BAYESIAN METHODS
Lab notes

Lab 5   HIERARCHICAL LINEAR MODELS: A GROWTH CURVE ANALYSIS USING THE GIBBS SAMPLER

Example   A hierarchical model for straight-line growth curves

Reference   Example taken from section 6 of Gelfand, Hills, Racine-Poon, Smith (1990) *Illustration of Bayesian Inference in Normal Data Models Using Gibbs Sampling*, *JASA*, **85**, pp. 972-985.

Language   BUGS   codes: *Rats: a Normal hierarchical model* in BUGS Examples Volume I, *Birats: a bivariate Normal hierarchical model* in BUGS Examples Volume II

Subject   *The weights of 30 rats in a control group were measured weekly for five weeks. We assume a random effects linear growth curve model with two alternative priors for the individual effects (intercept and slope for each rat growth curve). One is a bivariate normal prior that specifies a covariance between the random intercept and the random slope (*birats*); the other one consists in two independent priors for the random intercept and, respectively, the random slope (*rats).

The BUGS codes are linked at the course web page.