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.
- Add the PROC PRINT; RUN; statements below the data.

Step 5. Run SAS program to read data: With cursor in Editor Window, hit the Submit (🏃) icon on the toolbar.
- In Results Viewer window, verify that the correct number of observations is present, and that variable values match your original data.

Step 6. Download and save the macro file (right-click, Save Target As or Save Link Target As) to your computer in an easy-to-remember directory. Skip this step if you previously saved danda.sas, but keep an eye out for new versions.

Step 7. 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 to 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 8. Check Log Window. If errors occurred, go to the Editor Window, make corrections and re-run.

Step 9. Interpret results
- From the gray table, pick an output with 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 red arrows to read about output that is used in scientific reporting. These include the ANOVA table, treatment means, and differences among the means.
- Go to your SAS Results Viewer window and verify that you can find the tables discussed in the pdf.
- If you returned to this step after transforming your data, you will need to interpret transformed means.

Step 10. However, for your interpreted results in Step 9 to be accurate and meaningful, you must check the diagnostic output. These are indicated by yellow arrows in the pdf output you opened in Step 9.
- Go through the ANOVA diagnostics Module and the pdf to check normality, equal variance, outliers, etc. If problems are found data corrections and/or transformation are needed, and you will go back to Step 7 to rerun the analysis.
- You may need to repeat the Step 7-10 analysis loop several times before all diagnostic issues are resolved.

SAS Editor Window

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Editor - Untitled1 *                                              _ □ X

DATA one;
  INPUT Treatment $ Exper_Unit Weight;          Step 4  program statements
  DATALINES;                                              to read in the data
  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               Step 3  copy data
  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
  ;                             Step 4  add semicolon

    PROC PRINT;                 Step 6  check that data were read correctly
    RUN;
  %INCLUDE 'c:\DAWG\MMAOV.SAS';
  %MMAOV(One, Weight, CLASS=Treatment, FIXED=Treatment );

                                Step 7  Get and modify statements from
                                         pop-ups,to perform analysis
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