

# Trabajo Práctico R - Proba (c)

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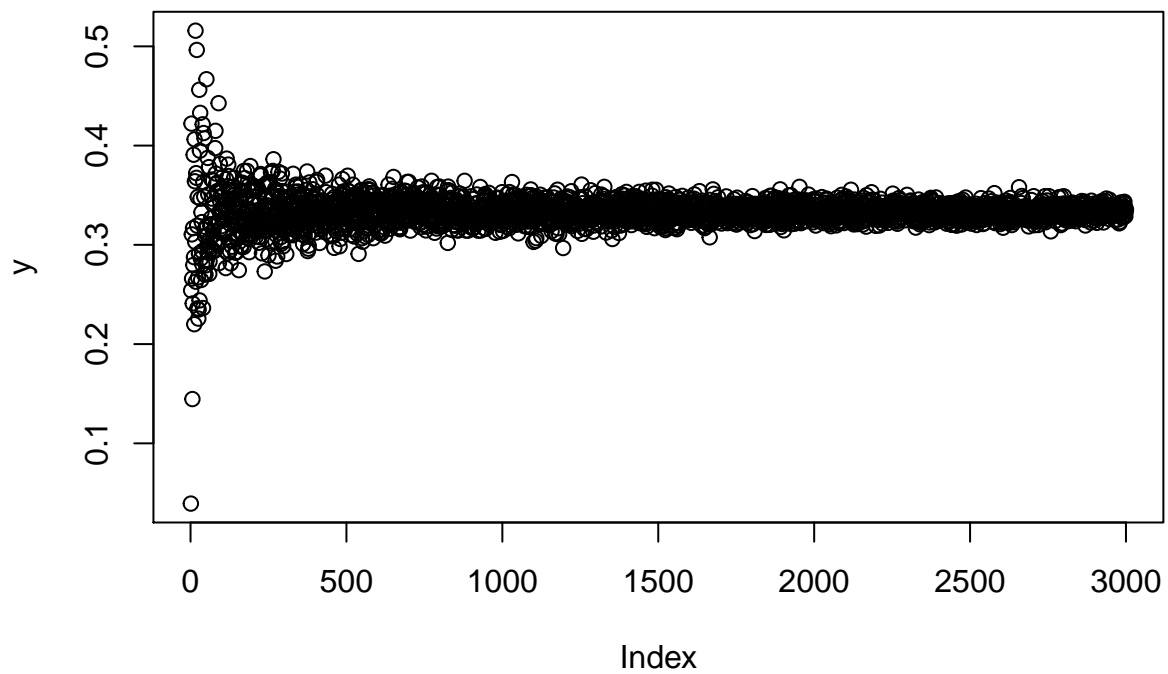
Fijo la “semilla” para que no nos de cosas distintos resultados cada vez que experimentamos

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

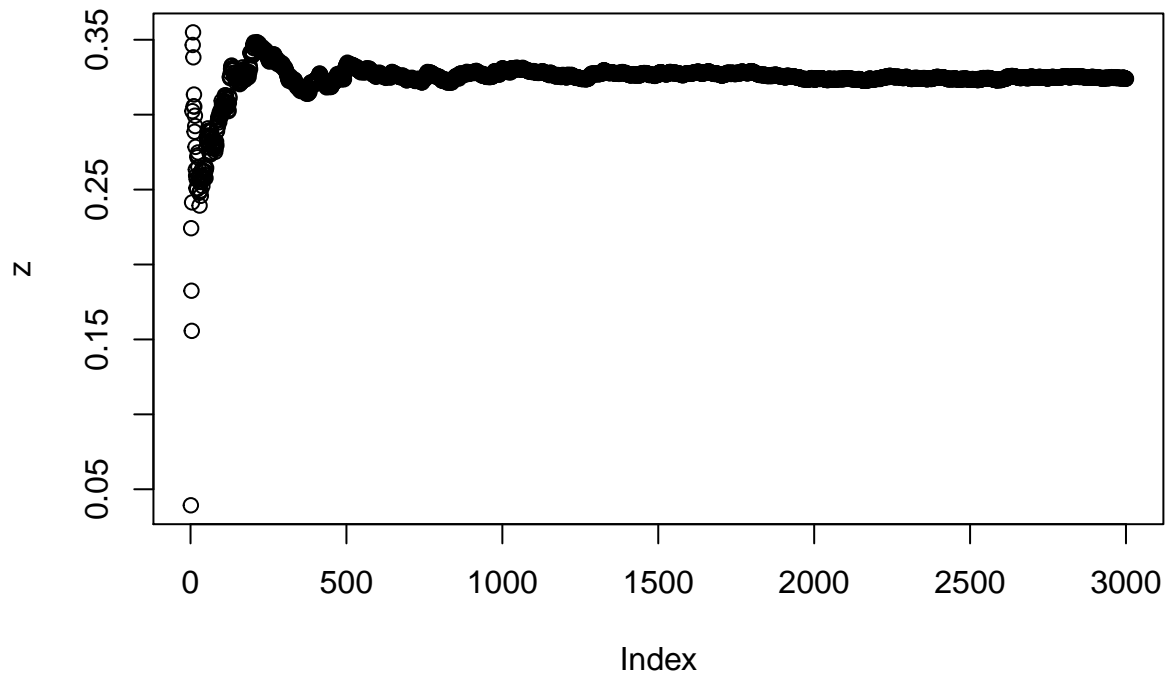
## Ejercicio 1

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)
```



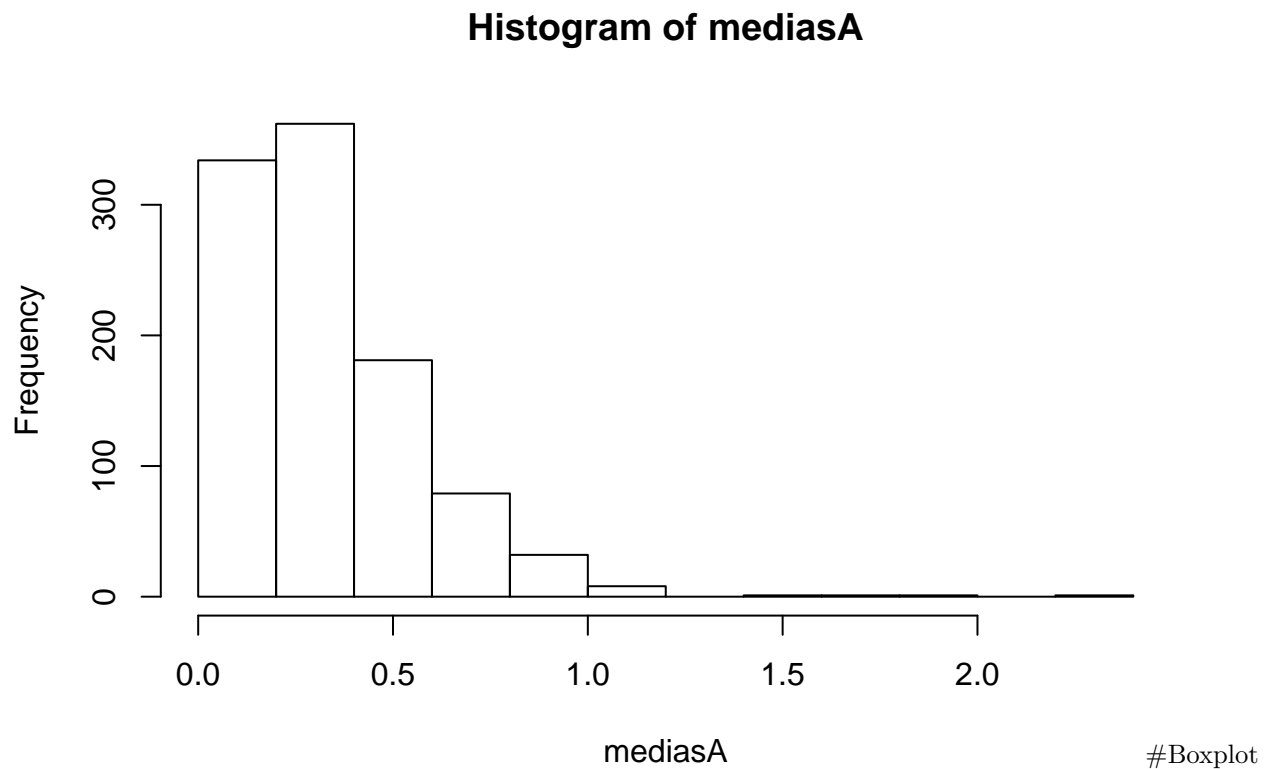
## Ejercicio 2

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

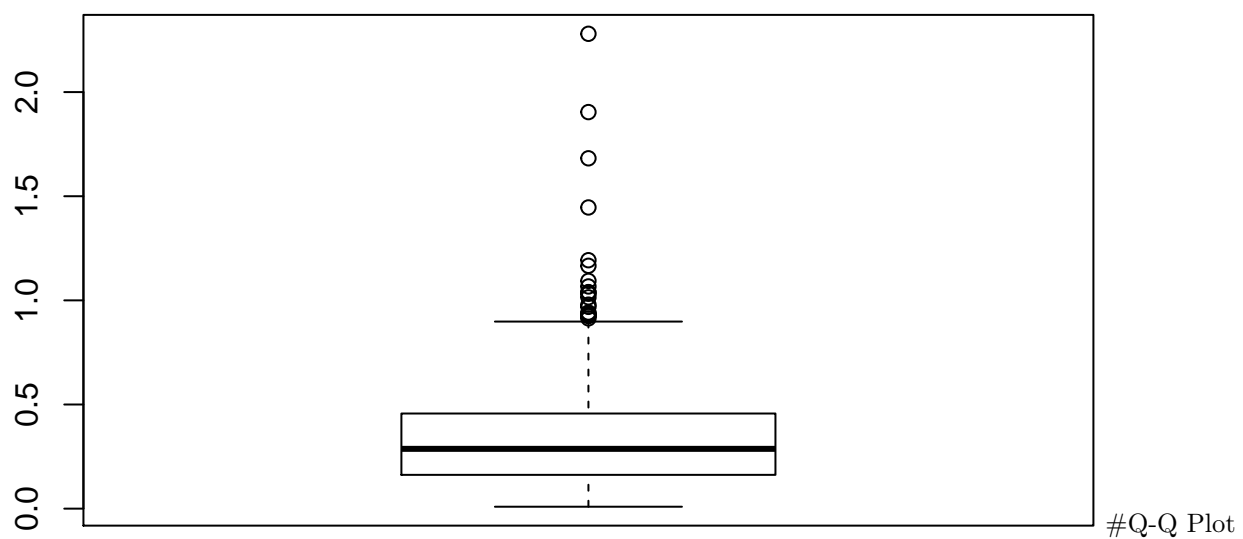
```
}
```

## Histograma

```
hist(mediasA)
```

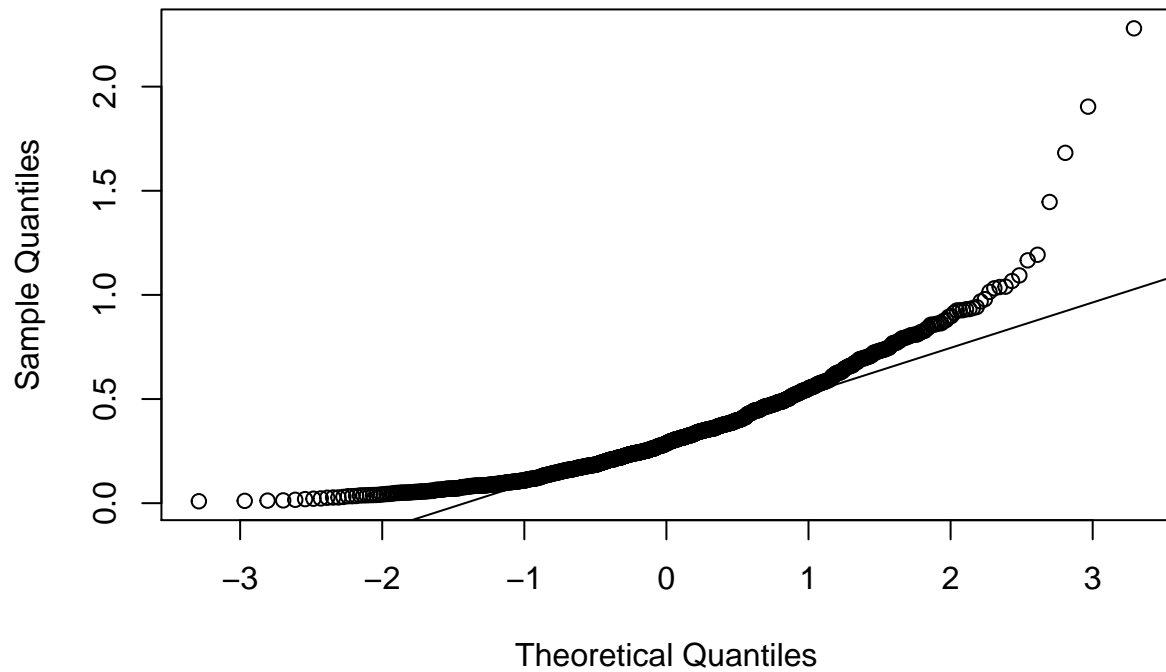


```
boxplot(mediasA)
```



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

## Normal Q-Q Plot



#

Punto b)

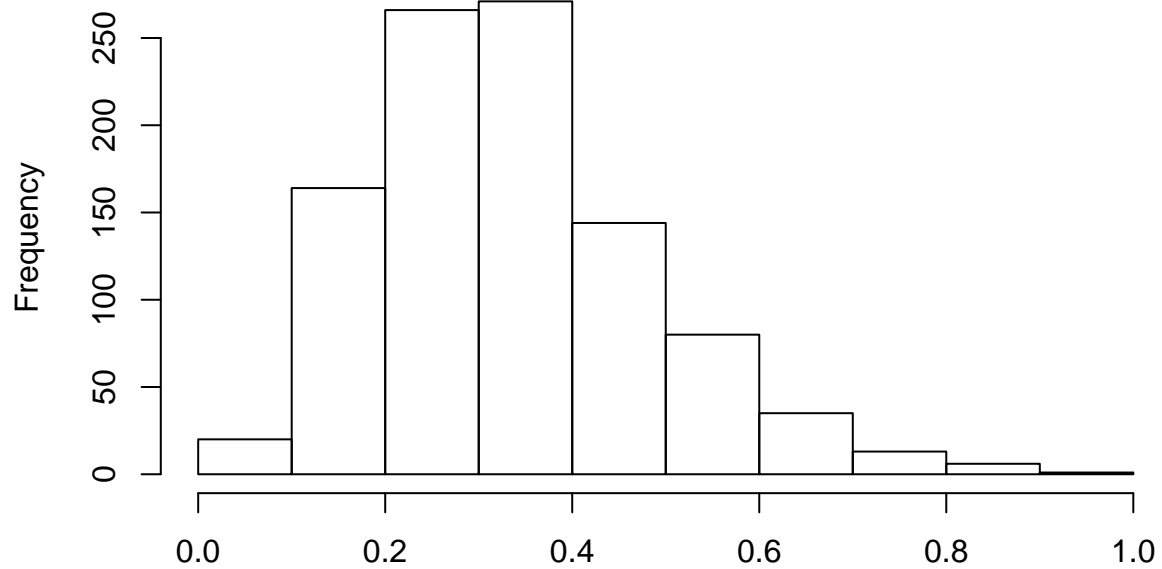
```
mediasB <- seq(length = 1000)

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)
```

## Histogram of mediasB

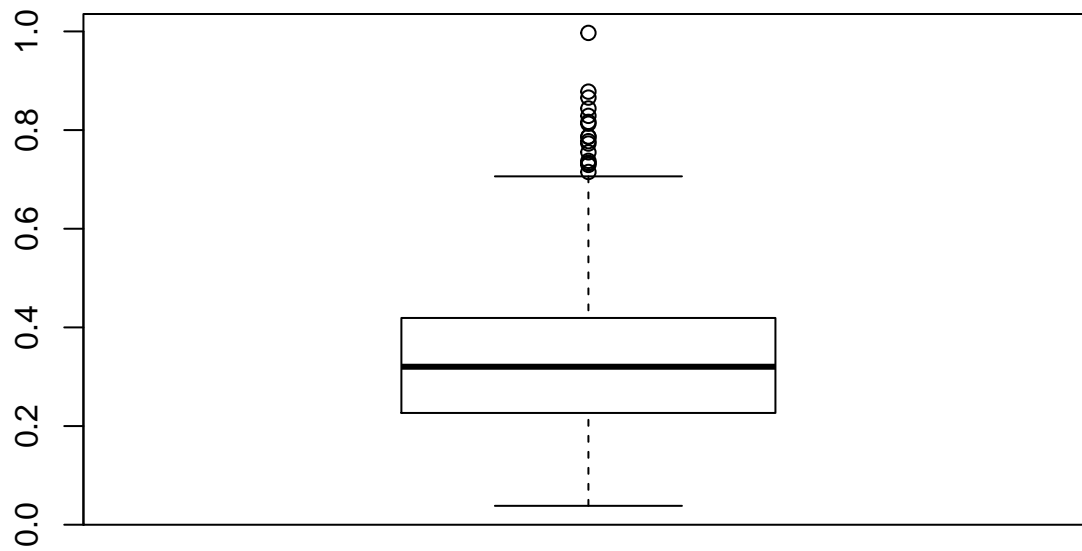


mediasB

#Box-

plot

```
boxplot(mediasB)
```

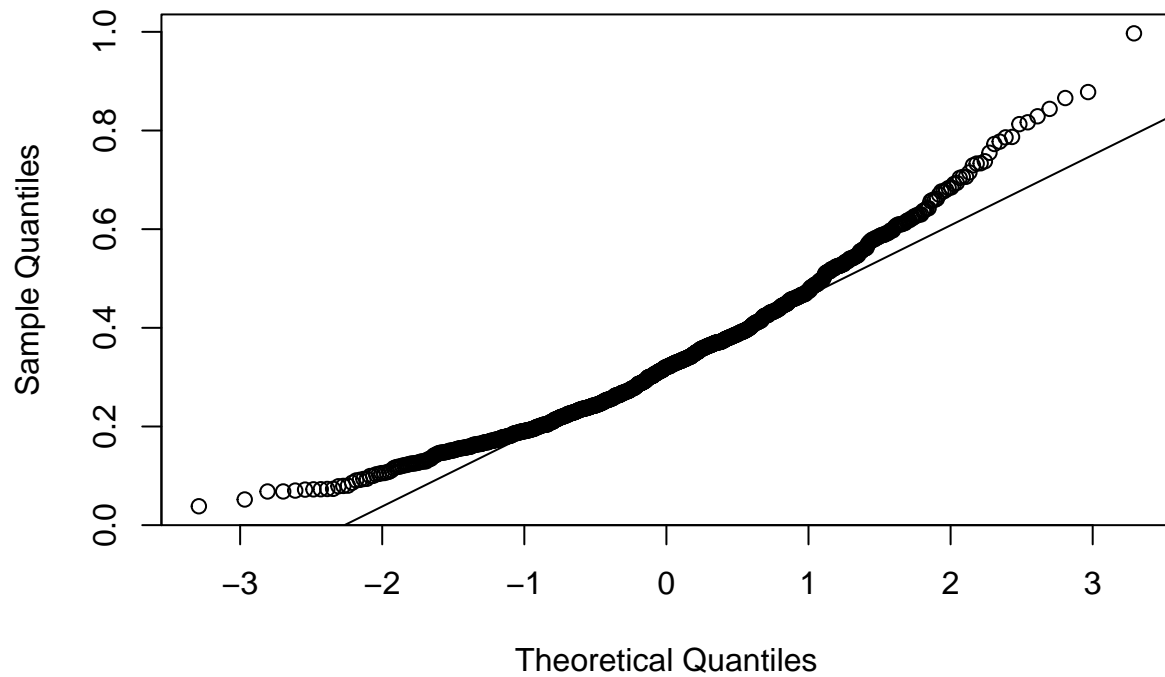


#Q-Q Plot

```
qqnorm(mediasB)
```

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

## Normal Q-Q Plot



## Punto C

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

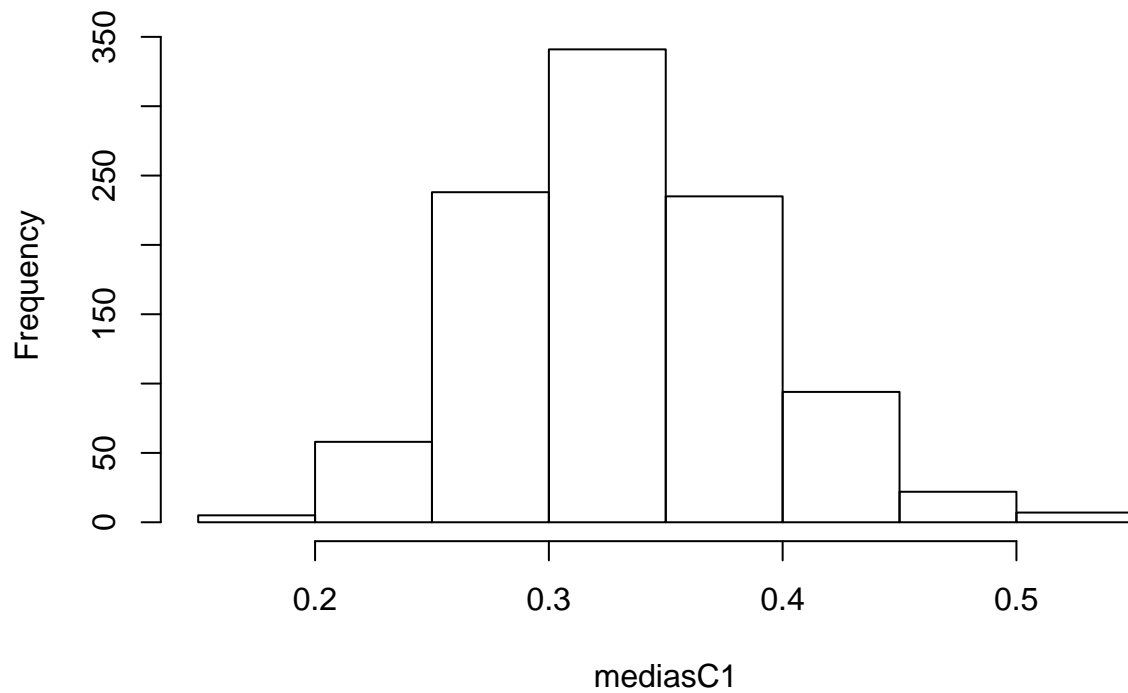
a <- seq(length = 1000)
b <- seq(length = 1000)

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

## Histograma

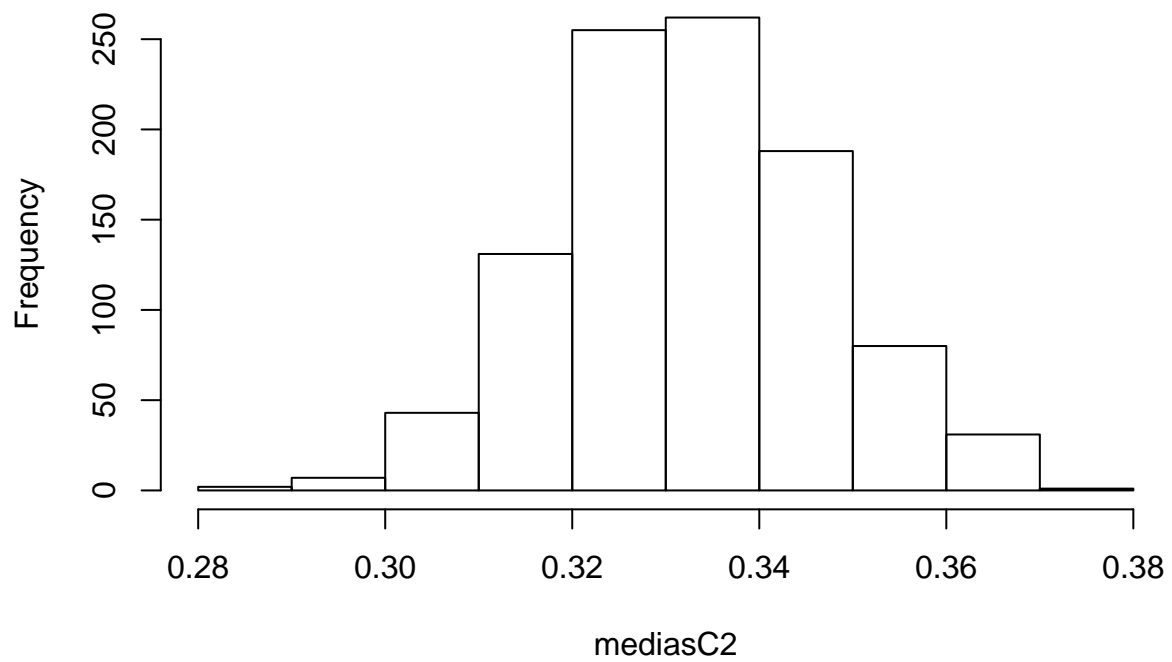
```
hist(mediasC1)
```

**Histogram of mediasC1**



```
hist(mediasC2)
```

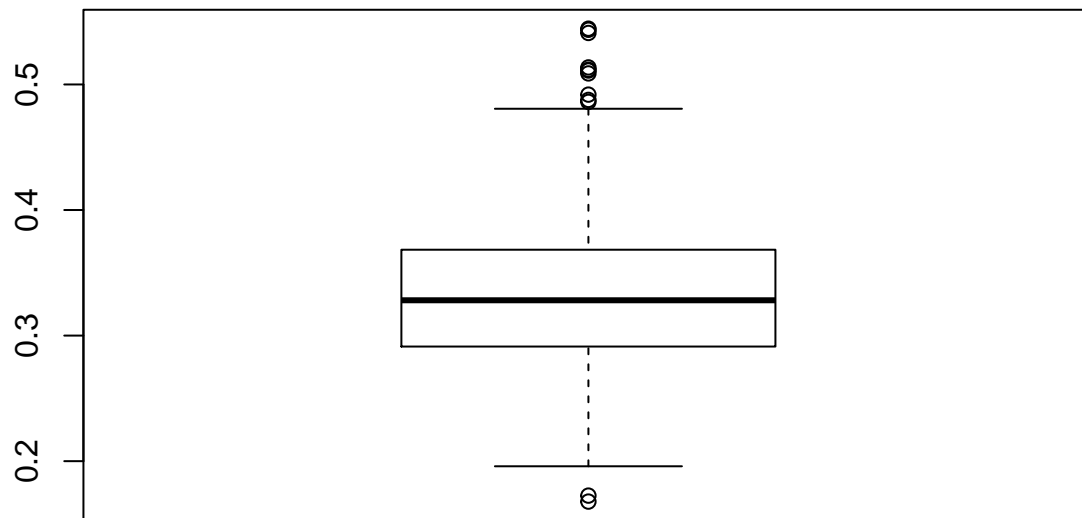
**Histogram of mediasC2**



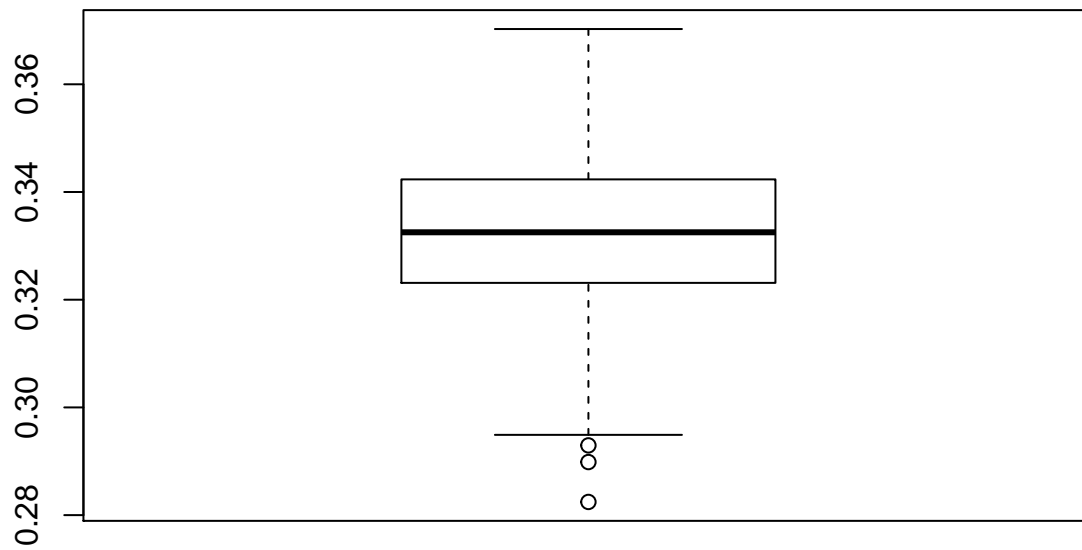
```
plot
```

```
boxplot(mediasC1)
```

#Box-



```
boxplot(mediasC2)
```

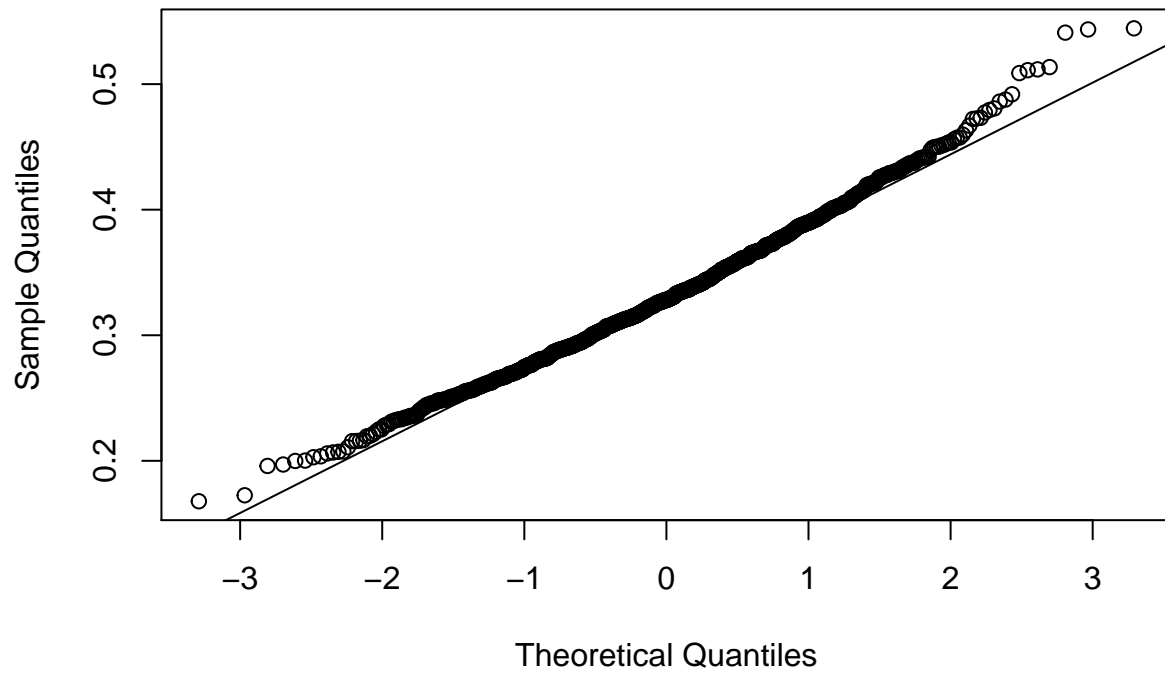


#Q-Q Plot

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

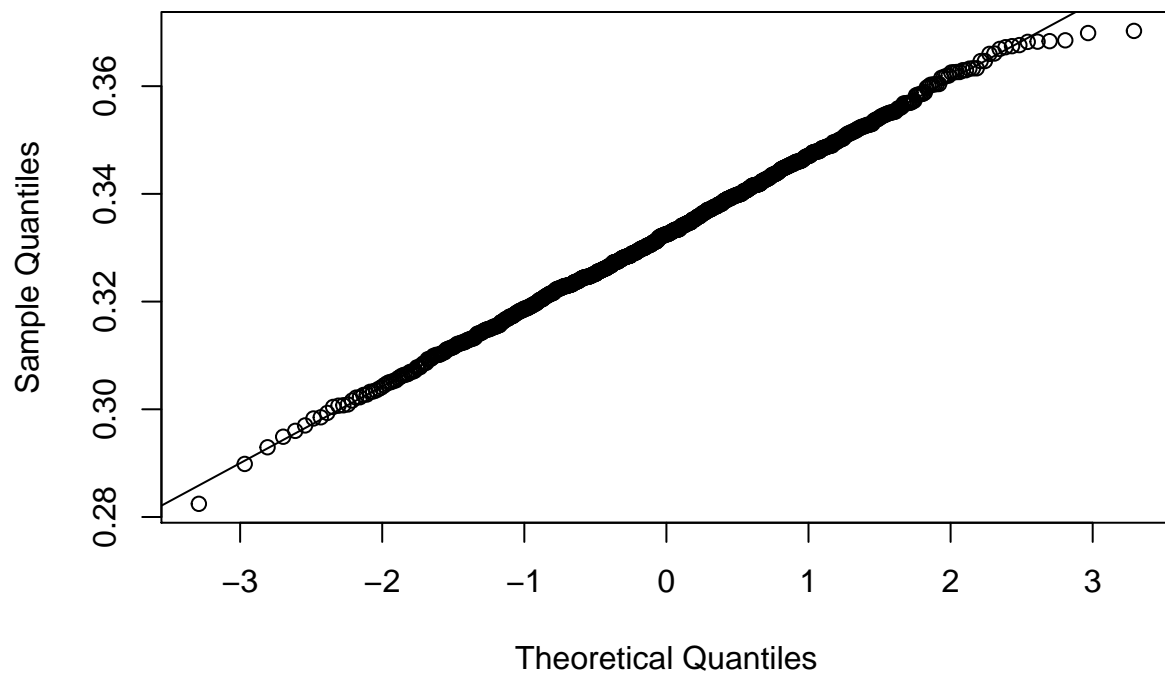


Normal Q-Q Plot



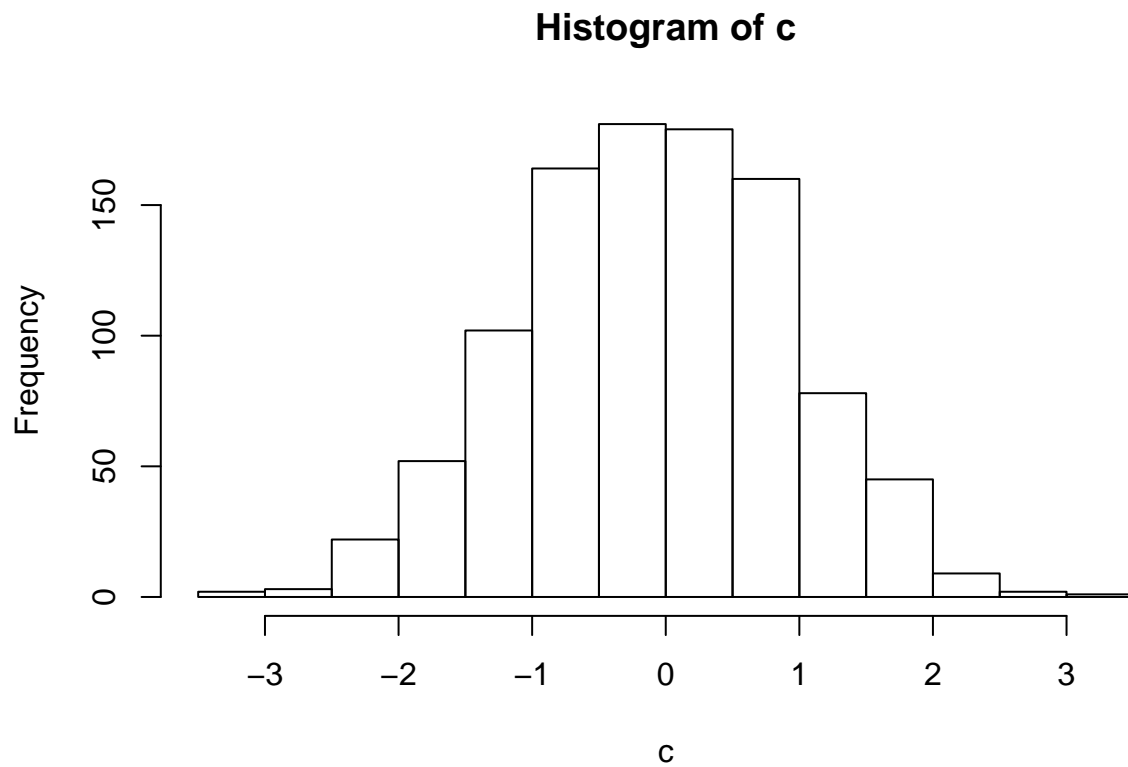
```
qqnorm(mediasC2)  
qqline(mediasC2)
```

Normal Q-Q Plot

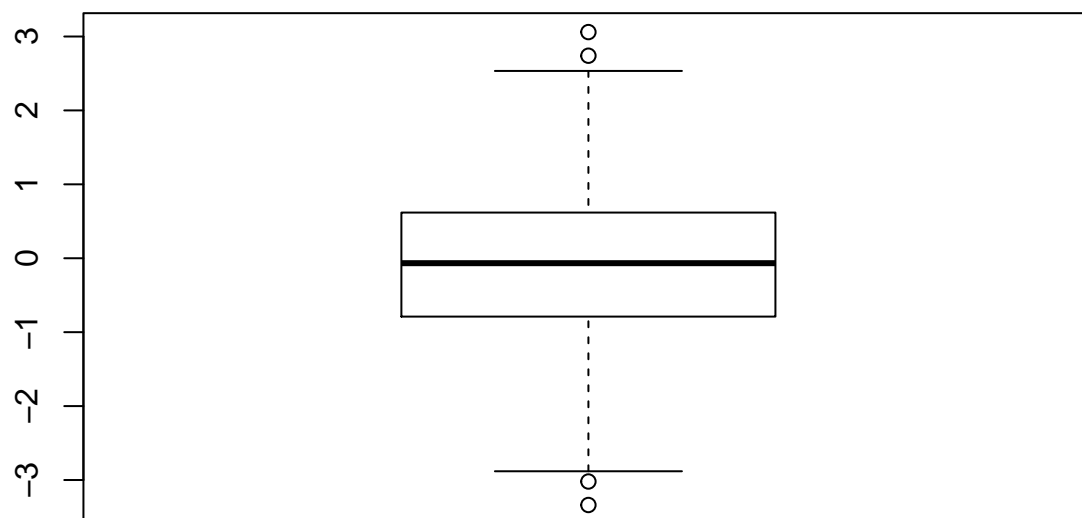


#Punto D

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

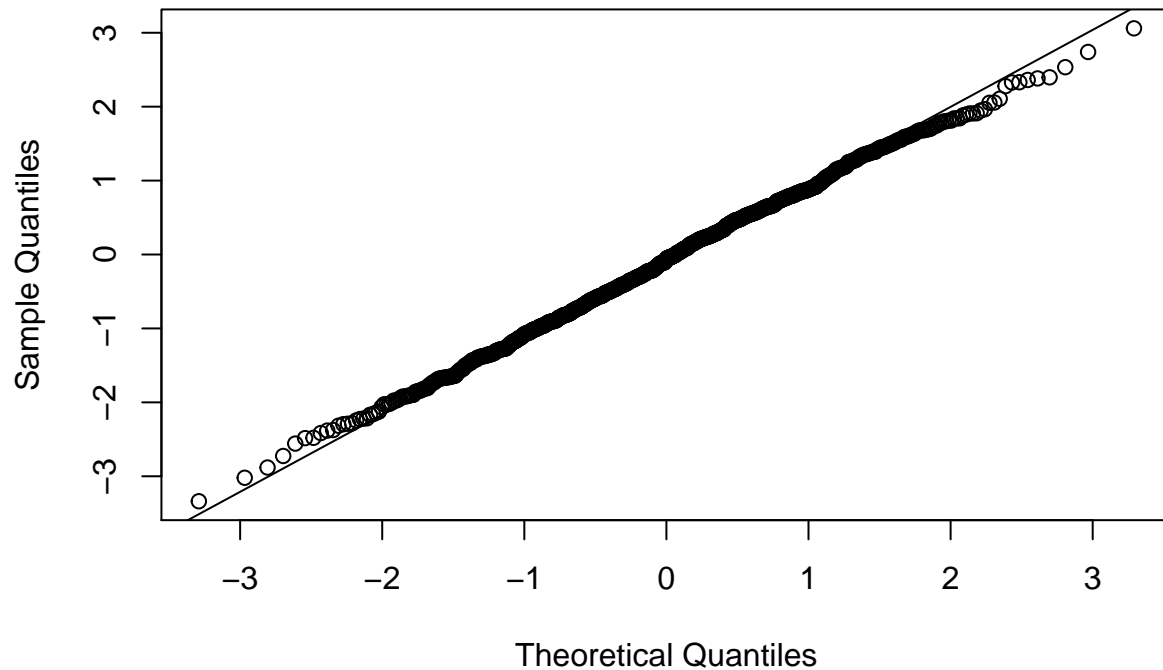


```
boxplot(c)
```



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

## Normal Q-Q Plot



#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>.

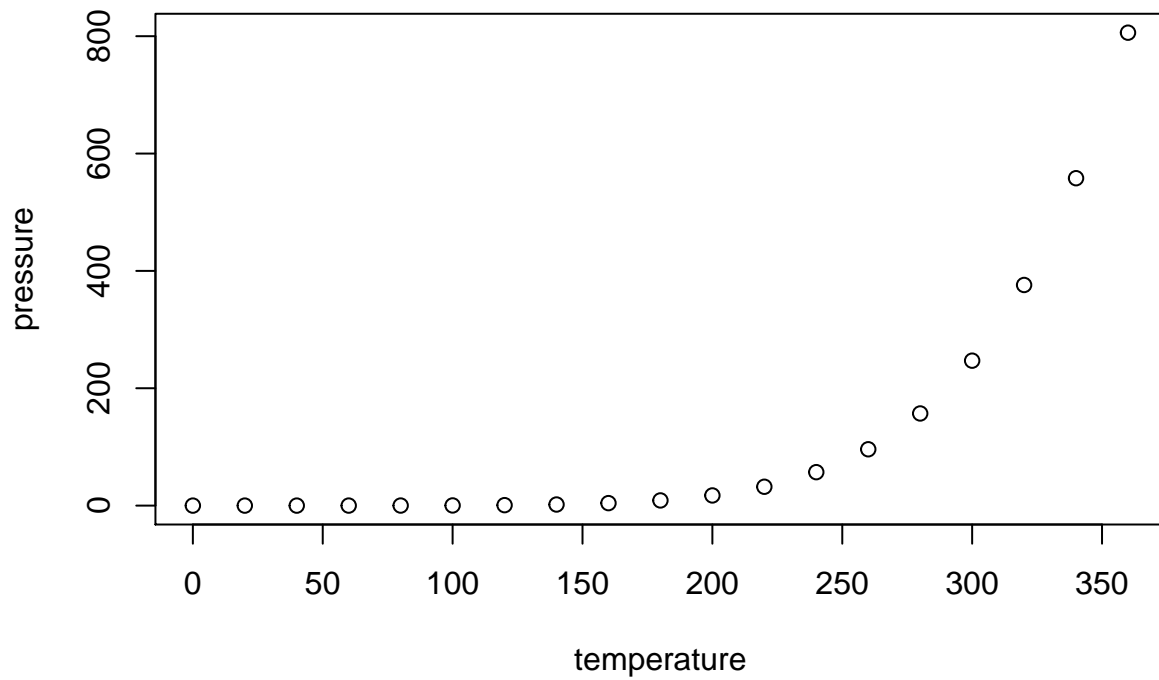
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
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.