Bootcamp Assessment Question 9

Katie Taris

2022-09-06

#Load data  
data(InsectSprays)  
  
#Inspect data  
head(InsectSprays)

## count spray  
## 1 10 A  
## 2 7 A  
## 3 20 A  
## 4 14 A  
## 5 14 A  
## 6 12 A

tail(InsectSprays)

## count spray  
## 67 13 F  
## 68 10 F  
## 69 26 F  
## 70 26 F  
## 71 24 F  
## 72 13 F

class(InsectSprays$spray)

## [1] "factor"

#Perform Analysis of Variance  
m1 <- aov(formula = count ~ spray, data = InsectSprays)  
m1

## Call:  
## aov(formula = count ~ spray, data = InsectSprays)  
##   
## Terms:  
## spray Residuals  
## Sum of Squares 2668.833 1015.167  
## Deg. of Freedom 5 66  
##   
## Residual standard error: 3.921902  
## Estimated effects may be unbalanced

summary(m1)

## Df Sum Sq Mean Sq F value Pr(>F)   
## spray 5 2669 533.8 34.7 <2e-16 \*\*\*  
## Residuals 66 1015 15.4   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#The P-value (written Pr(>F)) is < 0.05 so the spray   
#types are significant to the insect counts.   
  
#Create boxplot to visualise data  
boxplot(count ~ spray, data = InsectSprays, main =   
 "Insect Count Per Spray Type", xlab =   
 "Spray", ylab = "Insect Count")

