Homework 2B

STAT 242: Intermediate Statistics

Don't forget to load any packages using `library()` that you may need for this homework!!

Problem 1 (10 pts)

Researchers collected data from 20 participants to compare four different varietals of apple (described using numbers 298, 493, 649, and 937). The participants tasted the apples and rated the aftertaste on a scale from "0 (extreme dislike) to 150 (like very much)"[1].

Conduct a full analysis to see if any of the mean aftertaste ratings are different among the four different varietals. The full analysis should include exploratory plots to check assumptions and all relevant parts of the hypothesis tests.

Interpret all of your results in context. Explain how to interpret the p-value for the test and the conclusions that can be drawn from it as though to someone who had not taken a statistics class. What conclusions can be drawn about the apple varietals?

```
apples <- read.csv("https://vincentarelbundock.github.io/Rdatasets/csv/DAAG/appletaste.csv")
apples$product <- as.factor(apples$product)
```

Problem 2 (15 pts)

Use the following dataset, describing mortality outcomes for females suffering myocardial infarction (heart attacks), to see whether the mean age at onset (`age`) is different for three groups: current smokers, ex-smokers, and non-smokers (`smstat`)[2].

Conduct a full analysis to see if the mean onset for all three groups is different, or whether it is sufficient to consider only whether an individual has ever smoked or not.

Interpret all of your results in context. Explain how to interpret the p-value for the test and the conclusions that can be drawn from it as though to someone who had not taken a statistics class. What conclusions can be drawn about the three groups?

[1] https://vincentarelbundock.github.io/Rdatasets/doc/DAAG/appletaste.html
[2] https://vincentarelbundock.github.io/Rdatasets/doc/DAAG/mifem.html