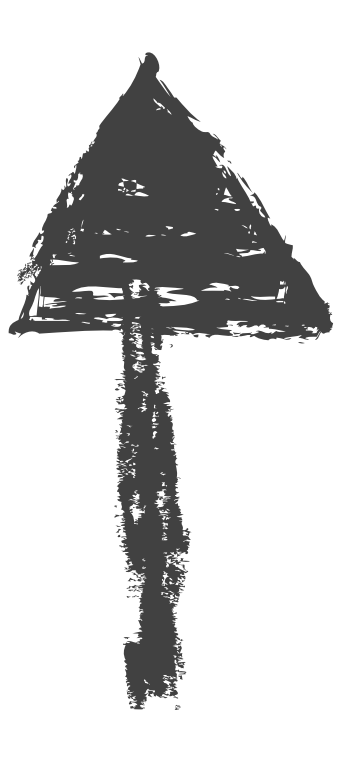
$$p_i \sim Beta(\nu_1, \nu_2)$$

$$\nu_1, \nu_2 \sim lognormal(0,1)$$

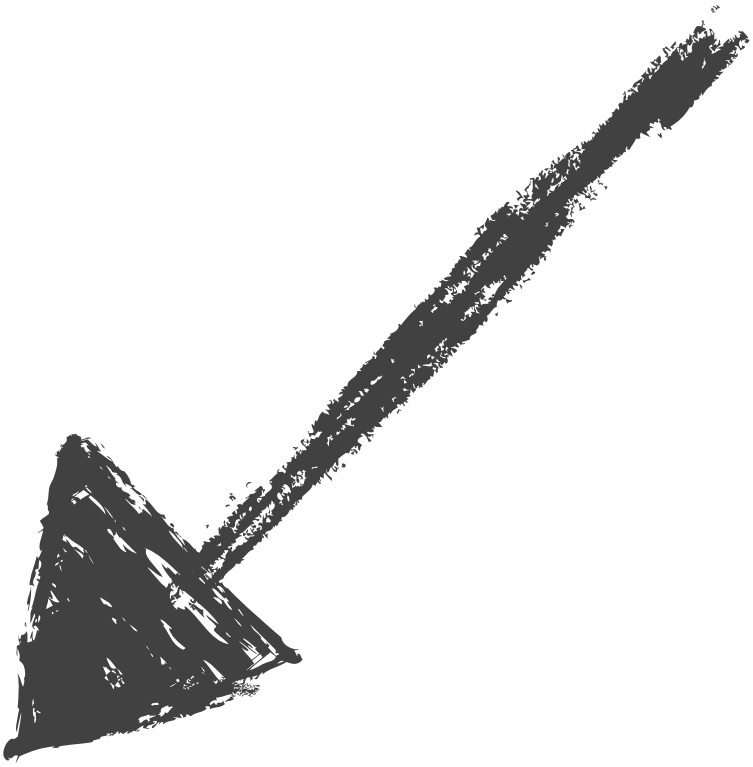
- y_i: number of hits
- n_i: number of attempts

Data:

Model:



Hyper parameters



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Hyper parameters

Hyper priors

BASEBALL IN ULAM

```
m1 = ulam(alist(
  hits ~ binomial(atbats, avgs),
  avgs <p[player],
  p[player] ~ beta(nu0, nu1),
  nu0 ~ lognormal(0, 1),
  nu1 ~ lognormal(0, 1)
), data = list(hits = d[,2],
               atbats = d[,1],
               player = 1:Nplayers),
chains = 4, cores = 4, iter = 2000)
```