**Quiz BF[1] – Using Software**

Part I – Individual Quiz (Before Class)

Part II – Group Quiz (During Class)

1. What is a parallel dot graph (3 pts)?

Observed values as points plotted on a number line.

1. What are four things to look for in a parallel dot graph (3 pts)?

Groups, Outliers, Spread, Transforming.

1. What are the three tests for factors (2 pts)?

Do the observations in each group have some feature in common that is not common to observations in other groups.

Does it make sense to compute an average for each group and compare averages.

If you interchange two groups, putting one in place of another, do you change the meaning of the data.

1. What is the definition of a p-value (2 pts)?

Probability of getting a value that high or higher just by chance if in fact there were no differences in the underlying true values.

1. What are the reasons why the standard deviations should be equal (2 pts)?

When SDs are unequal, the observations with larger SDs tend to dominate the average.

The formal methods estimate one typical size for chance error.

1. What are the four features to look for in Residuals (2 pts)?

Outliers, Gaps & lumpiness, Asymmetry and skewness, Long or short tails.

**End of Part I**

1. Were you in class on time (2 pts)?

Yes

1. Do the following with the Fish Data:
   1. Construct a boxplots, dotplots, means plots and QQ-plots using the fish data and make some observations based on what you see in the plots (Use two software when doing this and show your graphs (3 pts).
   2. Check the requirements of equal variance and the residuals being normal. (3 pts)
   3. Get an ANOVA table from software and make conclusions (3 pts)
   4. Whether the requirements are met or not, try any transformation and create an ANOVA table and draw conclusions from that table (3 pts).