1. **Median is sensitive to extreme values**
   1. **FALSE**
2. **For a given inferential test output, suppose that we observe a p-value of 0.08. Then we always do not reject the null hypothesis?**
   1. **FALSE**
      1. Need to Know Significance Level. It depends on alpha (significance level)
3. **The goal of the two-sample t-test is the comparison of the mean values of two groups?**
   1. **FALSE**
      1. Depending on if there is an equal variance will determine if you compare the means or the medians
4. **The data showing bell-shaped and symmetric distribution always follows the Normal Distribution?**
   1. **TRUE**
5. **DO DURING TEST**
   1. DO DURING TEST
6. **When performing 2-way ANOVA, if two main effects are significant, the interaction term between them should always be included in the model?**
   1. **FALSE**
7. **For balanced ANOVA, Type 1 SS and Type 3 SS are always the same?**
   1. **TRUE**
      1. NOTE: when data is balanced, the factors are orthogonal, and types I, II and III all give the same results.
8. **When using the Type I SS for unbalanced ANOVA, If we change the order of the variables in the model, then the Type 1 SS will not change?**
   1. **FALSE**
      1. When using the Type I SS for unbalanced ANOVA, If we change the order of the variables in the model, then the Type 1 SS **WILL** change?
9. **If the ANOVA model is significant with very small p-value like 0.00001, this model will always show a very large R-square?**
   1. **FALSE**
      1. The size of the data may have an impact
      2. There is no established association/relationship between p-value and R-square.
      3. This all depends on the data (i.e.; contextual).
10. **In one-way ANOVA, even if the model turns out to be insignificant, we still need to perform post-hoc test?**
    1. **FALSE**
       1. The model needs to turn out to be significant for us to run the post-hoc test
11. **The final models from forward and backward selection are always the same**
    1. **FALSE**
12. **What is true of the distribution of the following boxplot**
    1. Left skewed (mean < median )
    2. Long left tail (small observations on the left of the chart)