A32_Hoermann

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```
daten = read.table("./Daten.txt",header=TRUE) # read values
str(daten) # prints summary
```

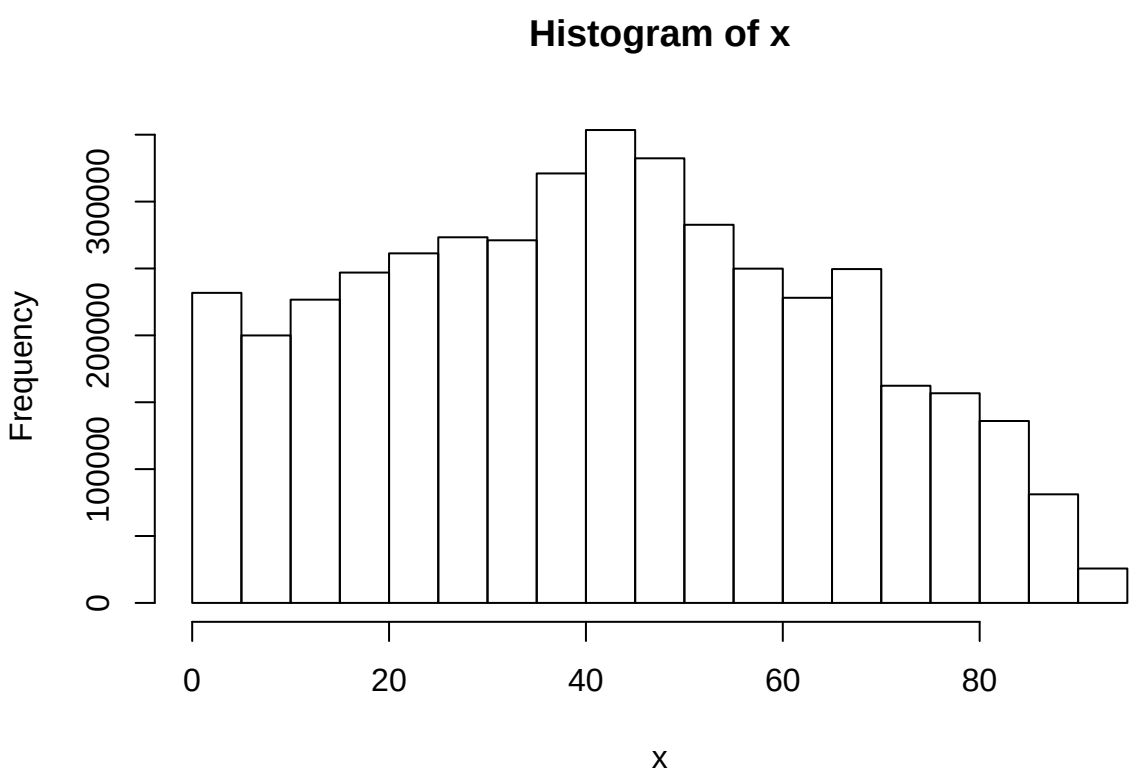
```
## 'data.frame':    96 obs. of  3 variables:
##  $ A: int  0 1 2 3 4 5 6 7 8 9 ...
##  $ X: int  37083 38120 38702 39068 39530 39277 39575 39322 39336 40475 ...
##  $ Y: int  39167 40288 40161 40829 41555 41410 41785 41358 41798 42515 ...
```

```
(v = rle(c(7,7,7,8,8,9))) # rle .. run length encoding -> table of occurences and values
```

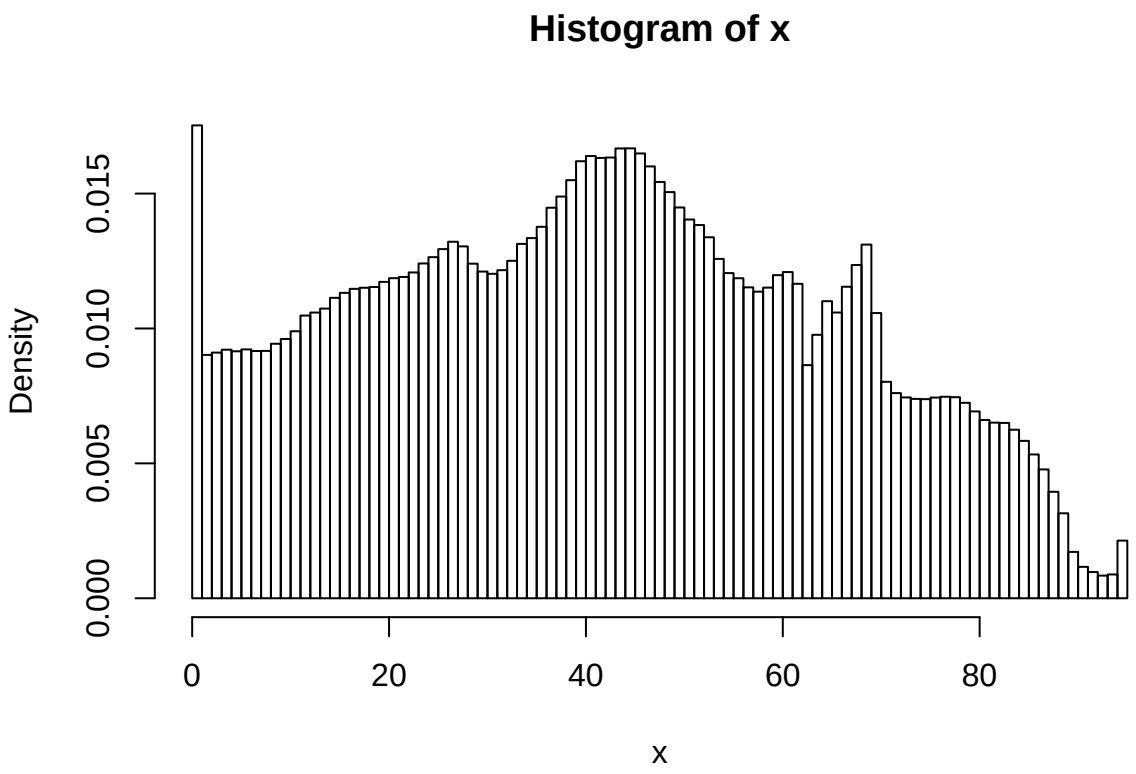
```
## Run Length Encoding
##   lengths: int [1:3] 3 2 1
##   values : num [1:3] 7 8 9
```

```
v$values = daten$A
v$lengths = daten$X
x = inverse.rle(v) # inverse of rle
v$lengths = daten$Y
y = inverse.rle(v)
```

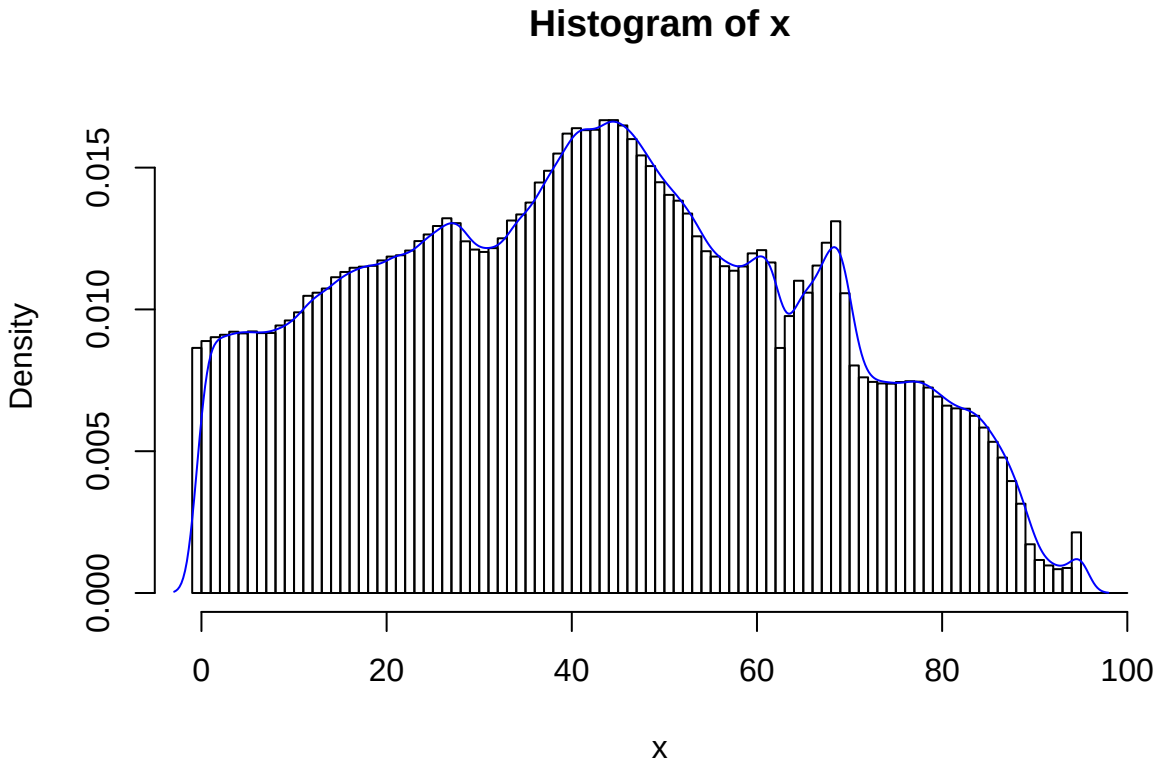
```
hist(x) # seperates distribution into bars and counts occurences of x within this bar
```



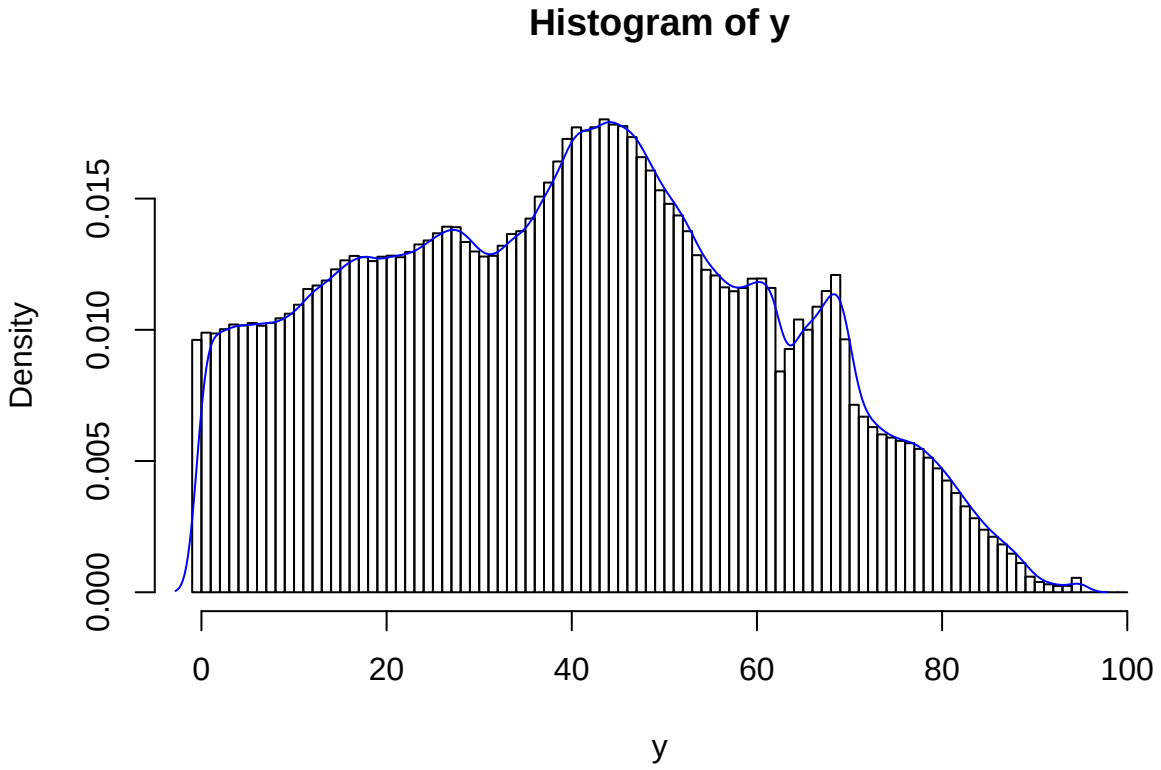

```
hist(x,breaks=100,freq=FALSE)
```




```
hist(x,breaks=seq(-1,100),freq=FALSE) # same as before, but with probability not count
lines(density(x),col="blue") # plots the density of x values
```




```
hist(y,breaks=seq(-1,100),freq=FALSE)
lines(density(y),col="blue")
```




```
c(mean(x),mean(y),median(x),median(y)) # creates vector of means
```

```
## [1] 42.23975 39.35958 42.00000 40.00000
```

```
# disabled because PDF Readers dont like that plot
qqplot(x,y) # scatter plots the values
abline(0,1,col="red") # adds diagonal line to plot
abline(v=median(x),col="blue") # adds vertical line at median of x
abline(h=median(y),col="blue") # adds horizontal line at median of y
```