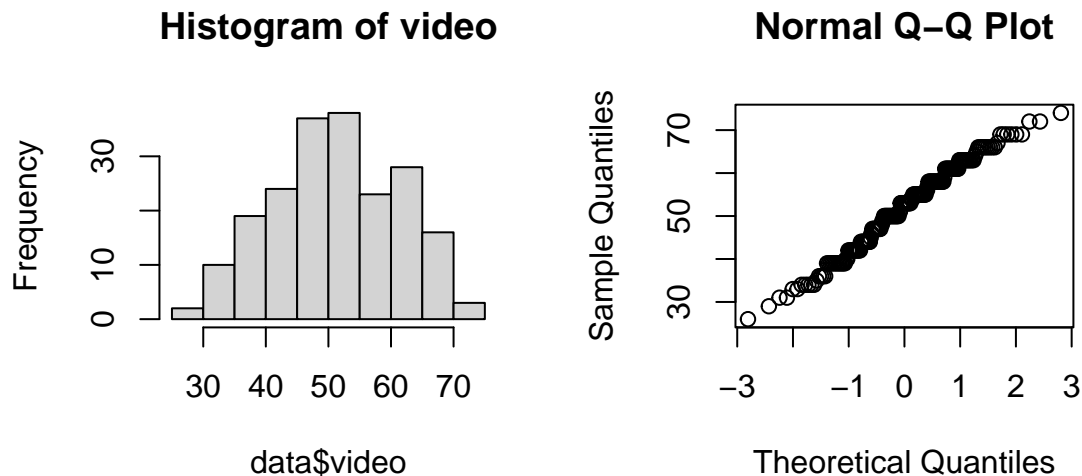# Assignment 1

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Exercise 1

a) The histogram and the qq plot look fairly indicative of normality but the Shapiro-Wilk test provides evidence for the contrary.

```
par(mfrow=c(1, 2)); hist(data$video, freq=T, main="Histogram of video"); qqnorm(data$video)
```



```
shapiro.test(data$video)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  data$video
## W = 1, p-value = 0.03
```

Assuming normality, especially with a sample size $n > 30$ we use the z-score instead of the t_{n-1}-score to compute the 97% confidence interval.

```
alpha = 0.03
ci <- qnorm(1 - alpha/2) * sd(data$video) / sqrt(length(data$video))
c(mean(data$video) - ci, mean(data$video) + ci)
```

```
## [1] 50.3 53.4
```