Trabajo Práctico R - Proba (c)

Luis Greco, Nicolas Hertzulis, Ruslan Sobol

November 3, 2017

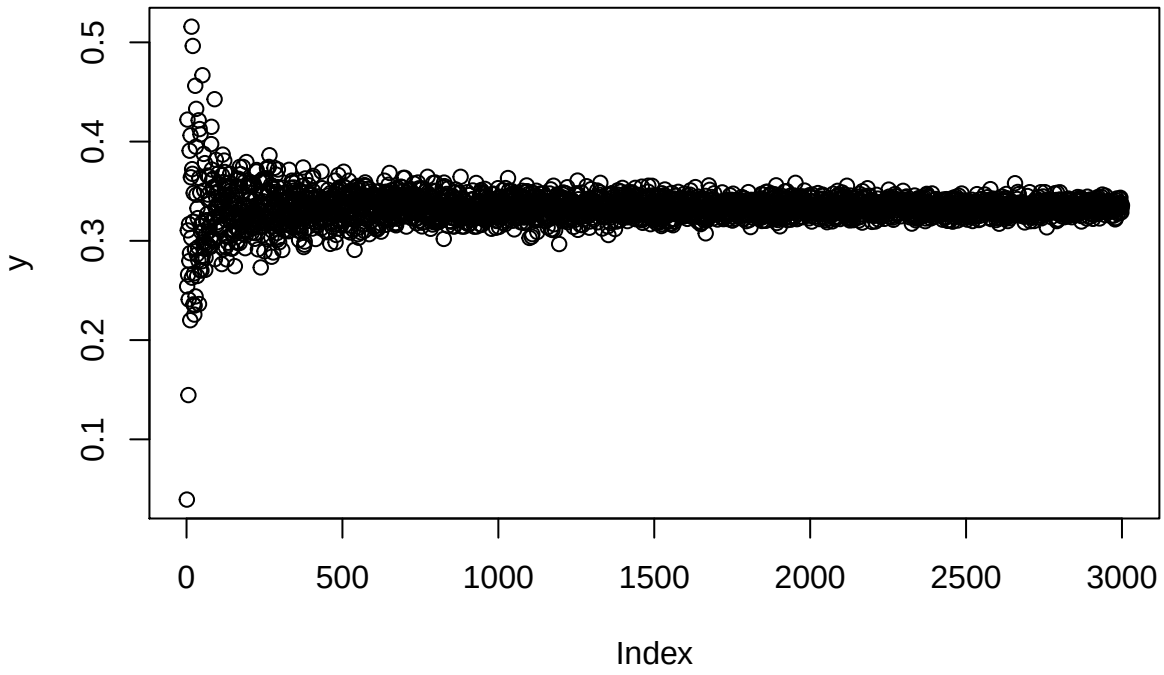
Fijo la "semilla" para que no nos de cosas distintos resultados cada vez que experimentamos

```
set.seed(1109)
```

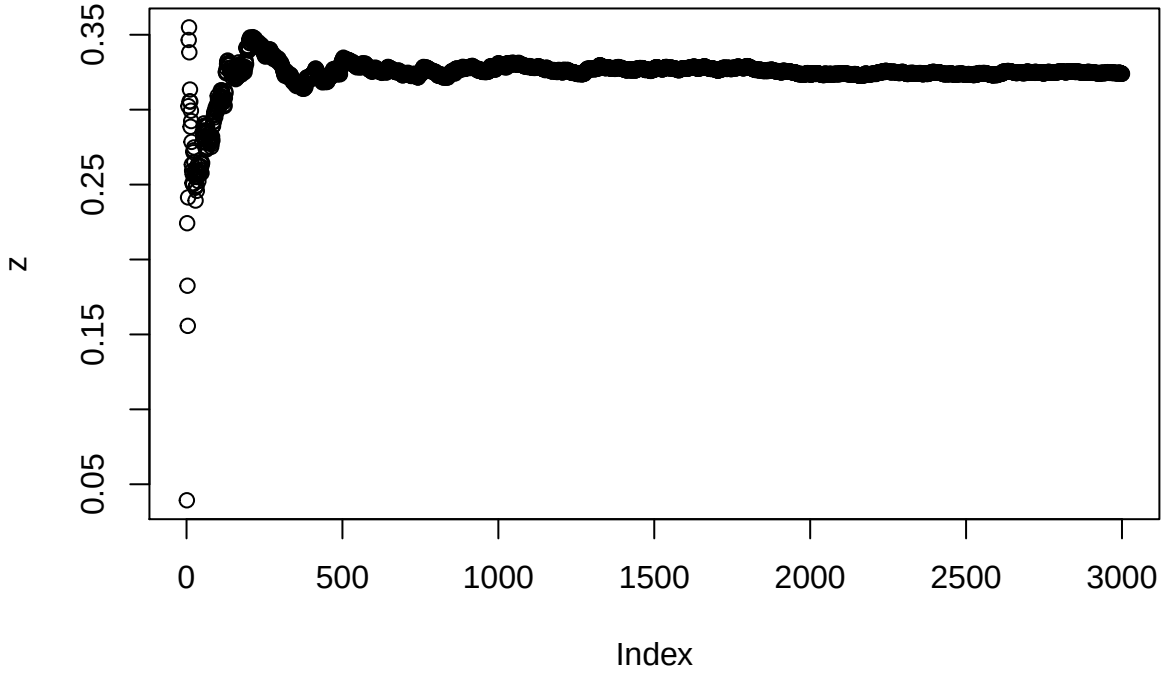
Ejercicio 1

Esto es un copypaste de la exponencial de la clase11 pero que en el return tiene la media

```
funcion.inversa <- function(u, lambda){
  sal <- -1*log(1-u)/lambda
  return(sal)
}
Generar.exponenciales_devolviendo_media <- function(n,lambda){
  U <- runif(n)
  sal <- funcion.inversa(U,lambda)
  return(mean(sal))
}
y <- seq(length = 3000)
for (i in 1:3000){
  y[i] <- Generar.exponenciales_devolviendo_media(i, 3)
}
z <- seq(length = 3000)
for (j in 1:3000){
  set.seed(1109)
  z[j] <- Generar.exponenciales_devolviendo_media(j, 3)
}
plot(y)
```




```
plot(z)
```



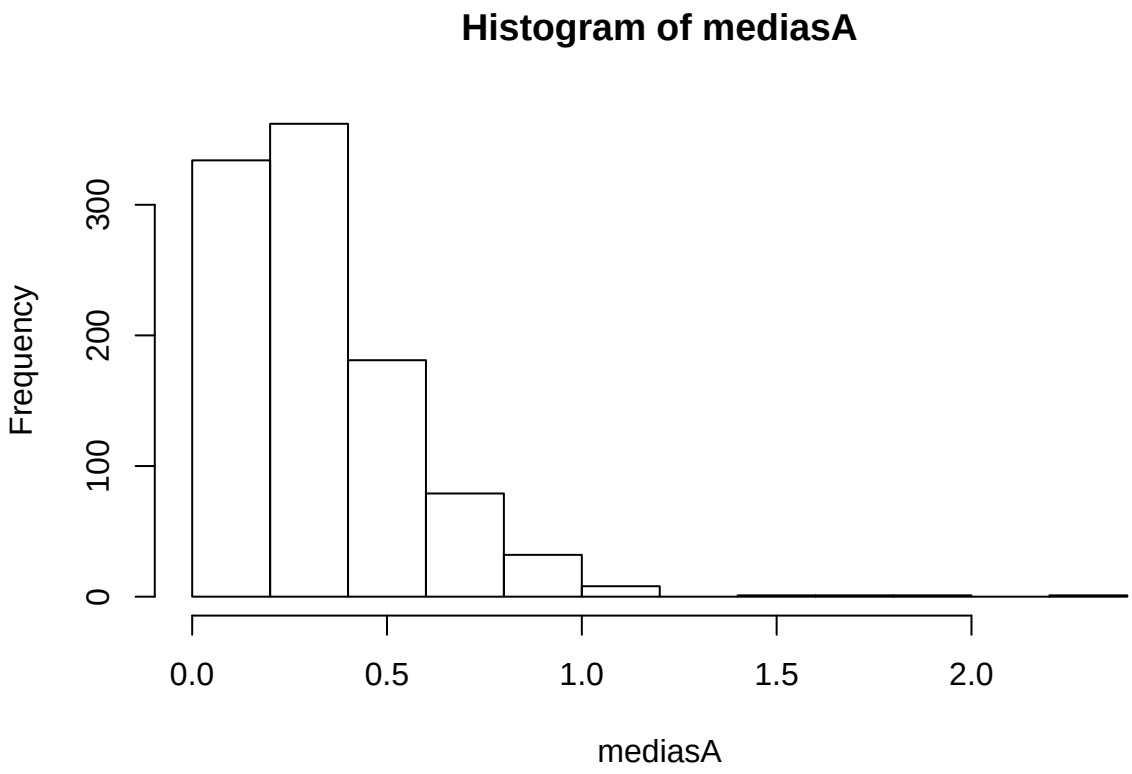
Ejercicio 2

```
mediasA <- seq(length=1000)
for (j in 1:1000){
x1 <- rexp(1, rate = 3)
x2 <- rexp(1, rate = 3)
mediasA[j] <- (x1+x2)/2
```

```
}
```

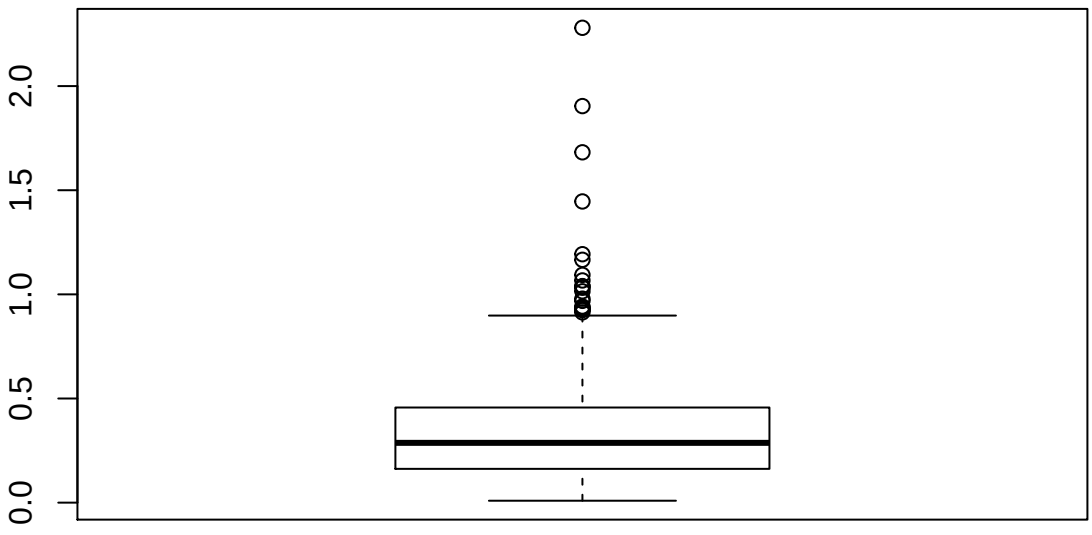
Histograma

```
hist(mediasA)
```



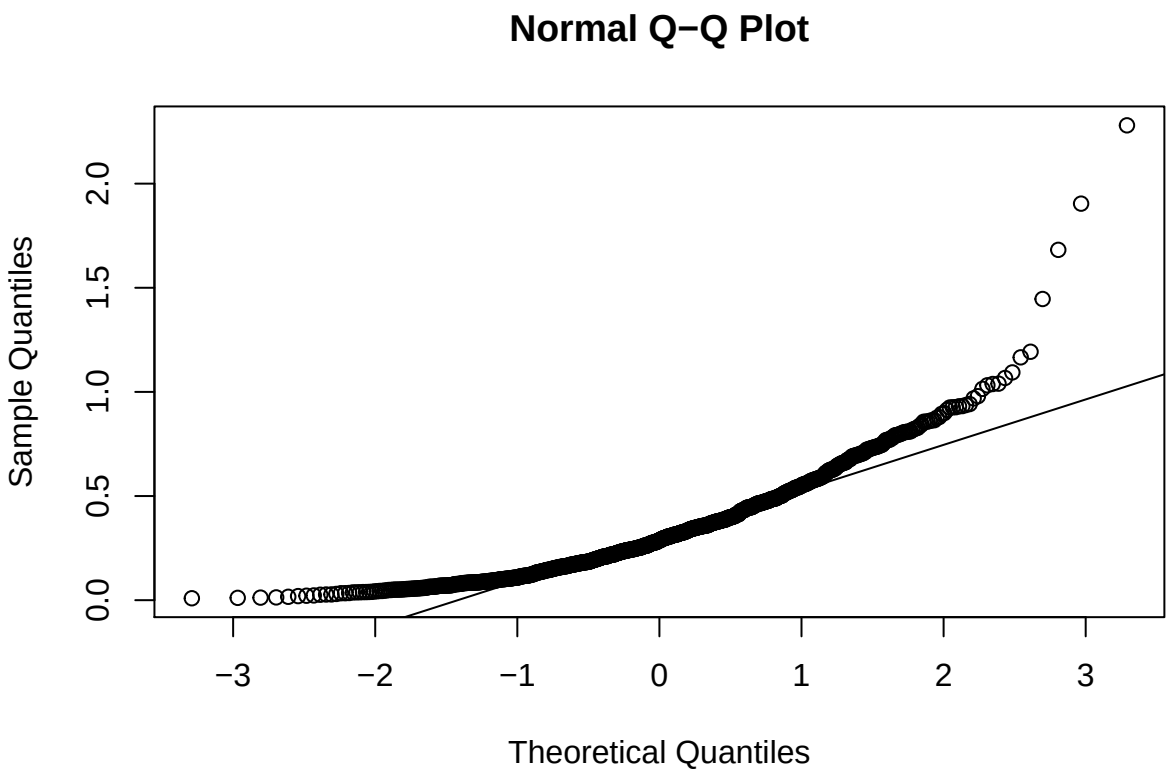
#Boxplot

```
boxplot(mediasA)
```



#Q-Q Plot

```
qqnorm(mediasA)
qqline(mediasA)#La cola del plot
```



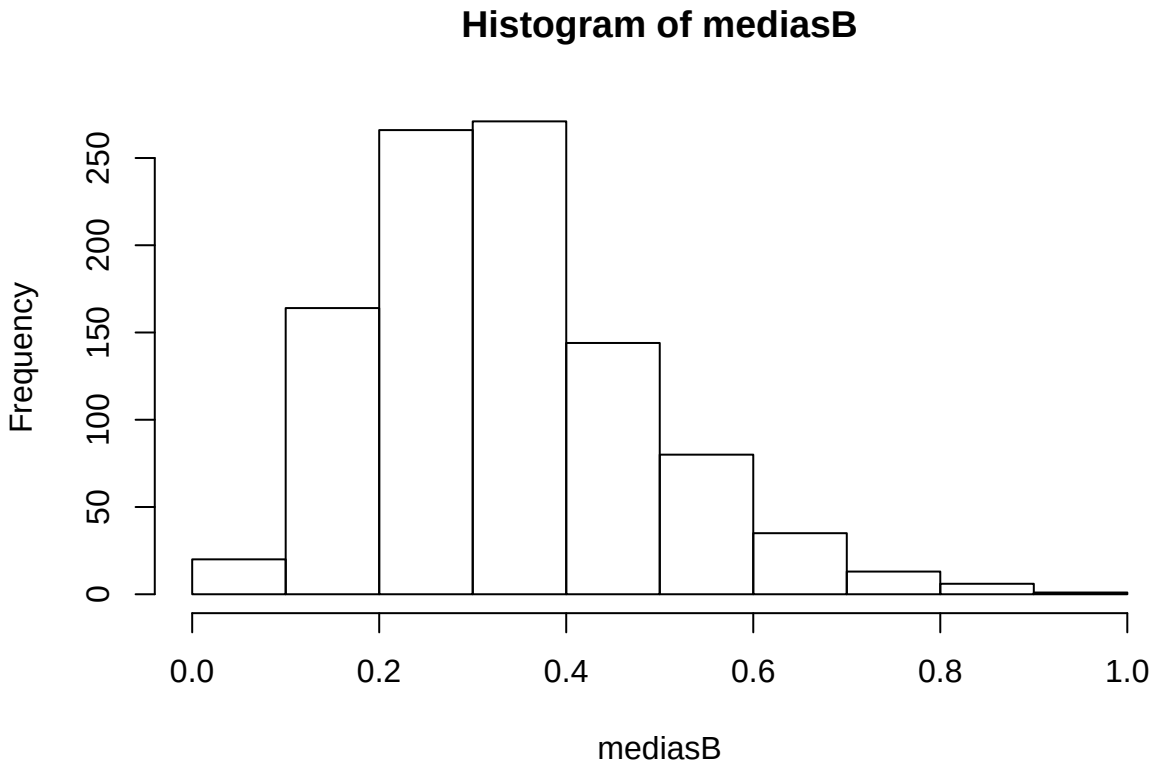
#

Punto b)

```
mediasB <- seq(length = 1000)

for (i in 1:1000){
a <- c(rexp(1, rate = 3), rexp(1, rate = 3), rexp(1, rate = 3), rexp(1, rate = 3), rexp(1, rate = 3))
mediasB[i] = mean(a)
}
```

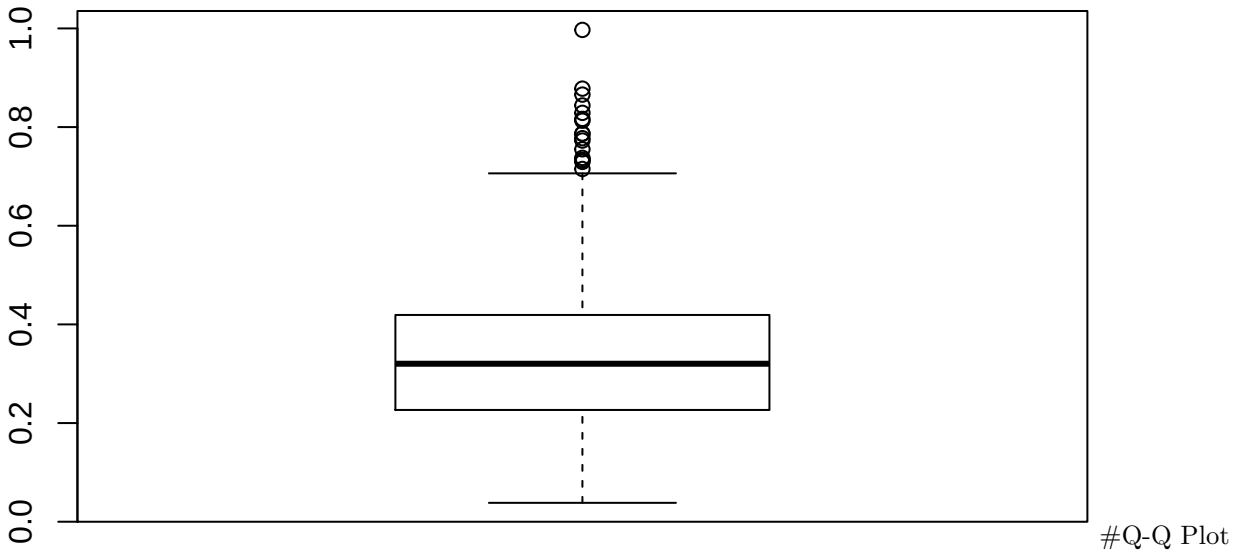
Histograma

```
hist(mediasB)
```



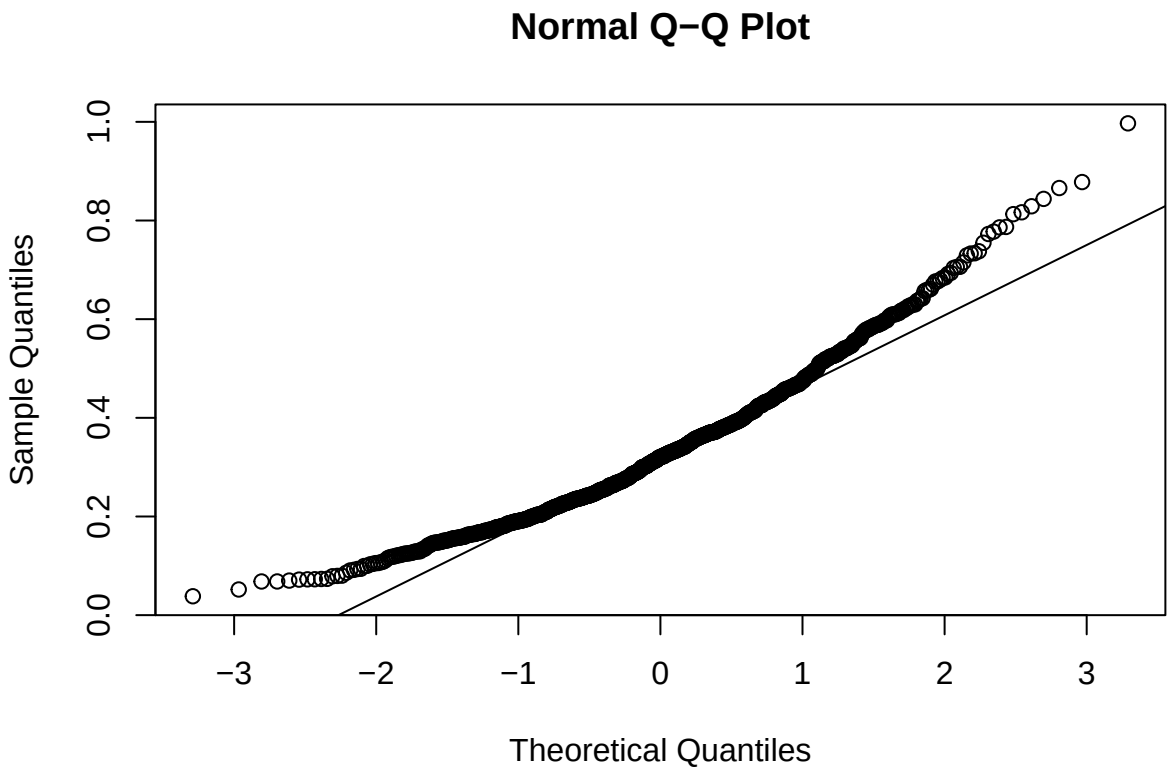
#Box-plot

```
boxplot(mediasB)
```



#Q-Q Plot

```
qqnorm(mediasB)
qqline(mediasB)#La cola del plot
```

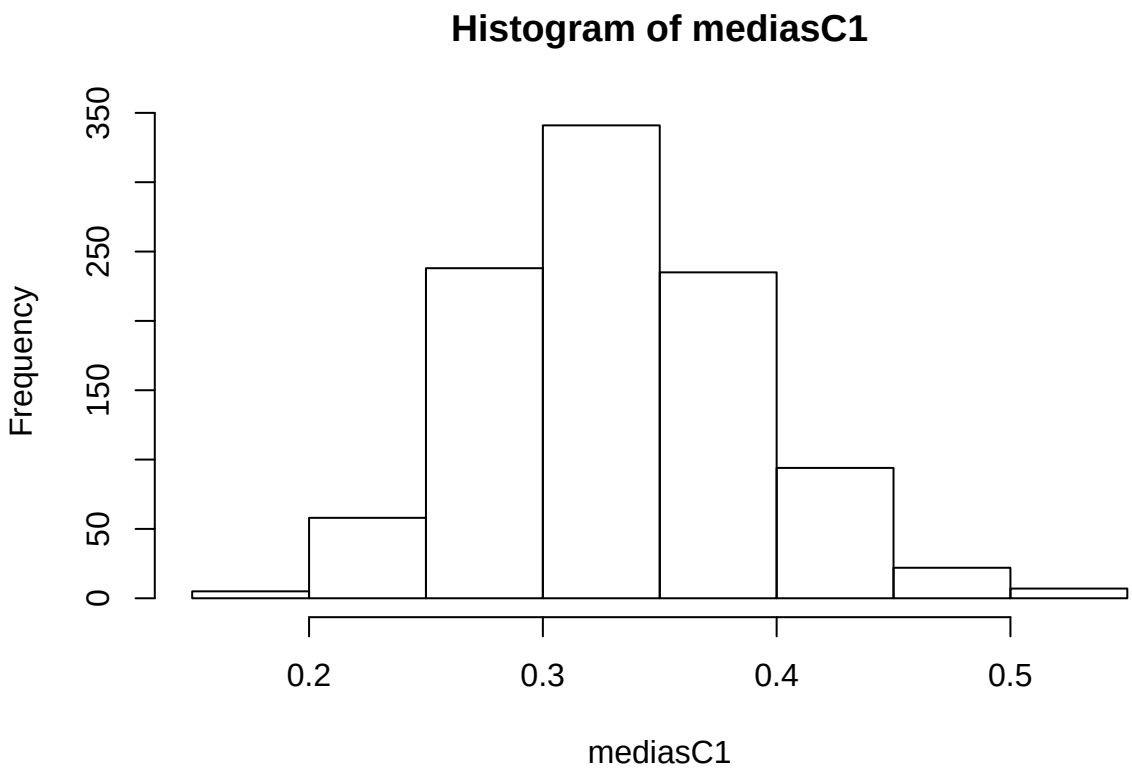


Punto C

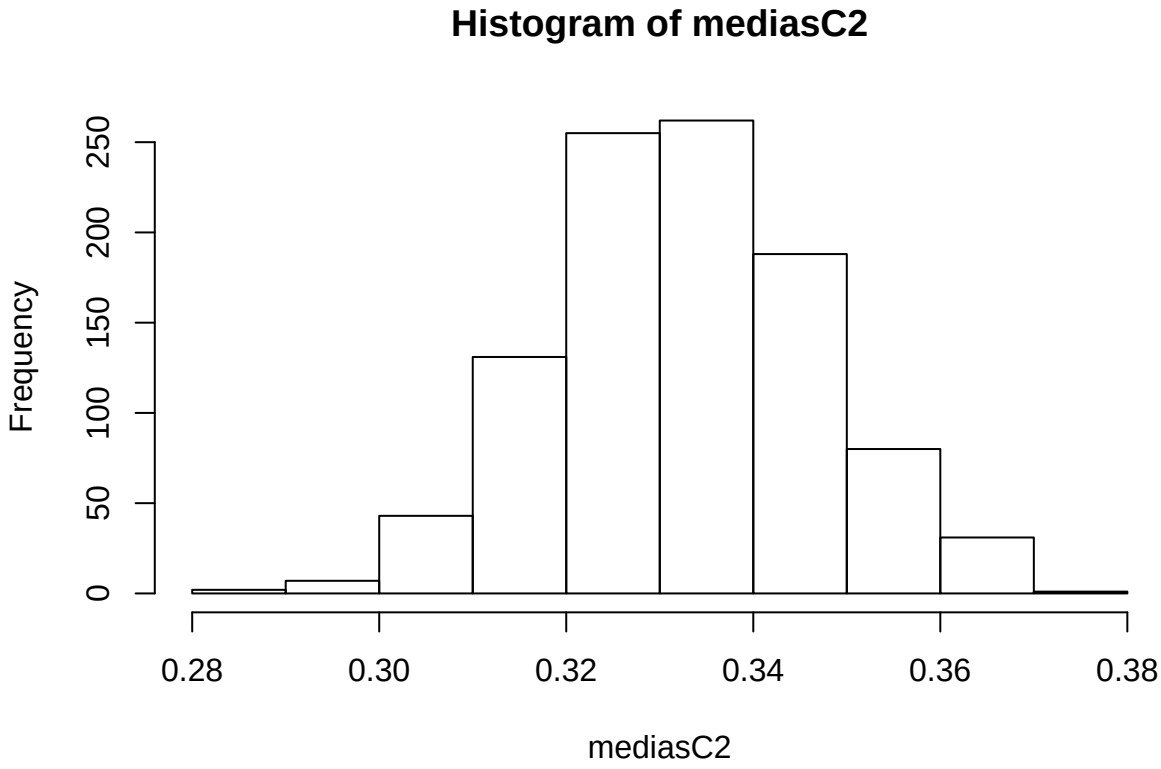
```
mediasC1 <- seq(length = 1000) #Acá van con n=30
mediasC2 <-seq(length = 1000) #Acá van con n=500

a <- seq(length = 1000)
b <- seq(length = 1000)

for (j in 1:1000){
  a <- rexp(30, 3)
  b <- rexp(500, 3)
  mediasC1[j] = mean(a)
  mediasC2[j] = mean(b)
}
```

Histograma

```
hist(mediasC1)
```

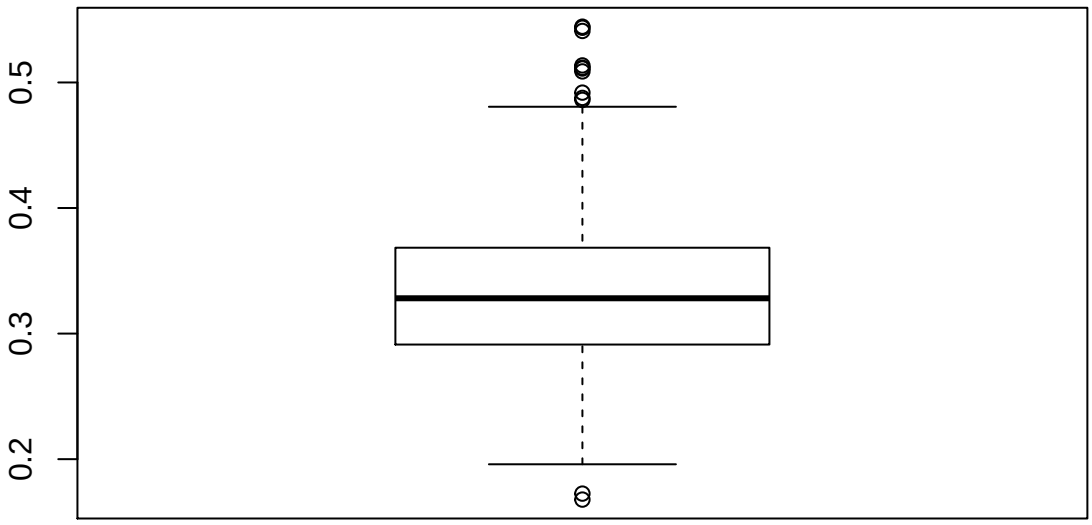



```
hist(mediasC2)
```

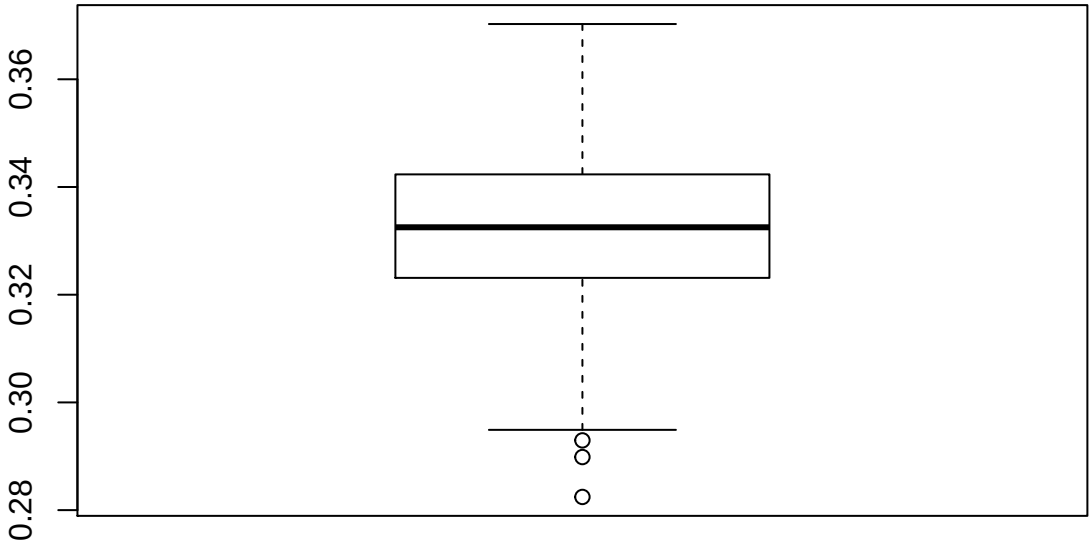


#Box-plot

```
boxplot(mediasC1)
```

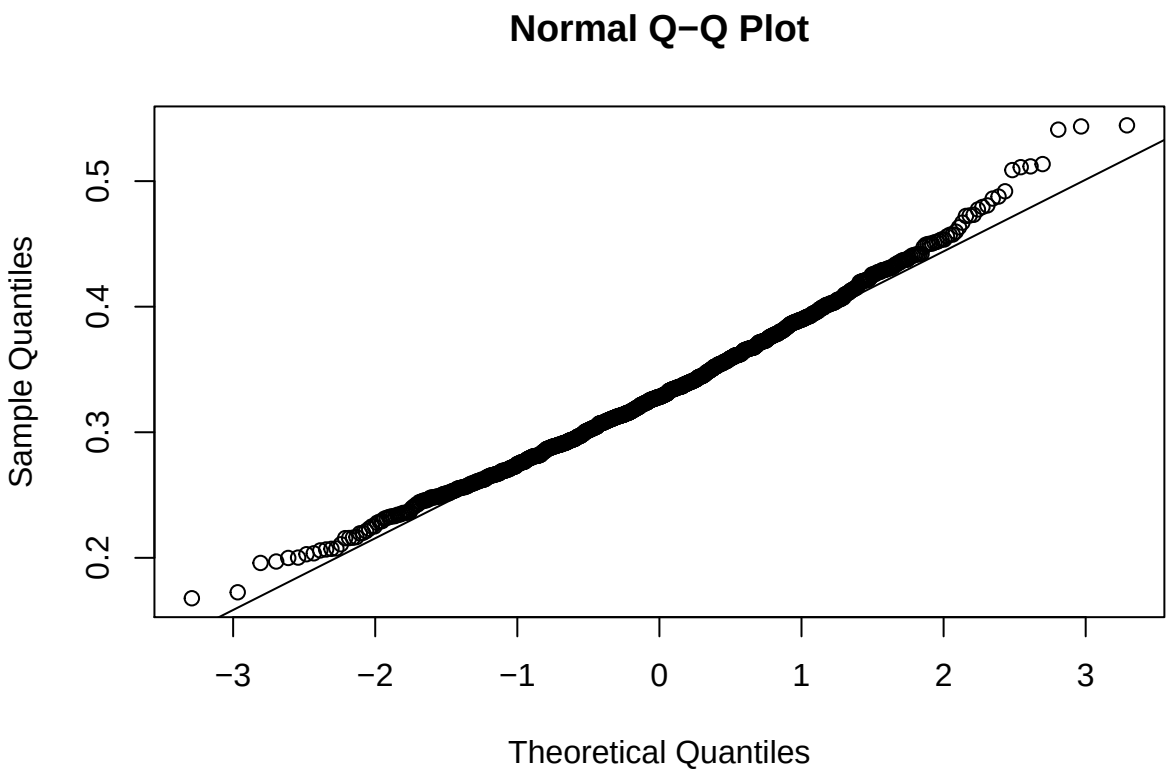



```
boxplot(mediasC2)
```

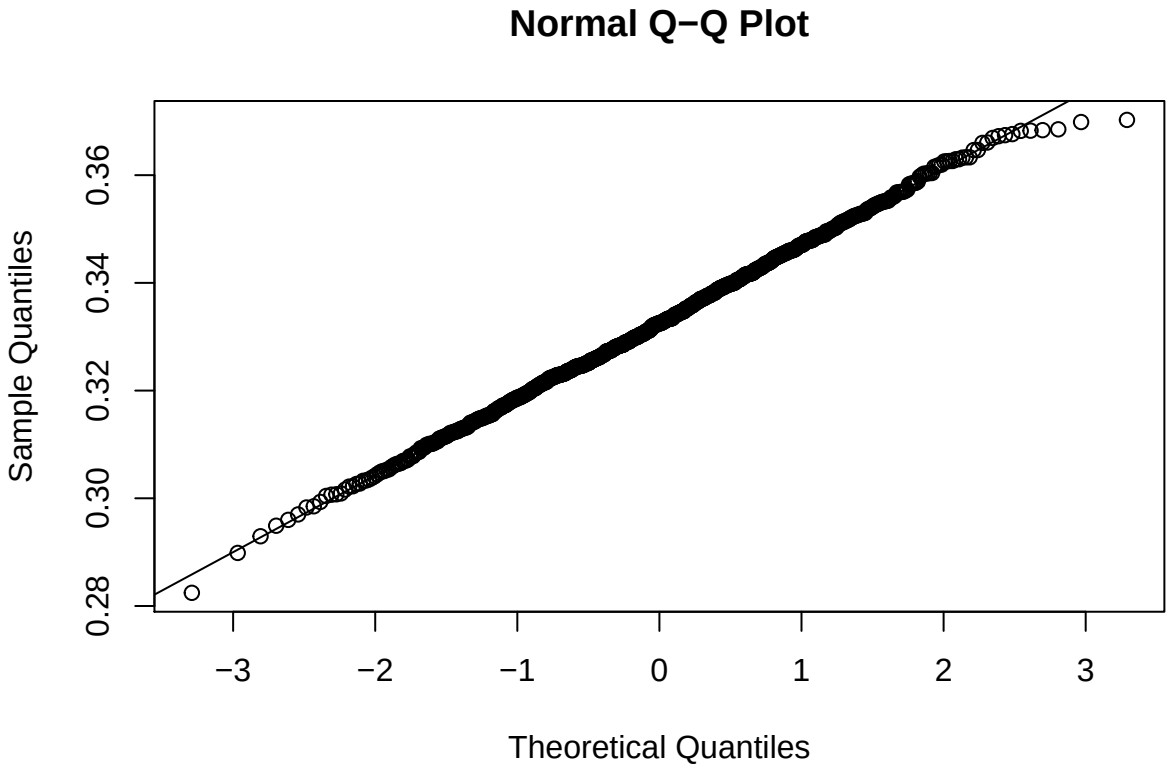


#Q-Q Plot

```
qqnorm(mediasC1)
qqline(mediasC1)#La cola del plot
```

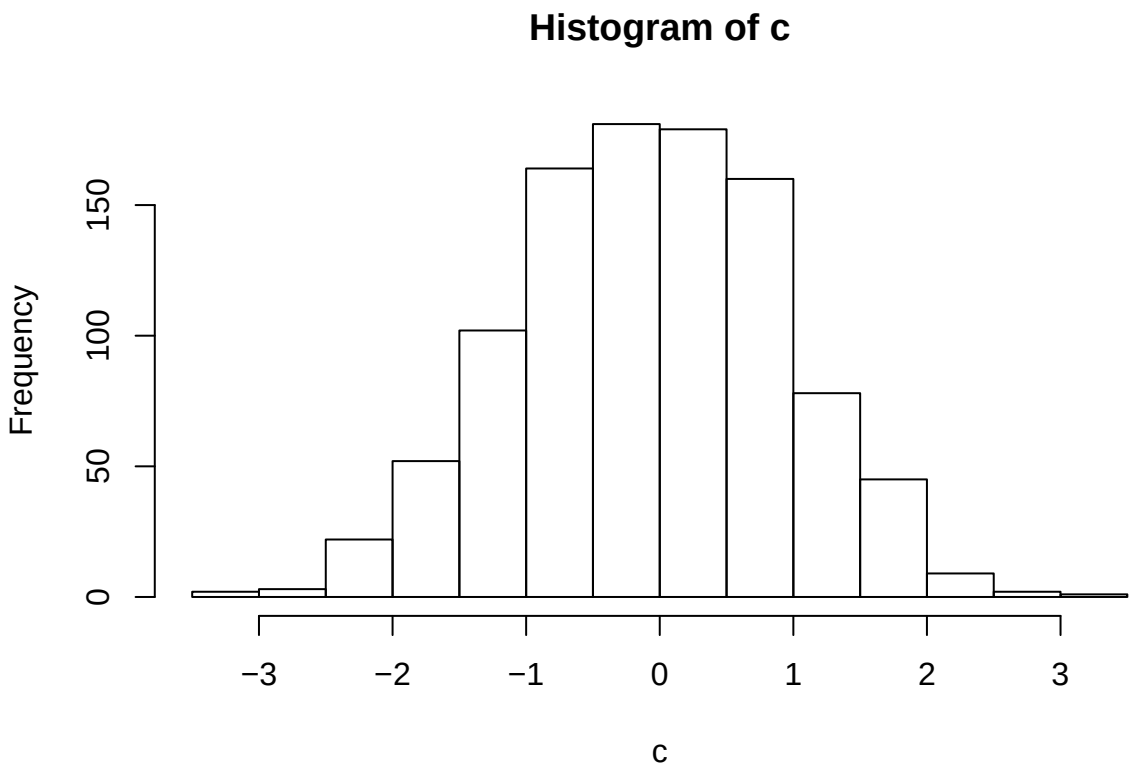



```
qqnorm(mediasC2)
qqline(mediasC2)
```

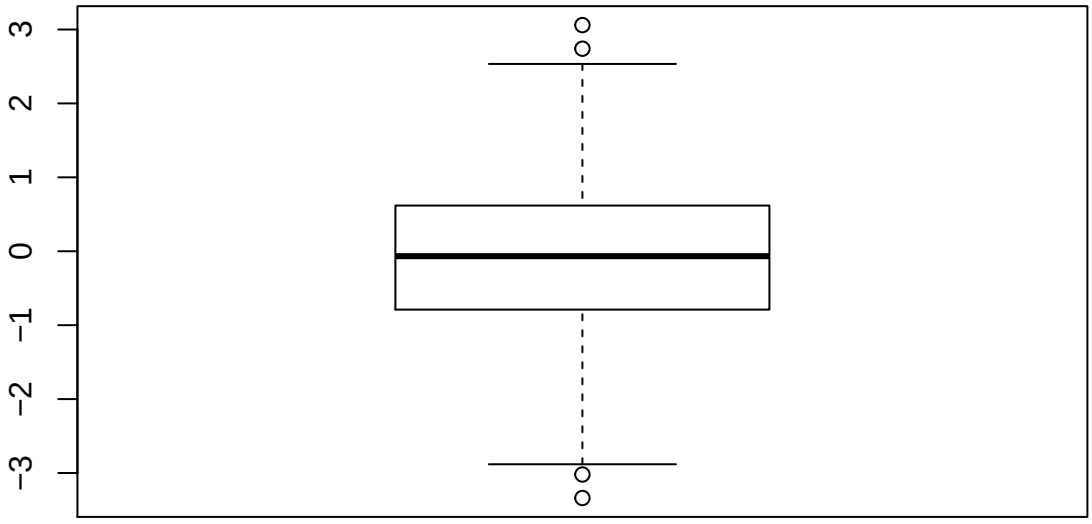


#Punto D

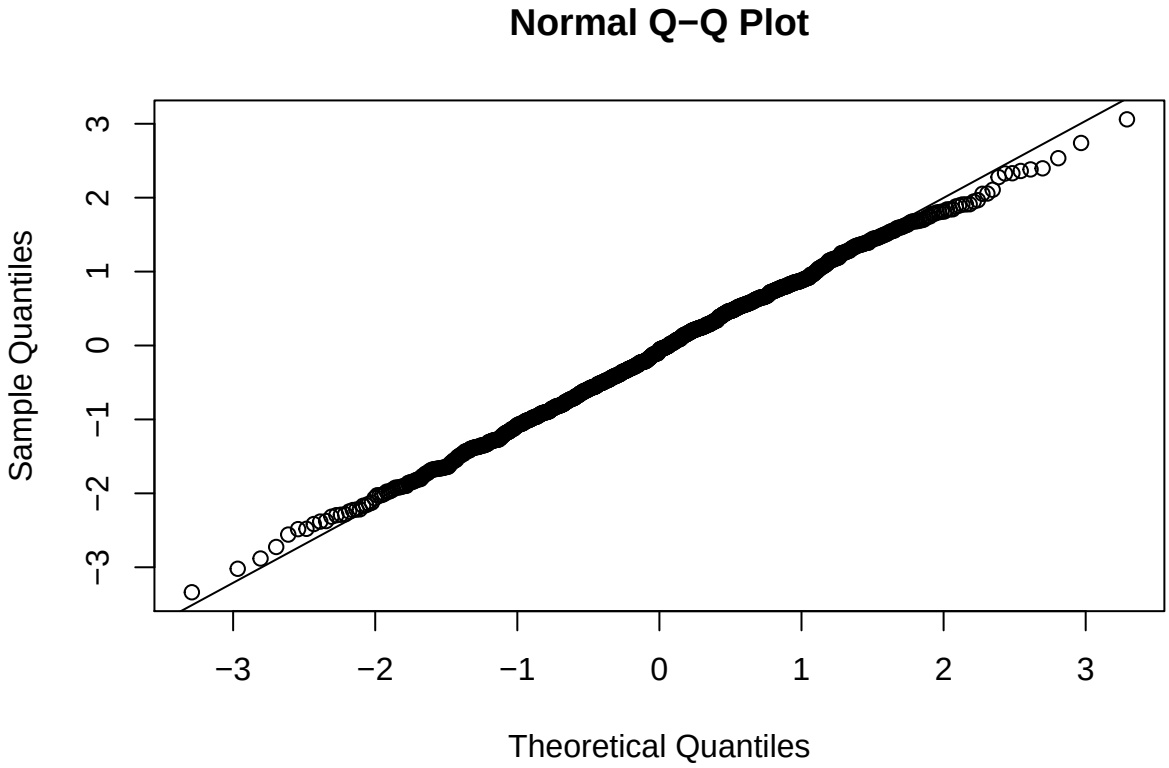
```r
c <- rnorm(1000, 0, 1)
hist(c)
```




```r
boxplot(c)
```




```r
qqnorm(c)
qqline(c)
```



#Punto E

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

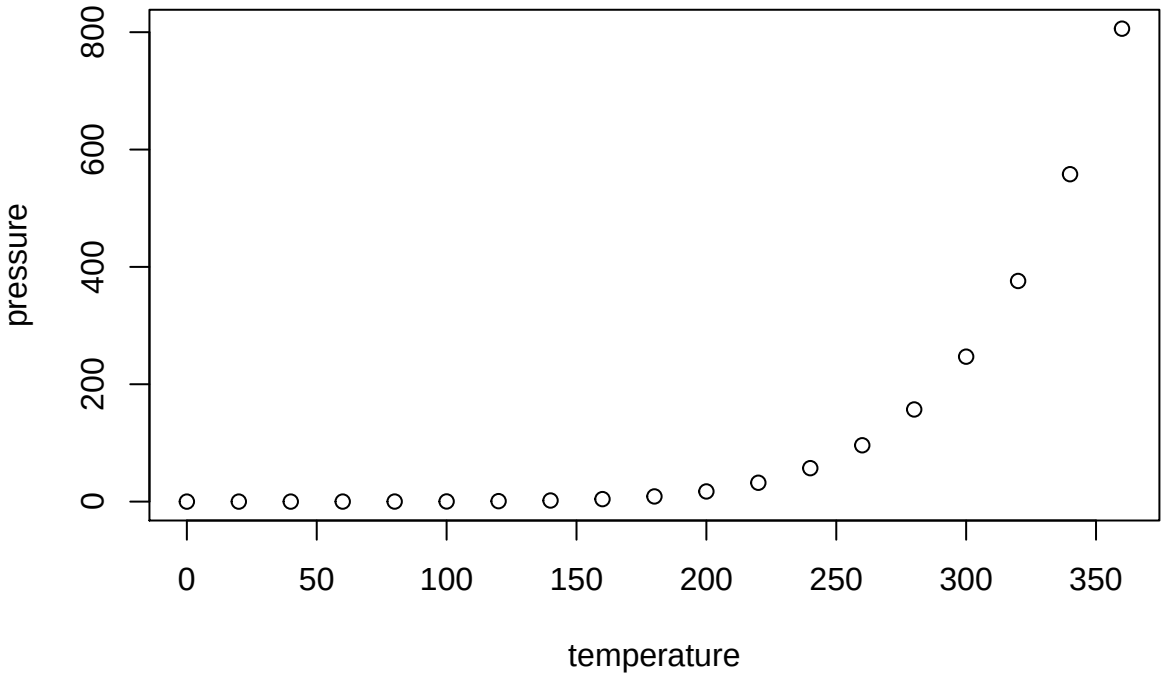
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist       
##  Min.   : 4.0   Min.   :  2.00  
##  1st Qu.:12.0   1st Qu.: 26.00  
##  Median :15.0   Median : 36.00  
##  Mean   :15.4   Mean   : 42.98  
##  3rd Qu.:19.0   3rd Qu.: 56.00  
##  Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.