1. Consider the model $y_{ij} \overset{ind}{\sim} N(\theta_i, \sigma^2)$.

   (a) Let $\theta_i \overset{ind}{\sim} Ho(0, \tau^2)$ be the horseshoe prior described in Carvalho et al. (2009). Describe an MCMC algorithm to sample from the posterior.

   (b) Construct a simulated data set and compare the results of the Horseshoe prior to results from using a point-mass prior.