**Homework 7 Qaqish Comments**

**13.1**

The problem asks you to include "main effects for treatment". But the constraint I added (equal at baseline) negates that. So, simply, do NOT include main effects for treatment. To be clear the model for the 2x5 table of cell means would involve 9 parameters (linearly independent).

**13.1.3 (a) and (b)**

Each clinic represents a study that has structure similar to the TLC study. Treatment effects on changes over time are represented by 4 contrasts (since the table is a 2x5 table).

Part (a) involves comparing the 4 contrasts from clinic 1 to the 4 contrasts from clinic 2. Do that by fitting a single model and testing 4 contrasts.

Do not fit 2 separate models, one for each clinic (even though that is a correct procedure).

Your models for 13.1.3 and 13.1.4 should include Time, Clinic and Time \* Clinic interactions (within a treatment group, the two clinics may differ and differ differently over time), in addition to other things, of course.

The problem asks you to apply the constraint that (within each clinic in parts 3 and 4) the treatment group (A versus B) means at baseline are equal. This constraint implies the following: If Clinic is a factor with 2 levels and Treatment is a factor with 2 levels, there should not be a "Clinic \* Treatment" interaction in the model formula in any part of the problem.  Such an interaction term would violate that constraint.

You can make your life a lot easier if you parametrize things "manually" (create your own dummy variables), rather than depend on and struggle with what the software does with factors.