StatisticalInferenceProjectPart2

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Part II Assignment Instructions

Analyze the ToothGrowth data in the R datasets package. (1) Load the ToothGrowth data and perform some basic exploratory data analyses (2) Provide a basic summary of the data. (3) Use confidence intervals and/or hypothesis tests to compare tooth growth by supp and dose. (4) State your conclusions and the assumptions needed for your conclusions.

Step (1) Examine the data and using STR, HEAD and SUMMARY. To save space the results are hidden.

```
library(datasets)
library(ggplot2)
```

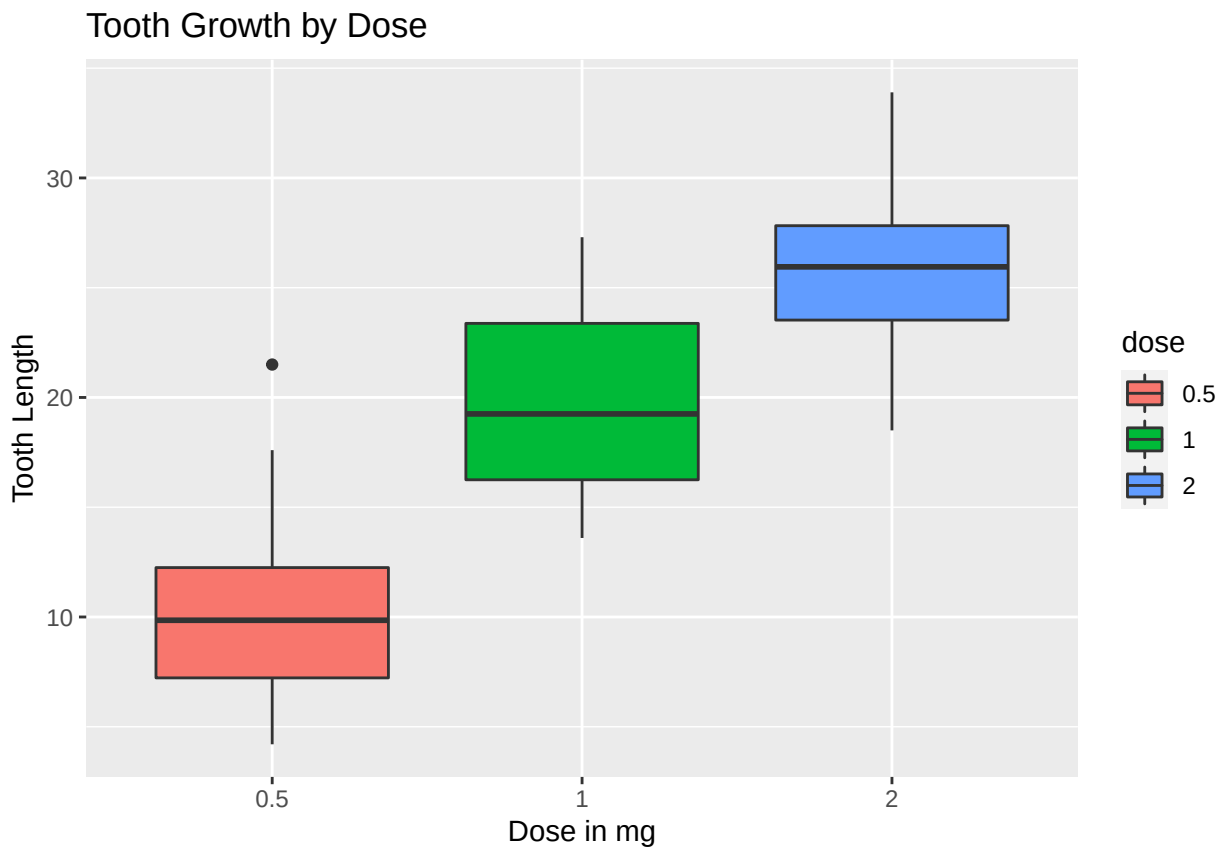
```
## Warning: package 'ggplot2' was built under R version 3.6.3
```

```
data(ToothGrowth)
str(ToothGrowth)
head(ToothGrowth)
summary(ToothGrowth)
```

Step (2) Basic Summary of data using a chart

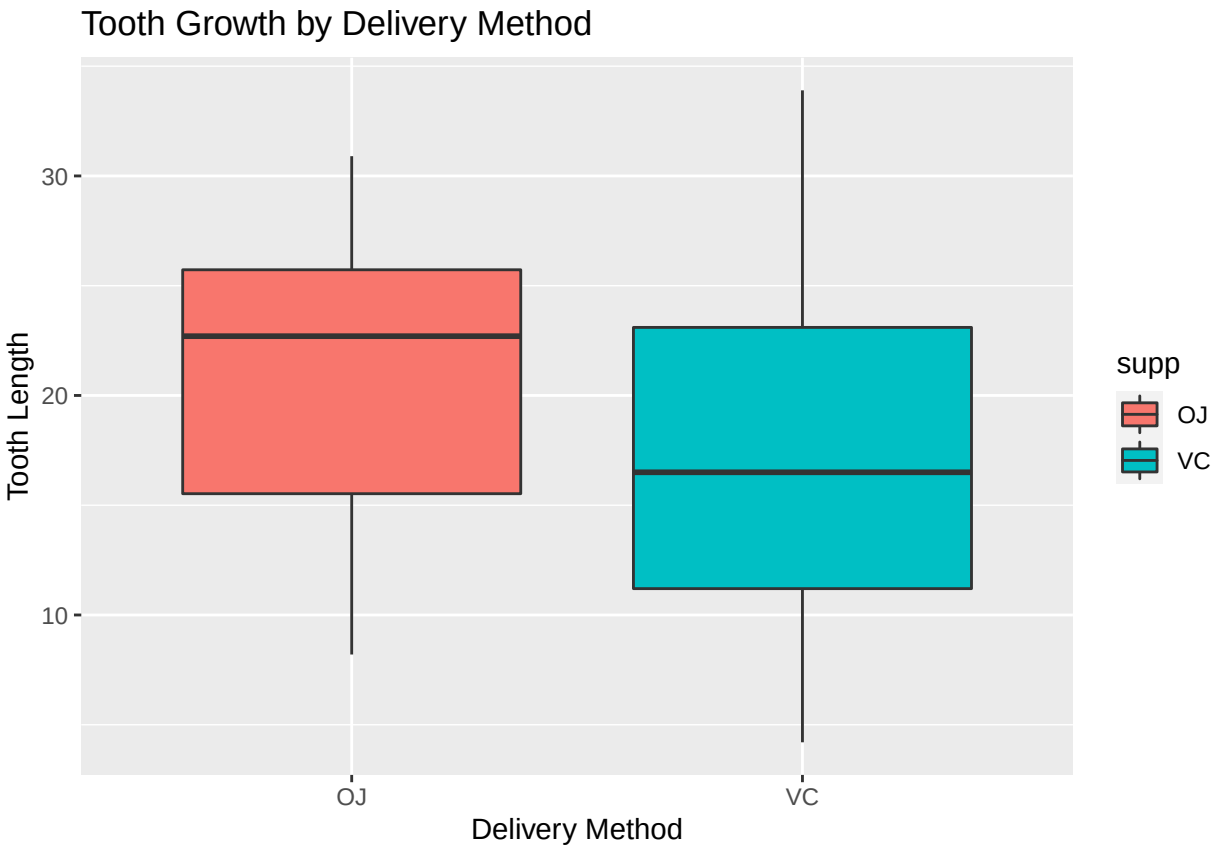
Using ggplot, the Tooth Length versus Dose is charted. The tooth length increases as the dose increases.

```
ToothGrowth$dose <- as.factor(ToothGrowth$dose)
MyGrowthPlot <- ggplot(ToothGrowth, aes(x=dose, y=len,fill=dose)) +  geom_boxplot() +  ggtitle("Tooth Gr
MyGrowthPlot
```



Using ggplot, the Tooth Length versus Delivery Method is higher for Orange Juice than for Vitamin C.

```
MyMethodPlot <- ggplot(ToothGrowth, aes(x=supp, y=len,fill=supp)) +  geom_boxplot() +  ggtitle("Tooth G
MyMethodPlot
```



Step (3) Use Confidence Intervals and/or Hypothesis tests to compare Tooth Growth by Supp and Dose.