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Demo: Performing a One-Way ANOVA Using the One-Way ANOVA Task

Use the One-Way ANOVA task to run an analysis of variance to test whether the average **SalePrice** value differs among the houses with different heating qualities. Before we can trust the results from our ANOVA, such as the *p*-value, standard errors, and confidence intervals, we need to check the assumptions of our model. We'll use Levene's test of homogeneity of variances to assess constant variance. We can check normality and independence through residual plots such as histograms, Q-Q plots, residuals versus predicted values, and residuals versus predictors.

1. In the Navigation pane, select **Tasks and Utilities**.
2. Expand **Tasks**.
3. Expand **Statistics** and open the **One-Way ANOVA** task.
4. Select the **stat1.ameshousing3** table.
5. Assign **SalePrice** to the Dependent variable role.
6. Assign **Heating_QC** to the Categorical variable role.
7. On the OPTIONS tab, under HOMOGENEITY OF VARIANCE, clear the option for **Welch's variance-weighted ANOVA**.
8. Under COMPARISONS, use the Comparisons method drop-down list to select **None**.
9. Under PLOTS, from the Display plots drop-down list, select the **Selected plots** option, and then select **Box plot**, if not already selected, and **Diagnostics plot**. Clear the check boxes for **Means plot** and **LS-mean difference plot**.
10. Click **Run**.

Generated Code

```
Title;
ods noproctitle;
ods graphics / imagemap=on;

proc glm data=STAT1.AMESHOUSING3 plots(only)=(boxplot diagnostics);
        class Heating_QC;
        model SalePrice=Heating_QC;
        means Heating_QC / hovtest=levene plots=none;
        run;
quit;
```