Table 5.3 Covariances and Means of Longitudinal Data for Two Groups for Exercise 5.1.

Group 0 ($n = 30$)

	T1	T2	T3	T4	T5
Time Period 1	3.59	3.11	2.91	3.22	2.88
Time Period 2	3.11	3.10	2.80	3.05	2.63
Time Period 3	2.91	2.80	2.82	2.86	2.62
Time Period 4	3.22	3.05	2.86	3.30	2.82
Time Period 5	2.88	2.63	2.62	2.82	2.71
Time Period Mean	11.97	11.72	12.03	11.96	12.10

Group 1 ($n = 30$)

	T1	T2	T3	T4	T5
Time Period 1	3.42	3.03	2.62	2.95	2.89
Time Period 2	3.03	3.18	2.73	2.97	2.91
Time Period 3	2.62	2.73	2.69	2.59	2.67
Time Period 4	2.95	2.97	2.59	3.02	2.83
Time Period 5	2.89	2.91	2.67	2.83	3.25
Time Period Mean	9.80	12.00	13.94	15.96	18.10

Data taken from Cohen et al. (2003).

5.1.a Import the data. Remember to create separate covariance matrices and mean vectors for both groups, and then combine them as a `list` object.

5.1.b Create the syntax for the following series of models:

1. Latent intercept with residuals constrained to be the same across time periods. Constrain the means of the latent intercept to be the same between groups.
2. Add a variance term to the latent intercept in model 1 and constrain the variance to be the same between groups.
3. Add a latent slope to model 2. Constrain the latent slope's mean to be 0.0, but estimate its variance and the latent slope and latent intercept's covariance. Constrain the latent variables' variances and covariance to be the same between groups.
4. Remove the constraint in model 3 that the latent slope's mean is 0.0, but constrain it to be the same between groups.
5. Remove the constraint in model 4 that the mean of the latent intercept is the same between groups (i.e., intercept × group interaction).
6. Remove the constraint in model 5 that the mean of the latent slope is the same between groups (i.e., slope × group interaction).

5.1.c Fit the models created in Exercise 5.1.b to the data.