

Outline for all DAWG ANOVA Modules

- Step 1.** Start SAS program (begin SAS session).
- Step 2.** Decide if you have a Specialized Feature.
Download an example file for first run through your DAWG module.
- Step 3.** Access your data: copy and paste it into the SAS Editor Window.
- Step 4.** Create program statements to read in the data:
- Click your Specialized Feature in the gray box and copy the statements that pop up into SAS, before the data values in the Editor Window.
 - If using your own data, modify the INPUT statement to indicate your variable names.
 - Delete any header text that you may have pasted (such as a row of variable names).
 - Put a semicolon on the line following the data.
- Step 5.** Run SAS program to read data: With cursor in Editor Window, hit the Submit (running person) icon on the toolbar.
- Step 6.** Check to see that data were read correctly
- Add these SAS statements in Editor Window, after data, after semicolon:
PROC PRINT;
RUN;
 - With the cursor in the Editor Window, hit the Submit icon.
 - In Output window, verify that the correct number of observations is present, and that variable values match your original data.
- Step 7.** Download and save the %MMAOV file (right-click, Save Target As or Save Link Target As) to your computer in an easy-to-remember directory.
- Step 8.** Perform analysis.
- Based on your specialized features, click in gray table to obtain the two %MMAOV statements that you will copy into the SAS Editor Window.
 - In the Editor Window, change the %INCLUDE statement so that the path and filename identify where you saved the macro.
 - If you are running your own data, modify the code words as explained in the bottom gray table popups.
 - Do the transformation step, if you found on a prior run that this was necessary.
 - Run the program (click the Submit icon)
- Step 9.** Check Log Window. If errors occurred, go to the Editor Window, make corrections and re-run.
- Step 10.** Interpret results
- From the gray table, pick an output based your specialized feature, and animal or plant choice. This file will appear in a separate popup window as a pdf file with clickable comments.
 - Click on the yellow arrows to read comments.
 - Find the ANOVA table in the pdf Output and check if the Pr>F is less than 0.05.
 - Find the mean separation table in the pdf Output, note letter grouping, showing if any differences exist.
 - Go to SAS Output Window and verify that you can find the equivalent tables as were discussed above.
 - If you have returned to this analysis module after transforming your data, you will need to interpret the transformed means: Interpret the transformed means

This completes the analysis module. However, for your interpreted results to be accurate and meaningful, you must check the diagnostic output.

Now go to ANOVA Diagnostics Module

SAS Editor Window

The screenshot shows the SAS Editor window titled "Editor - Untitled1 *". The editor contains the following SAS code:

```
DATA one;
INPUT Treatment $ Exper_Unit Weight;
DATALINES;
TRT-A 1 12.7
TRT-A 2 16.6
TRT-A 3 15.7
TRT-A 4 16.9
TRT-A 5 14.2
TRT-B 6 23.2
TRT-B 7 20.9
TRT-B 8 25.0
TRT-B 9 24.6
TRT-B 10 25.7
TRT-C 11 20.1
TRT-C 12 19.9
TRT-C 13 20.8
TRT-C 14 20.6
TRT-C 15 23.0
TRT-D 16 21.7
TRT-D 17 19.8
TRT-D 18 18.4
TRT-D 19 19.3
TRT-D 20 21.9
;
PROC PRINT;
RUN;
%INCLUDE 'c:\DAWG\MMAOV.SAS';
%MMAOV(One, Weight, CLASS=Treatment, FIXED=Treatment );
```

Annotations in the image indicate the following steps:

- Step 3** copy data
- Step 4** program statements to read in the data
- Step 4** add semicolon
- Step 6** check that data were read correctly
- Step 8** Get and modify statements from pop-ups, to perform analysis