

## Introduction to SAS

### Running Statistical Procedures

1. Use your code from last week to read in the same data file data.csv from Canvas:

SUBJECT	DOSE	REACT	LIVER_WT	SPLEEN
1	1	5.4	10.2	8.9
2	1	5.9	9.8	7.3
3	1	4.8	12.2	9.1
4	1	6.9	11.8	8.8
5	1	15.8	10.9	9
6	2	4.9	13.8	6.6
7	2	5	12	7.9
8	2	6.7	10.5	8
9	2	18.2	11.9	6.9
10	2	5.5	9.9	9.1

- a. Use PROC CONTENTS to get an overview of the dataset
- b. Use PROC UNIVARIATE to produce histograms, normal probability plots, and box plots. Do this for the variables REACT, LIVER\_WT, and SPLEEN, first for all subjects (without BY option) and then separately for each of DOSES (use BY option).
  - i. What is the standard error of the mean for Liver\_wt? What are the values for each dose?
  - ii. What is the overall skewness of react? What are the values for each dose?
  - iii. What is the overall mean for spleen? What are the values for each dose?
- c. Determine if there is a difference in the reaction results for the two doses using PROC TTEST. Use alpha of 0.05.