Clarifications regarding questions in Lab 2, and the report.

The report for lab 2 does not need to be as extensive as the report for lab 1. What's important is that you report what you have done and answer all questions posed in the instructions (in your own words). You don't need to write an introduction etc., it is OK to just have a section for each question and sub-question. You shouldn't include matlab code in the report, but you should explain what the code you have written does (e.g., explain in words and equations how you obtain new draws of F,R,B and W, how you see that the draws converge, etc.), report the result you obtained and explain the result with a few sentences. You should also submit the matlab files you have been working on. As in lab 1, the report should be no more than 10 pages long.

Q1: Update fixed parameters

Q1 a) What is the role/goal of the function nextF? What is the name of the algorithm that you use to draw new fixed parameters F?

Q1 b)-Q1 d) Here you perform a sequence of calculations. Explain how and why these calculations are performed. That is, explain in words and equations how you obtain new draws of F, and why?

Q2: Estimate Logit

State the model that you have estimated.

Q2 a) When you estimate a model with the Hierarchical Bayes methodology, you start by running the algorithm through a burn-in period. Why? How do you judge that the burn-in period is sufficiently long? Provide plots for the burn-in period for your model, and discuss them shortly.

Q2 b) Provide a table with your estimated model, discuss the results.

Q3: Update b

Q3 a) What is the role/goal of the function nextB? You perform a sequence of calculations. Explain how and why these calculations are performed. That is, explain in words and equations how you obtain new draws of B, and why?

Q3 b) Why do we divide the covariance matrix W by N? (You don't need to write the formulas, just explain in words why this is logical)

Q4: Update W

Q4 a) What is the role/goal of the function nextW? You perform a sequence of calculations. Explain how and why these calculations are performed. That is, explain in words and equations how you obtain new draws of W, and why?

Q4 b) What are the properties of Inverted Wishart and Inverted Gamma distributions that makes them feasible for the covariance matrix?

Q5: Update individual level paramters

Q5 a) What is the role/goal of the function nextR? You perform a sequence of calculations. Explain how and why these calculations are performed. That is, explain in words and equations how you obtain new draws of the individual level parameters, and why?

Q5 b) Why don't we need to calculate the acceptance probability when updating b and W?

Q6: Estimate a mixed logit model using Hierarchical Bayes

State the model that you have estimated.

Add plots, print out the acceptance rate and check for convergence as you did in Q2.

Compare the results with the simulated maximum likelihood result from lab1b (provide tables for the two estimated models). Discuss your results.

Extra assignments

For the extra assignments (Q7-Q10) you are supposed to do the assigned task and to report how you implemented the task, similar to what you reported in previous the assignments (Q1-Q6). Also, your findings related to each assignment should be discussed.