Name:

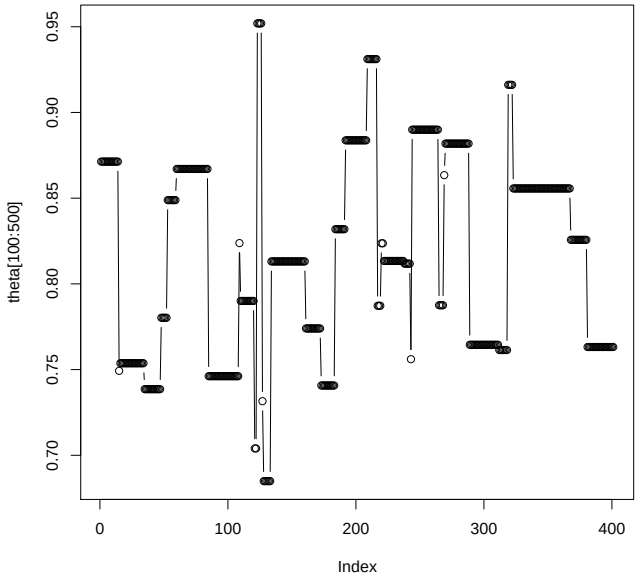
Quiz 4
November 11, 2013

1. **(2 pts)** The figure shows a trace plot from a MCMC (Metropolis) run. Is the acceptance rate:

   (a) too high?

   (b) too low?

   (c) just right?



2. **(2 pts)** If the acceptance rate for a random walk Metropolis algorithm using a normal proposal density is too high, how should the standard deviation be adjusted?

   (a) make the standard deviation smaller

   (b) make the standard deviation larger

3. **(2 pts)** What is the range of acceptance rates that is reasonable for a Metropolis algorithm?

4. **(2 pts)** Describe a method for determining a starting value for the parameters of an MCMC run.

5. **(2 pts)** The Batch Means diagnostic is used to

   (a) determine the number of iterations to run the MCMC chain

   (b) determine the length of the burn-in period

   (c) determine the number of MCMC chains to run