

## Lesson 5 Hands-On

### Directions

For your Practice Hands On, you will be analyzing data about honey production in R. This Hands-On will not be graded, but you are encouraged to complete it. The best way to become a great data scientist is to practice! Once you have submitted your project, you will be able to access the solution on the next page. Note that the solution will be slightly different from yours, but should look similar.

### Requirements

This hands on uses a dataset about honey production over the years. It is located [here](#).

You will determine whether honey production `totalprod` has changed over the years (`year`) using a repeated measures ANOVA. Provide a one-sentence conclusion at the bottom of your program file about the analysis you performed.

Below you will find the solution to the Lesson 5 Practice Hands-On:

```
library("rcompanion")
library("fastR2")
library("car")
library("dplyr")

#Load in Data
honey.df <- read.csv("honey.csv")

#Data Wrangling
honey.df$year <- as.character(honey.df$year)
honey.df$year <- as.factor(honey.df$year)

#Positively skewed
plotNormalHistogram(honey.df$totalprod)

#Log transformation looks great
```

```
plotNormalHistogram(log(honey.df$totalprod))

honey.df$totalprodLOG <- log(honey.df$totalprod)

#Check for Assumptions

#Passed assumption of homogeneity of variance for normally
distributed variable
leveneTest(totalprodLOG ~ year, data=honey.df)

#Run the Analysis
RManova <- aov(totalprodLOG~year+Error(state), honey.df)
summary(RManova)

RManova <- aov(log(totalprod)~year, honey.df)
summary(RManova)
```