Tooth Growth Analysis

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Loading Data and Summary

For this analysis I will use the "Tooth Growth" data. Let's load it and view a summary of the data.

```
data("ToothGrowth");
```

Now, let's look a summary of the data.

```
summary(ToothGrowth);
```

```
##       len        supp         dose
##  Min.   : 4.20   OJ:30   Min.   :0.500
##  1st Qu.:13.07   VC:30   1st Qu.:0.500
##  Median :19.25           Median :1.000
##  Mean   :18.81           Mean   :1.167
##  3rd Qu.:25.27           3rd Qu.:2.000
##  Max.   :33.90           Max.   :2.000
```

Now, let's look around the firsts rows of the data.

```
head(ToothGrowth);
```

```
##    len supp dose
## 1  4.2   VC  0.5
## 2 11.5   VC  0.5
## 3  7.3   VC  0.5
## 4  5.8   VC  0.5
## 5  6.4   VC  0.5
## 6 10.0   VC  0.5
```

You can find more information about the data clicking on this link

Comparing By Delivery Method

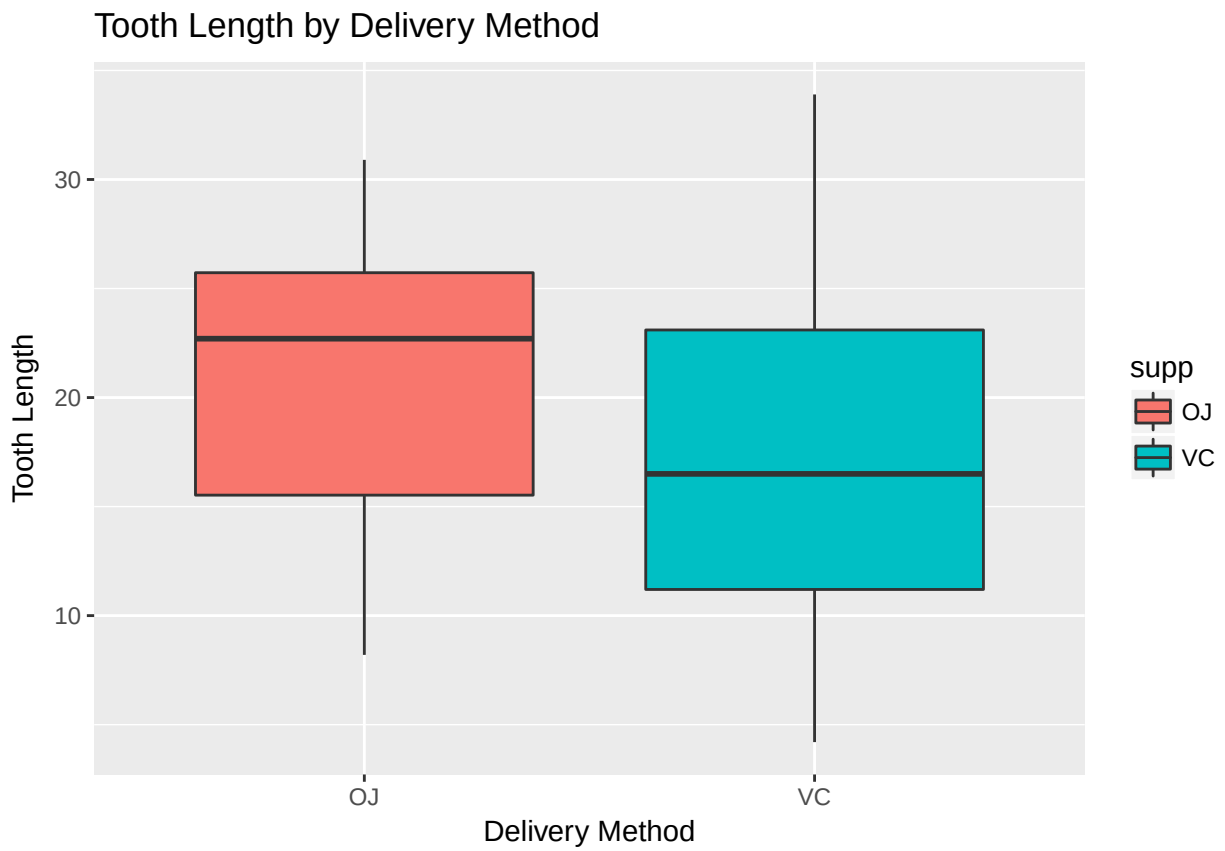
I will create a plot about length by delivery method to easily explore the data.

```
ToothGrowth$dose <- as.factor(ToothGrowth$dose);

plot <- ggplot(aes(x=supp, y=len), data=ToothGrowth);

plot <- plot + geom_boxplot(aes(fill=supp)) +
  xlab("Delivery Method") +
  ylab("Tooth Length") +
  ggtitle("Tooth Length by Delivery Method");

plot
```



Now, I will use t.test to compare the data by supplement (delivery method).

```
t.test(len~supp, data = ToothGrowth);
```

```
##
##  Welch Two Sample t-test
##
## data:  len by supp
## t = 1.9153, df = 55.309, p-value = 0.06063
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1710156  7.5710156
## sample estimates:
## mean in group OJ mean in group VC
##         20.66333         16.96333
```