Amphibian Stage Productions

Code

Jayme Sisk

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```
install.packages("broom")
```

```
Error in install.packages : Updating loaded packages
```

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```
install.packages("ggpubr")
```

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Error in install.packages : Updating loaded packages
```

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```
library(ggplot2)
library(dplyr)
library(broom)
library(ggpubr)
#Load dataset
patron.df <- read.csv("phibdata.csv", header=TRUE)

#Summary statistics
summary(patron.df)
```

```
         id         gender       donation          age        
 00-0099615:  1         :  1   Min.   :   50   Min.   :27.00  
 00-3479030:  1   Female:121   1st Qu.:  100   1st Qu.:37.00  
 01-2190529:  1   Male  :116   Median :  500   Median :45.00  
 01-7346182:  1                Mean   : 1131   Mean   :45.35  
 02-6160235:  1                3rd Qu.: 1000   3rd Qu.:54.00  
 04-3884650:  1                Max.   :10000   Max.   :66.00  
 (Other)   :232                NA's   :1       NA's   :1      
 X._of_children              status    
 Min.   :0.000   divorced        : 18  
 1st Qu.:1.000   domestic partner: 57  
 Median :2.000   married         :119  
 Mean   :1.747   single          : 44  
 3rd Qu.:3.000                         
 Max.   :4.000                         
 NA's   :1                             
```

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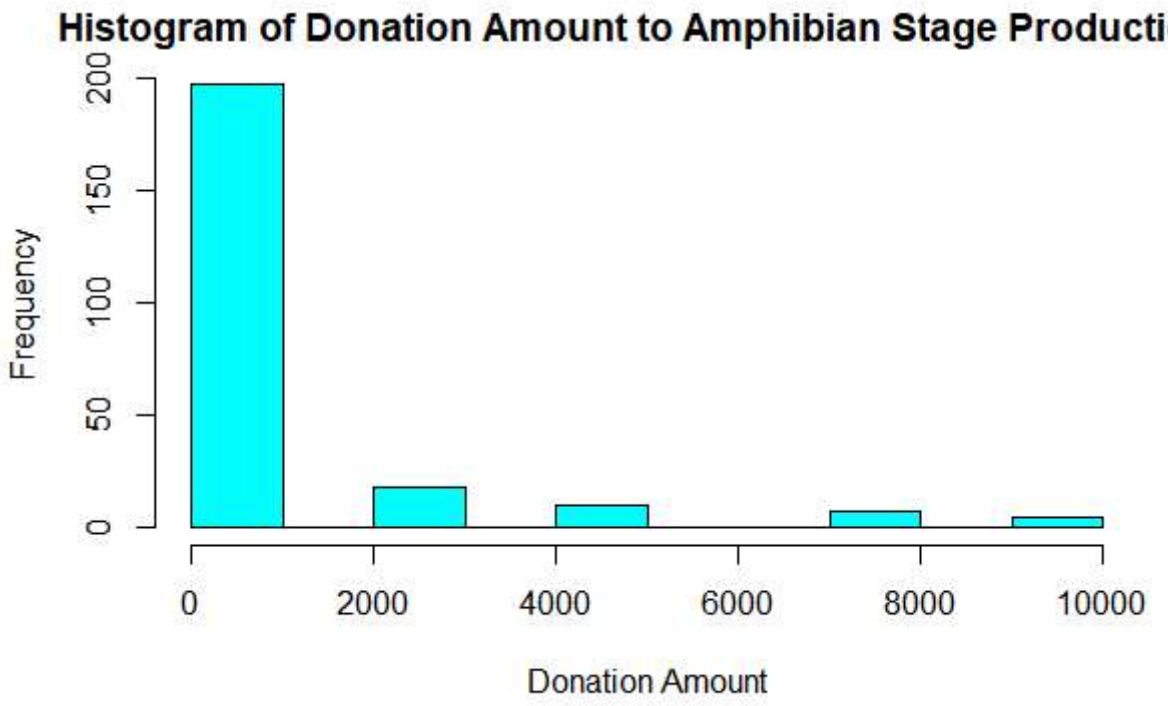
```
#Plots for Donation Amount
hist(patron.df$donation, col = "cyan", main = "Histogram of Donation Amount to Amphibian Stage P
roductions", xlab ="Donation Amount", ylab = "Frequency")
```



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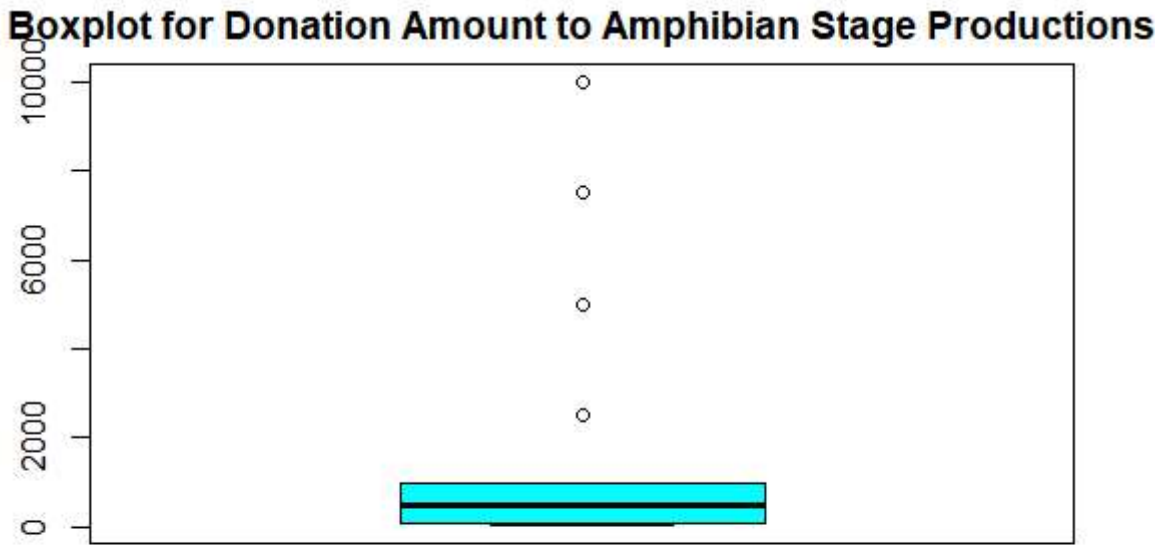
```
boxplot(patron.df$donation, col ="cyan", main  = "Boxplot for Donation Amount to Amphibian Stage
Productions")
```



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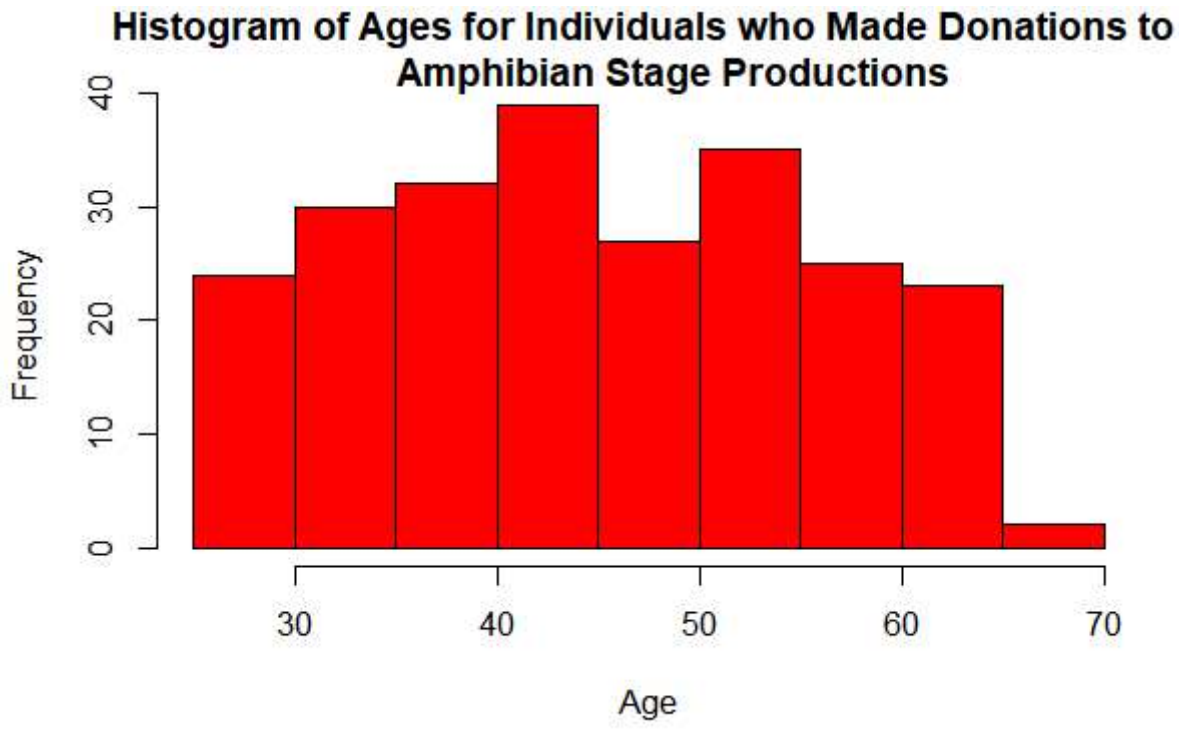
```
#plots for Age
hist(patron.df$age, col = "red", main = "Histogram of Ages for Individuals who Made Donations to
     Amphibian Stage Productions", xlab ="Age", ylab = "Frequency")
```



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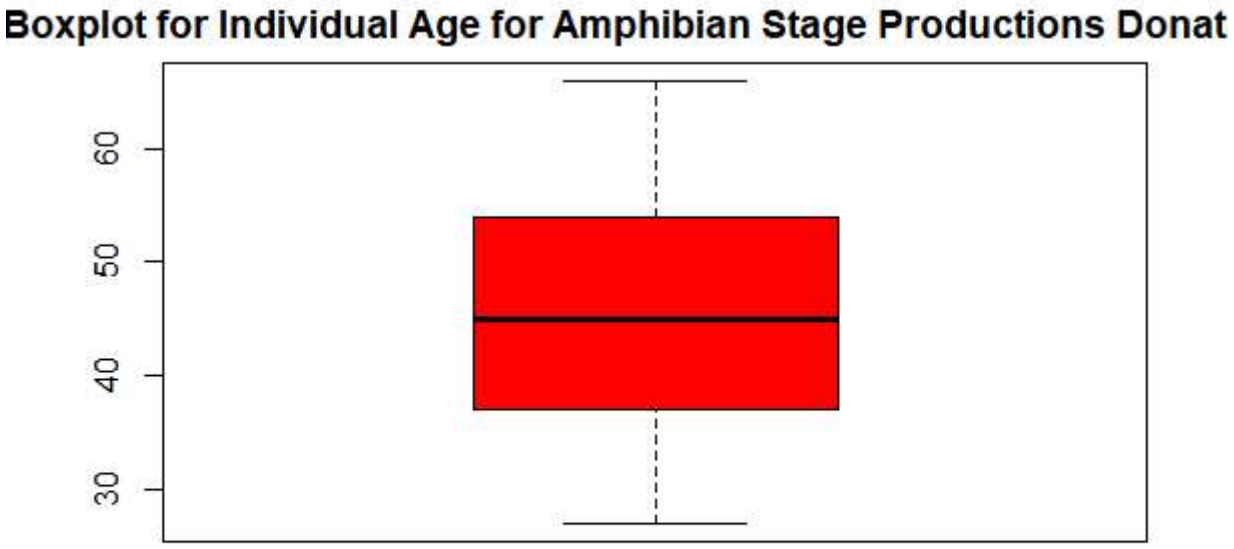
```
boxplot(patron.df$age, col ="red", main  = "Boxplot for Individual Age for Amphibian Stage Produ
ctions Donations")
```



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```
summary(patron.df$gender)
```

```
  Female   Male
1    121    116
```

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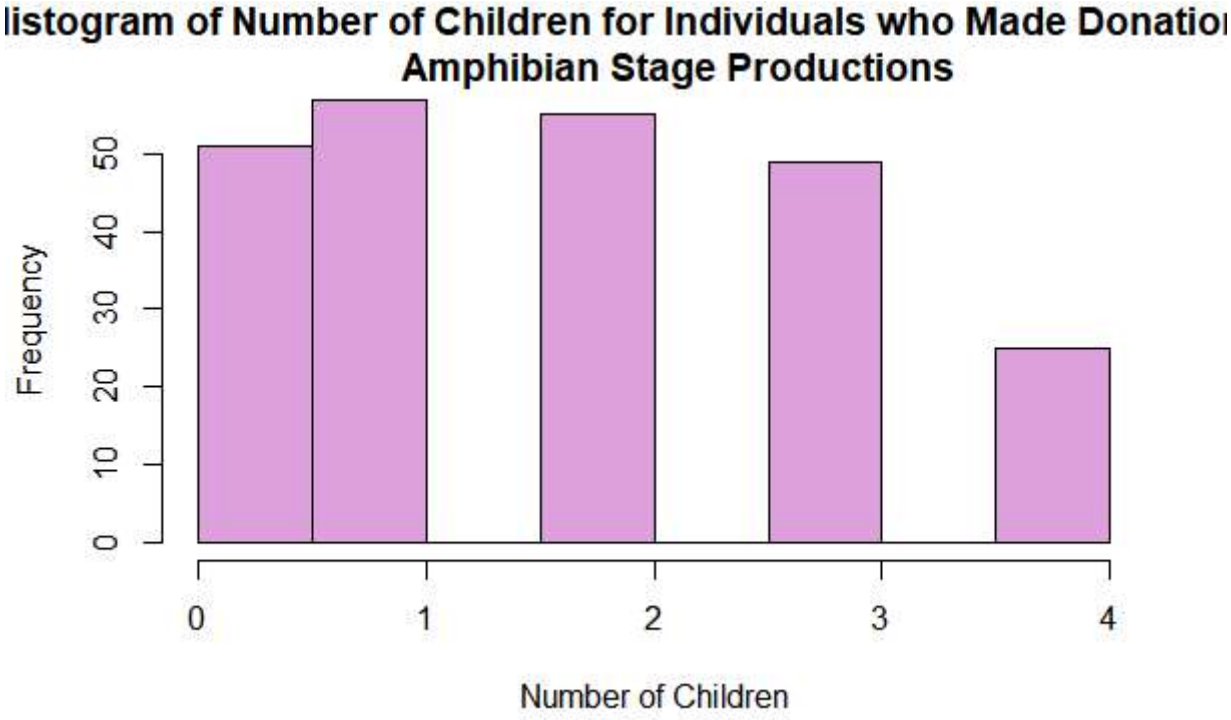
```
#plots for Number of children
hist(patron.df$X._of_children, col = "plum", main = "Histogram of Number of Children for Individ
uals who Made Donations to
     Amphibian Stage Productions", xlab ="Number of Children", ylab = "Frequency")
```



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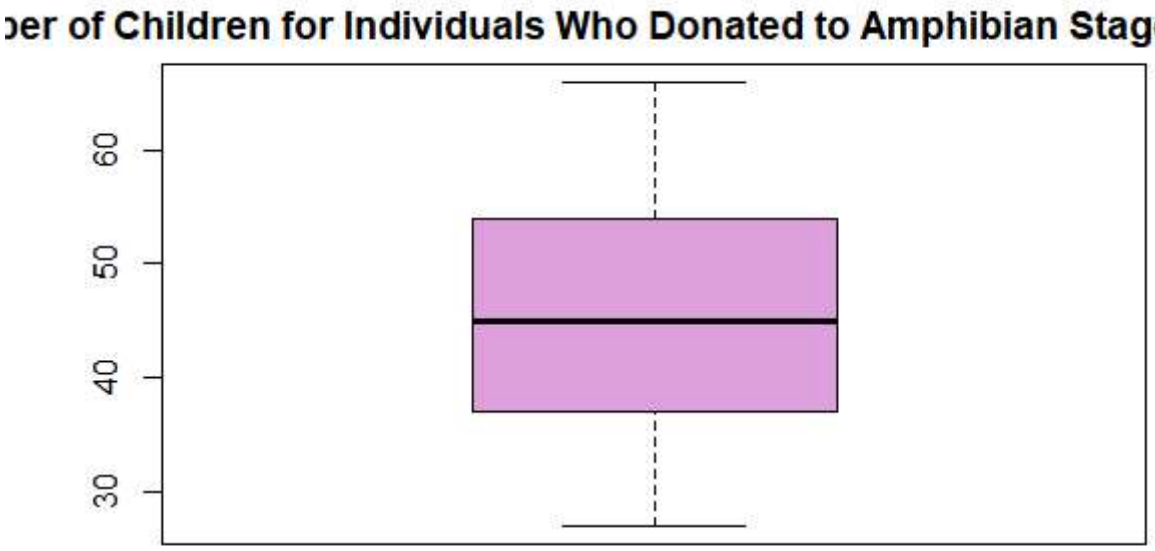
```
boxplot(patron.df$age, col ="plum", main  = "Boxplot for Number of Children for Individuals Who
 Donated to Amphibian Stage Productions Donations")
```



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```
data <- patron.df
#Change gender from a categorical variable to a numerical variable
data$new_gender <-sapply(data$gender, unclass)
```

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```
multi.fit <- lm(formula = data$donation ~ data$age + data$new_status + data$new_gender + data$X._of_children, data = data)
summary(multi.fit)
```

```

Call:
lm(formula = data$donation ~ data$age + data$new_status + data$new_gender + 
    data$X._of_children, data = data)

Residuals:
    Min      1Q  Median      3Q     Max 
-1488.6 -1018.6  -668.7  -131.3  9044.3 

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
(Intercept)         113.7261   894.5711   0.127    0.899
data$age             -0.3598    12.0313  -0.030    0.976
data$new_status     181.2271   156.1827   1.160    0.247
data$new_gender     262.4691   258.3834   1.016    0.311
data$X._of_children -71.9403    99.4606  -0.723    0.470

Residual standard error: 1968 on 232 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.01326,   Adjusted R-squared:  -0.003752 
F-statistic: 0.7794 on 4 and 232 DF,  p-value: 0.5395
```

	new_type <int>	new_avg <int>
1	1	2
2	2	1
3	3	3
4	4	5
5	5	4

5 rows

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```
library("lsr")
#Change factor variables to numeric
show_types$new_type <- sapply(show_types$Type_Avg, unclass)

show_types$new_avg <- sapply(show_types$Average, unclass)
#Remove non-numerical columns
shows2 <- show_types[-c(1:2)]
head(shows2)

#Chi-square
table(shows2$new_type, shows2$new_avg)
```

```
   1 2 3 4 5
 1 0 1 0 0 0
 2 1 0 0 0 0
 3 0 0 1 0 0
 4 0 0 0 0 1
 5 0 0 0 1 0
```

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```
chisq.test(shows2$new_type, shows2$new_avg, correct=FALSE)
```

```
Chi-squared approximation may be incorrect
```

```
    Pearson's Chi-squared test

data:  shows2$new_type and shows2$new_avg
X-squared = 20, df = 16, p-value = 0.2202
```

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```
#Cramer's V
cramersV(shows2)
```

```
Chi-squared approximation may be incorrect
```

```
[1] 0.1721326
```

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```
install.packages("knitr")
```