```sas
*
Azah Mansour
6/14/25
Final Project- Fast Food Nutrition
;

LIBNAME Project '/home/u64067679';

PROC PRINT DATA=Project.fastfoodnew (obs=15);
RUN;


*1a. Creating a new variable, SugarCarb_ratio, by dividing sugar by total_carb;
DATA project.ratiofastfood;
    SET project.fastfoodnew;
    SugarCarb_ratio= (sugar/total_carb)*100;
RUN;


*1b. sorting data by sodium in descending;
PROC SORT DATA=project.ratiofastfood OUT=fastfoodsorted;
    BY DESCENDING sodium;
RUN;







*2. Is the average amount of sodium in a menu item greater than 500 mg?;
PROC TTEST DATA=fastfoodsorted ALPHA=.01 PLOTS=all CL=equal;
    VAR sodium;
RUN;

PROC SGPLOT DATA=fastfoodsorted;
    HISTOGRAM sodium;
    DENSITY sodium;
RUN;
*2b. The distribution of the histogram indicates that the data for the sodium variable
 is approximately normally distributed.;
*2c. Yes;
*2d. we are 99% confident that the true average amount of sodium falls between
1168.1 and 1325.3 mg, indicating that the average menu item's sodium content
is greater than 500 mg.;







*2. Does a higher total carb mean more sugar?;
PROC GLM DATA=fastfoodsorted PLOTS=all;
    MODEL sugar=total_carb;
RUN;

PROC SGPLOT DATA=fastfoodsorted;
    SCATTER X=total_carb Y=sugar;
RUN;
*2b. The scatterplot indicates a positive, but weak relationship between total carbs
     and sugar content. As total carbs increases, sugar content will slowly increase.;
*2c. Yes;
*2d. There is statistically significant evidence to infer a positive relationship
     between total carbs and sugar content in a menu item. For every 1 gram increase in total carbs,
     the total sugar content will increase by .149 grams;
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