* Bayesian inference via Gibbs sampling
  + LDA – Bayesian model (probabilistic latent semantic analysis/indexing)
  + Iteratively random hard assignments.
  + Benefits
    - Intuitive updates
    - Straightforward to implement
  + Joint model probability
    - Probability of observations given variables/parameters and probability of variables/parameters themselves.
    - Look over iterations
    - Goes up and down over iterations due to randomization (not an optimization algorithm)
  + Explore space of possible solutions rather than converge to a single point.
  + Eventually provides “correct” Bayesian estimates
  + Look at snapshot of randomly assigned variables/parameters that maximizes the joint model probability to estimate the “a posteriori parameter estimate”.
  + For predictions:
    - Make prediction for each snapshot of randomly assigned variables/parameters for the full iteration
    - Then average predictions for the final result.
* Outline of Gibbs sampling algorithm:
  + Iterative random hard assignments.