Appendix D

Exploration of the “value price” variable

The 'value_price' or discounted price shows a right-skewed distribution, as highlighted by its histogram and density plots, with a skewness of 3.13 and a kurtosis of 17.56. These statistics suggest a pronounced tail to the right. The QQ plot presents an inverted "L" shape, and the boxplot reveals a thin box with numerous outliers to the left. Given these observations, a logarithmic transformation could help normalize the data distribution.

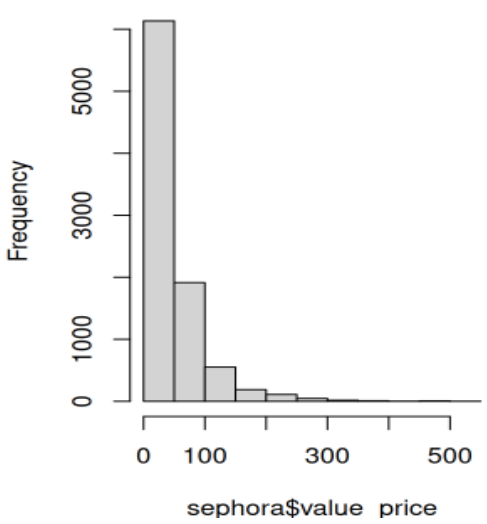
```{r}
# Skewness and kurtosis
skewness(sephora$price)
kurtosis(sephora$price)
```

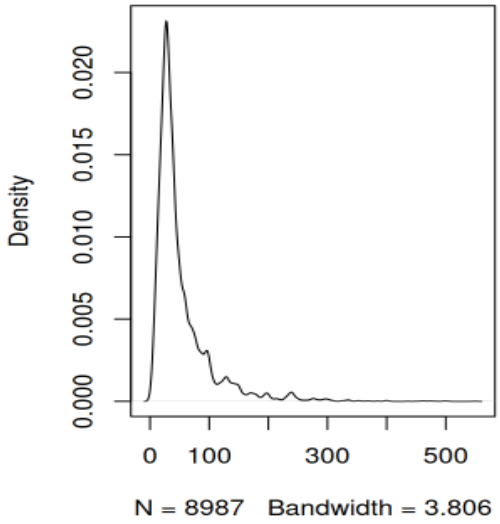
Skewness: 3.13 **Kurtosis:** 17.56

Histogram and density for value price variable.

```{r}
# Exploration value_price variable
# Set up the plotting layout
par(mfrow = c(1, 2))

# Plot histogram and density
hist(sephora$value_price)
plot(density(sephora$value_price))
```





QQ and box plots for value variable

```{r}
# QQ plot and boxplot
qqnorm(sephora$value_price, main = "QQ Plot for value value_price varible")
qqline(sephora$value_price)
boxplot(sephora$value_price, horizontal = TRUE)
```