PS2
Edu 252L

- Due 2-8 at noon
- Instead of submitting via canvas, please email ONE (1) group copy to bdomingue@stanford.edu. This will make it easier for me to share feedback with entire group.
- Word or pdf are fine. If you submit a pdf, please be sure to include line #s.
- It's quite possible that the questions asked here are still somewhat vague. But, I want to help you reach clarity about what is being asked. I'm starting a discussion thread associated with ps2; I strongly encourage everyone to post questions there!!

CTT

1. Use this source to explore what I think is a crucial failure of CTT.

IRT

2. In line 21 here we made a specific assumption about the link function. One can imagine other choices being made. Studies have been done on sensitivity to the normal CDF being used, for example. What about other CDFs? Consider the degree to which generating data via something other than the inverse logit link might lead to bias or other abnormalities in parameter estimation. You want to consider links with heavier tails, non-symmetric CDFs (skewed normal), or even non-monotic links. I've started to illustrate some examples here, but feel free to push past this. The key question: is there anything magical about the logistic as the function we use to transform theta-b_i onto the unit interval of probabilities?
3. What if you simulate data via IRT (e.g., via a change to the sim_data function of different-links.R) so that the probability never goes below a certain value (ie the ogive has a lower bound). What kind of real life human behavior might this capture? How does it affect the estimates considered in lines 32-36 of basic_irt?