Using the PLM Procedure

Previously, we discussed the utility of the STORE statement. In order to perform postfitting statistical analyses for the content of a SAS item store that was previously created with the STORE statement in some other SAS/STAT procedure, you can use the PLM procedure.

The item store contains the necessary information and context about the statistical model that was fit when the store was created. The statements that are available in the PLM procedure are designed to reveal the contents of the source item store via the Output Delivery System.

Let’s discuss the general form of the PLM procedure. The PROC PLM statement invokes the PLM procedure. The PLM procedure, unlike most SAS/STAT procedures, does not operate primarily on an input data set. Instead, the procedure requires you to specify an item store with the RESTORE= option in the PROC PLM statement.

The LSMEANS statement computes and compares the least squares means of fixed effects. The LSMESTIMATE statement provides a mechanism for obtaining custom hypothesis tests among least squares means. The MEANS and LSMEANS statements of the GLM procedure only enable you to test pairwise differences. In practice, you might not always be interested in conducting pairwise differences between the population means. For example, suppose you are studying five ways to improve vocabulary. The first two are different written methods and the last three are different verbal methods. You might want to test whether the average of the first two methods is equal to the average of the last three methods. The LSMESTIMATE statement in the PLM procedure can be used for this purpose because the LSMESTIMATE statement provides a mechanism for obtaining custom hypothesis tests among least squares means. The null hypothesis would be $(\mu_1+\mu_2)/2 = (\mu_3+\mu_4+\mu_5)/3$.

Let's discuss the remaining statements in PROC PLM. The SHOW statement uses the Output Delivery System to display contents of the item store. Use the WHERE statement in the PLM procedure when the item store contains BY-variable information and you want to apply the PROC PLM statements to only a subset of the BY groups. The WHERE expression is a type of SAS expression that defines a condition.
