ST555 Homework 9

When you have completed this HW, submit via Moodle the following:

I. Your SAS program (.sas) that contains the answers to the fill in the blanks as comments. Be sure to include the question number and letter for each comment.
II. Your SAS log
III. Your Results, generate your results using ods as a .pdf or .rtf file

For this homework, you will utilize a dataset called "lapband.sas7bdat". This homework set contains data on 39 patients who had lap band surgery for weight loss (bariatric surgery). Along with patient id (ID), each patient's weight at baseline (1 week before surgery) and 2, 4, 6, 12, 18 and 24 months following surgery are included in this dataset. Read the dataset into SAS and do the following:

1) If a patient missed a visit then his/her weight value was reported as a missing value. Create a new dataset that only includes patients with measurements at all time points, call this dataset "completers".
   How many patients are included in the "completers" dataset? _____

2) However if a patient came in for a visit but the study staff forgot to take the weight measurement, then the weight was recorded as -9. Using the completers dataset, use array and do loop statements to change all of the -9 to missing values, call this new dataset "noneg9".

3) From the "noneg9" dataset, we need to provide the physician summary statistics for weight loss at each time point (each month). Weight in this dataset is reported in pounds (lbs). However for publication, weight must be converted to kilograms (kg). Therefore do the following:
   a. Convert the weight measurements to kg noting that 1 lbs = 0.4536 kg [Do not use repetitive coding]

   b. Provide summary statistics of the weights at each time point in both lbs and kg. The physician wants to know the mean, sd, min, median, and max weight for these patients.

4) Weight after bariatric surgery is reported as percentage change in weight from baseline.
   a. Within a dataset step, create 6 new numeric variables that calculate each person's percentage change in weight from baseline to each timepoint. For example percentage weight loss at two monthss, can be calculated as pctwl2=((wgtlbs2-wgtlbs0)/WgtLBS0)*100; Perform this calculation for all measurements after surgery. Do not use repetitive coding

b. Provide summary statistics for the 6 new variables that represent percentage weight loss from baseline to 2, 4, 6, 12, 18 and 24 months.

5) The physician thinks that each patient should lose at least 10% weight from baseline to 2 months, 14% at 4 months, 18% at 6 months, 20% at month 12, 22% at month 18, and 27% at month 24. Consider these as a target weight loss, create 6 difference variables to indicate how far off each person is from these weight loss goals at each time point. Utilize a temporary table lookup within a data step to create these 6 difference variables. [Note Dr. Moore completely made up these weight loss goals]

   a. Provide summary statistics for these 6 difference variables.

   b. Provide output that provides the number of patients for each category in this table

Month	Number of Patients at Each Time Point	Number of Patients who met Weight Loss Goal*
2		
4		
6		
8		
12		
24		

*Meeting weight loss goal is losing at least the target percentage at each time point