SAS Assignment #2

OPIM 3802, Spring 2020

**Due Date**: Tuesday 4/21/2020 @ End of Day

**Problem**: Predict how long a dog will be in the shelter before adoption (time\_in\_shelter\_days).

**Requirements**: Complete the following steps, showing your approach in a slideshow (pptx). You do **not** need to complete the steps separately or necessarily in this order… just do what makes sense. Combining steps is totally fine… even encouraged.

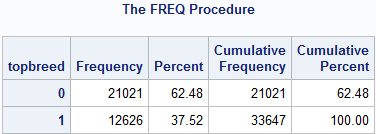
1. Begin with the ‘aac\_intakes\_outcomes\_MODIFIED’ dataset available on HuskyCT.
2. Import the data into a permanent library in SAS 9.4.

(You should have 74,660 observations and 19 variables)

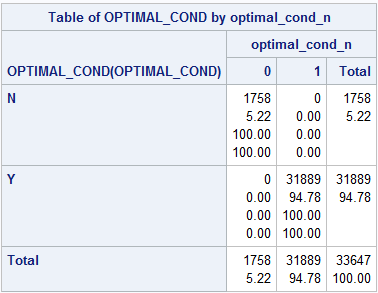
1. Filter the dataset to include only **dogs** and only animals who were eventually **adopted**. Also remove any outliers where ‘time\_in\_shelter\_days’ is greater than **200**.
   1. Adopted defined as an outcome type of either Adoption Return to Owner, or Rto-Adopt.

(You should have 33,647 records)

1. Determine the baseline prediction.
2. Create some new variables to model on…
   1. Topbreed is any record with a breed that contains the words ‘LAB’, ‘BULLDOG’, ‘TERRIER’, ‘SHEPHERD’, or ‘BEAGLE’. Set to 1 if yes, 0 if no. Careful, case sensitive!

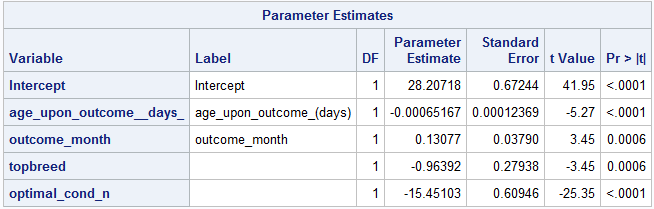


* 1. OPTIMAL\_COND\_N is a numerical representation of OPTIMAL\_COND that just has a 1 for ‘Y’ and 0 for ‘N’.



1. Use Proc Reg to generate the following output:

**(USE THIS TO ENSURE WE’RE ON THE SAME PAGE!)**



Using only the variables that are eligible based on p-value (Pr > |t|) update the model as necessary before finalizing.

1. Use a Proc Score to apply the data to the dataset.

(The mean of your prediction should be 13.40)

1. Calculate the MAD for model predictions and baseline.
2. Assess the performance of your model against baseline.
3. How would things have changed if we considered any time\_in\_shelter\_days greater than **50** to be outliers, and filtered them out in step 3? Should we have done that?

Submit a walkthrough of your code (with code screenshots) in a PowerPoint deck. You may work in pairs.