DISCUSSION/LAB 1: DATA summaries: center and spread, shape, outliers, etc.

We will use three data sets:

DATA SET: MBODY.MTW

Age in years, PULSE in beats per minute, SYS is systolic blood pressure, DIAS is diastolic blood pressure, HDL is HDL cholesterol, LDL is LDL cholesterol, WHITE is white cells blood count, RED is red cells blood count, PLATE is platelet count, WT is weight , HT is height, WAIST is waist circumference, ARM is arm circumference, BMI is body mass index.
Data from the National Center for Health Statistics

DATA SET: FOOT.MTW

Gender, Age in years, rest of measurements in cm.
Data from a researcher interested in posture predictors.

DATA SET IQLEAD.MTW (lead exposure on children)

LEAD is exposure to lead: 1= low, 2=moderate, 3 is high, AGE is age in years, SEX is gender (1=male, 2=female), YEAR1 is blood level of lead measured in year 1 of the study, YEAR2 is blood lead level in year2 of the study, IQF is IQ total, IQV is verbal IQ score, IQP is performance IQ score.

TO DO:

MBODY DATA.

1. Consider PULSE, WT and HT. Describe their shapes: symmetric or skewed?
2. What is the 75th percentile of HT?
3. Are there any outliers in WT data? What about HT?
4. Which blood pressure measurement varies more: SYS or DIAS?
5. Does DIAS depends on AGE?
6. Is there a difference in DIAS between people 30 or younger and those over 30 years old?
7. Is there a difference in BMI between people 30 or younger and those over 30 years old?
8. Does BMI depend on AGE?

FOOT DATA

1. Describe the FOOT length variable for the combined data set of M and W.
2. Are there any differences in the distribution of FOOT length between men and Women? Similarities?
3. Does FOOT length depend of AGE? What is we consider Men and Women separately?
4. Does HEIGHT depend on FOOT length? What is we consider Men and Women separately?

IQLEAD DATA

1. Describe the distribution, center and variability (any differences/similarities) for blood lead level measurements in YEAR 1 and YEAR2.
2. Does IQ depend on AGE?
3. Are there differences in the total IQ between girls and boys? What about Verbal IQ measurement?
4. Does IQ depend on lead exposure?