

```
1 # LOADING A DATASET
2 library(dplyr)
3 library(ggplot2)
4
5 data = read.csv("mc-donalds-menu.csv")
6 calories = data$Calories
7 proteins = data$Protein
8
9 q1c = quantile(calories, 0.25) # First quartile of the "Calories" variable
10 q3c = quantile(calories, 0.75) # Third quartile of the "Calories" variable
11
12 q1p = quantile(proteins, 0.25) # First quartile of the "Calories" variable
13 q3p = quantile(proteins, 0.75) # Third quartile of the "Calories" variable
14
15 ri_c = IQR(calories) # Interquartile range of "Calories" variable
16 ri_p = IQR(proteins) # Interquartile range of "Calories" variable
17
18 par(mfrow=c(2,1)) # Create a 2x1 grid for plots
19 boxplot(calories, horizontal=TRUE)
20 abline(v=q3c + 1.5*ri_c, col="red")
21 boxplot(proteins, horizontal=TRUE)
22 abline(v=q3p+ 1.5*ri_p, col="blue")
23
24 filter_c = data[data$Calories < q3c + 1.5*ri_c, ]
25 filter_p = data[data$Calories < q3c + 1.5*ri_c, ]
26 summary(filter_c$Calories)
27 summary(filter_p$Protein)
```

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
0.0	202.5	335.0	349.0	480.0	930.0

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
0.00	4.00	12.00	12.58	18.00	48.00

```
1 qqnorm(calories)
2 qqline(calories)
3 hist(calories, prob=TRUE, col=0)
4 x = seq(min(calories), max(calories), length.out = 1000)
5 y = dnorm(x, mean(calories), sd(calories))
6 lines(x, y, col="red")
```

Normal Q-Q Plot



```
1 library(psych)
2 library(e1071)
3
4 skew_c = skew(calories)
5 skew_p = skew(calories)
6
7 kurt_c = kurtosis(calories)
8 kurt_p = kurtosis(proteins)
9
10 # Print results
11 cat("Skewness (calories):", skew_c, "\n")
12 cat("Skewness (proteins):", skew_p, "\n")
13 cat("Kurtosis (calories):", kurt_c, "\n")
14 cat("Kurtosis (proteins):", kurt_p, "\n")
```

Skewness (calories): 1.435782
Skewness (proteins): 1.435782
Kurtosis (calories): 5.5789
Kurtosis (proteins): 5.7955

