

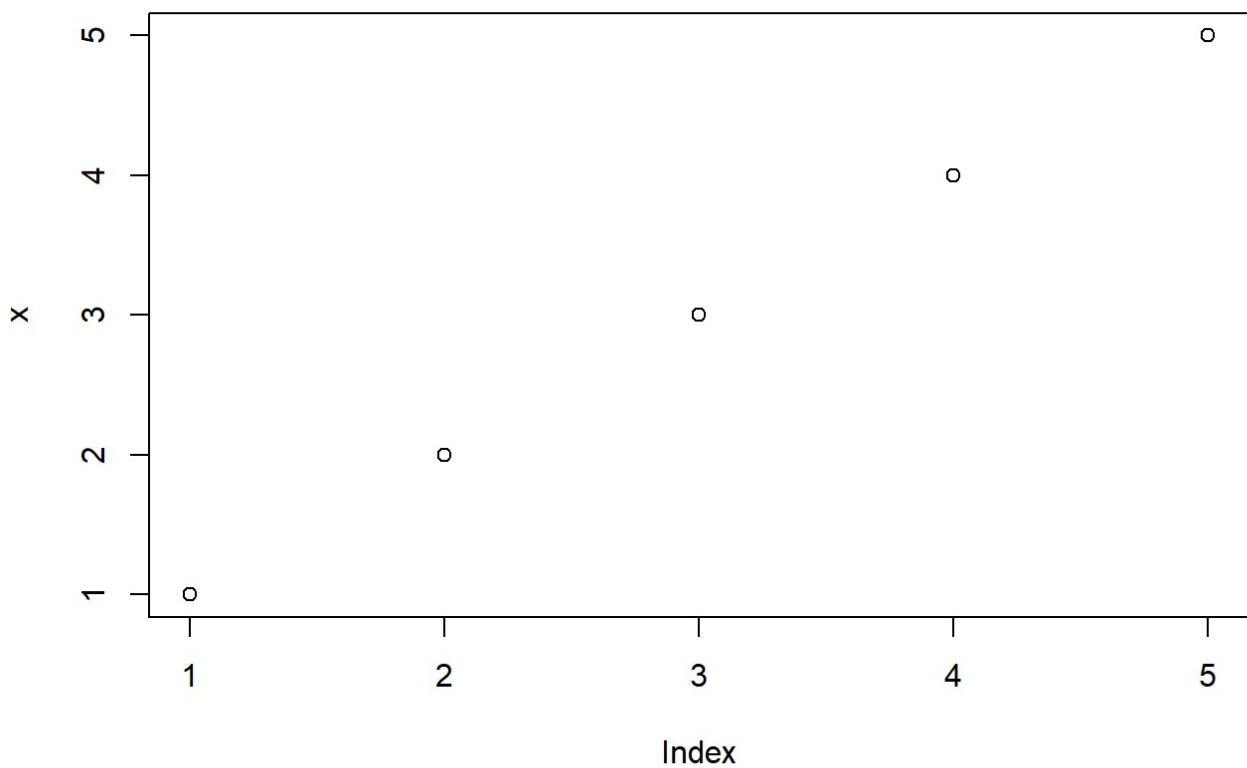
# Gràfics

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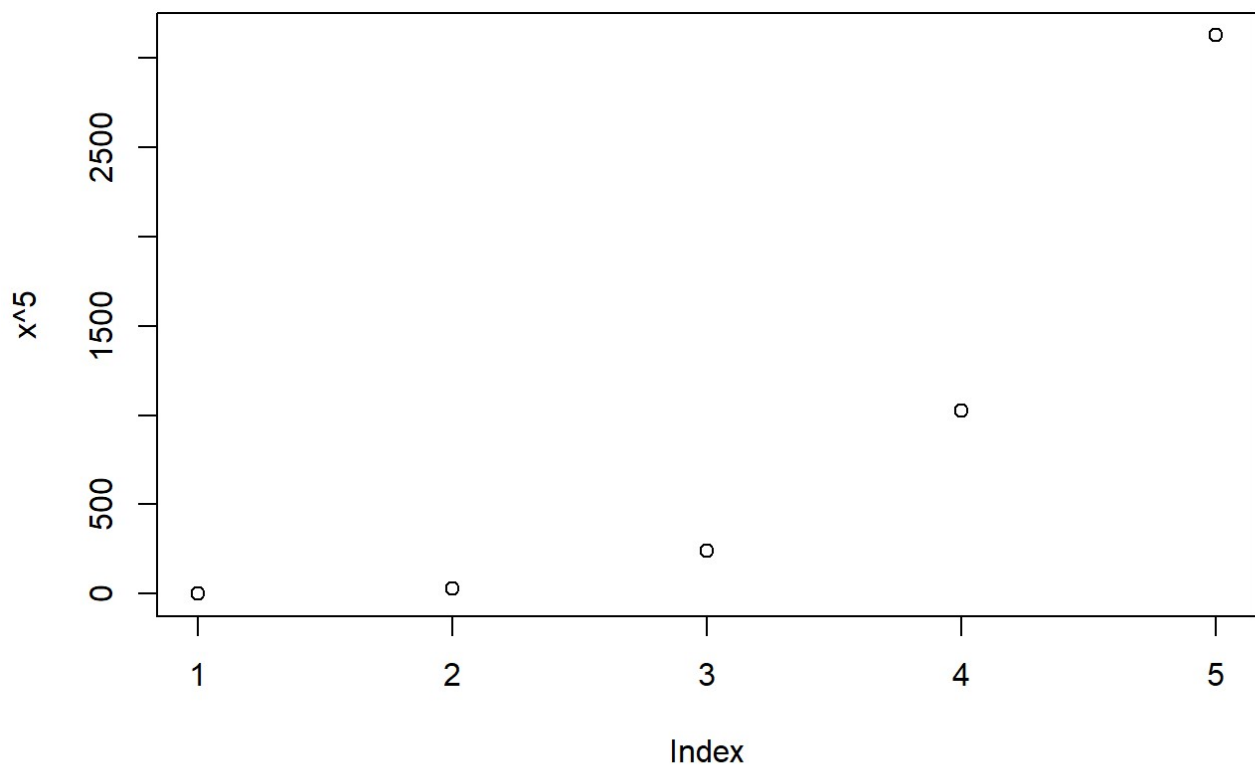
## Gràfic simple

```
x = seq(1, 5)  
plot(x)
```



## Aplicam funcions

```
plot(x^5)
```

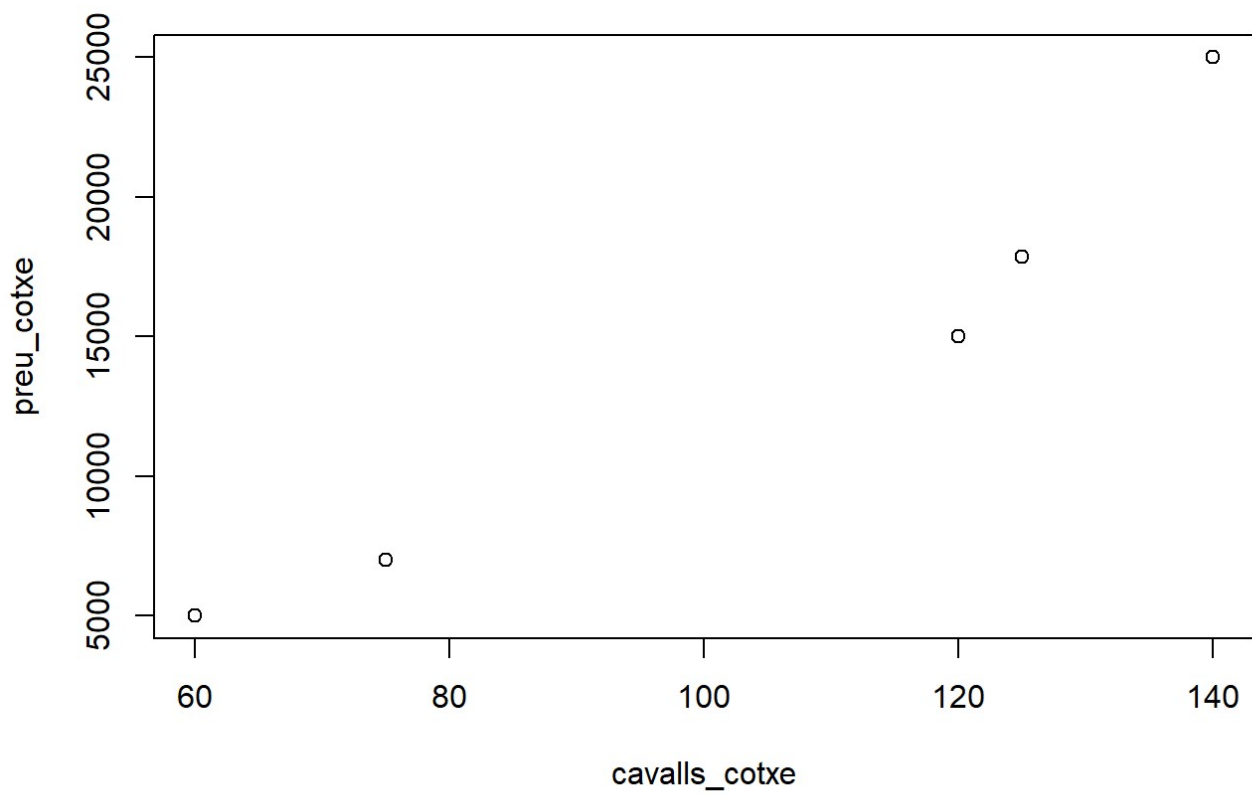


## Gràfic comparatiu

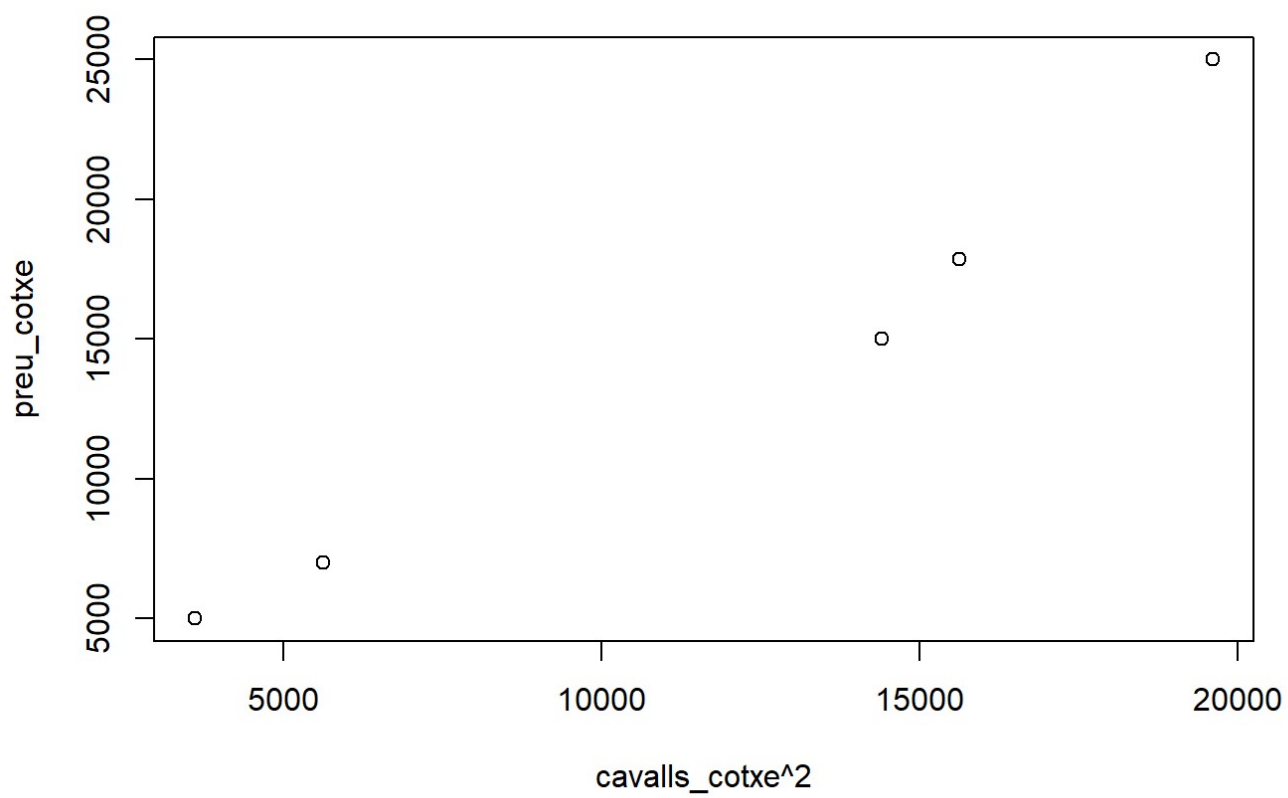
Gràfic per comparar dos vectors

```
preu_cotxe = c(7000, 5000, 15000, 25000, 17850)
cavalls_cotxe = c(75, 60, 120, 140, 125)

plot(cavalls_cotxe, preu_cotxe)
```



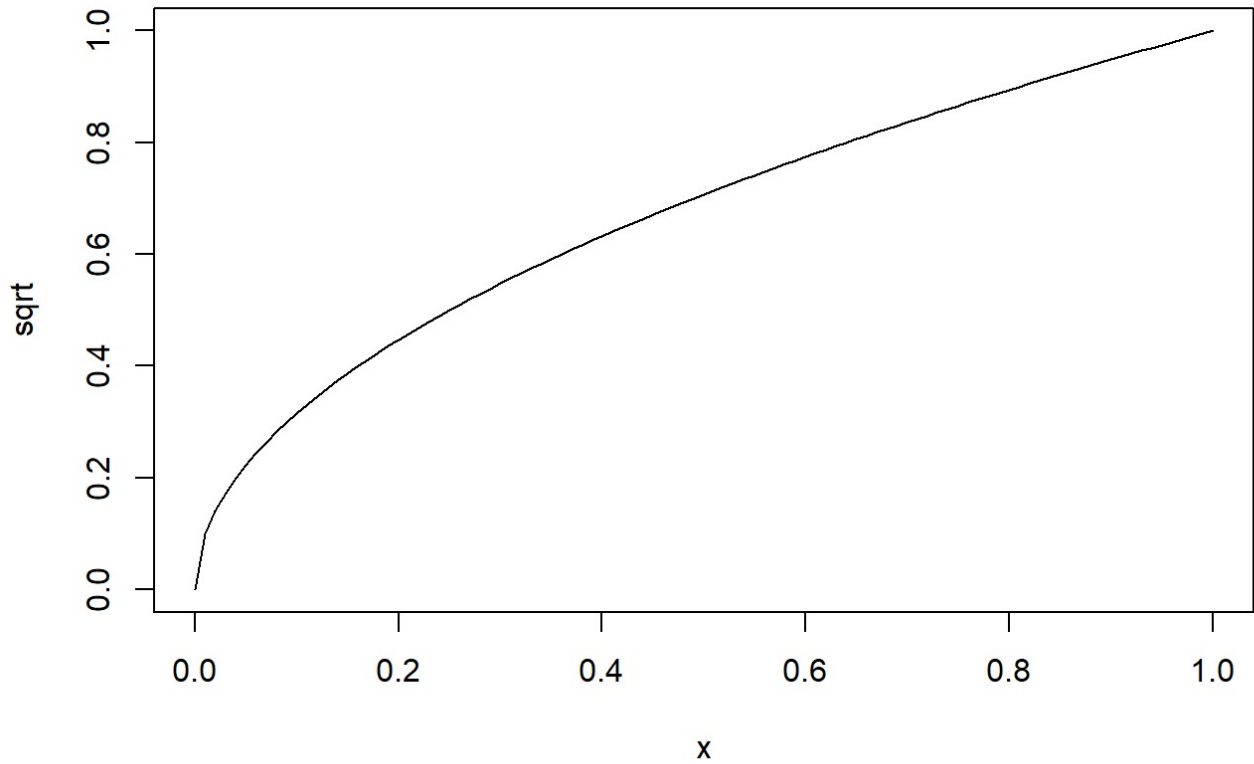
```
plot(cavalls_cotxe^2, preu_cotxe)
```



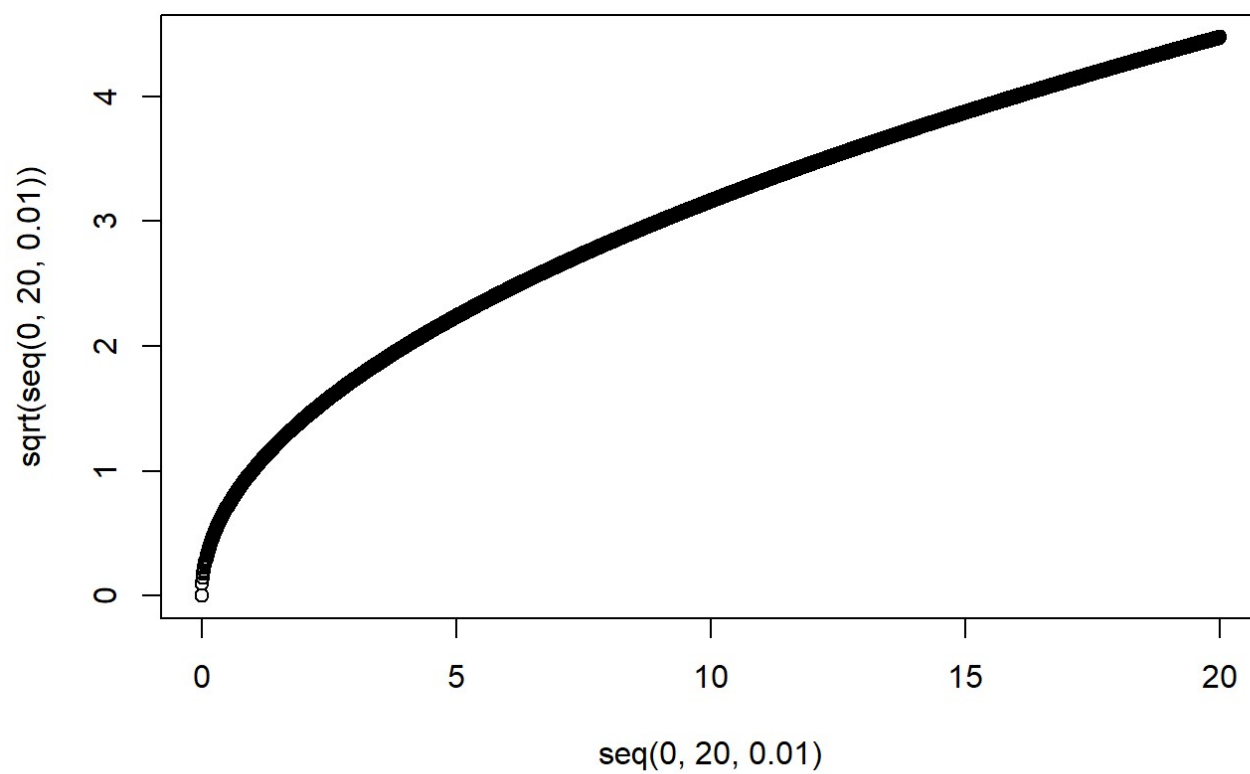
# Gràfics de funcions

El resultat sempre està en el rang (0, 1)

```
plot(sqrt)
```



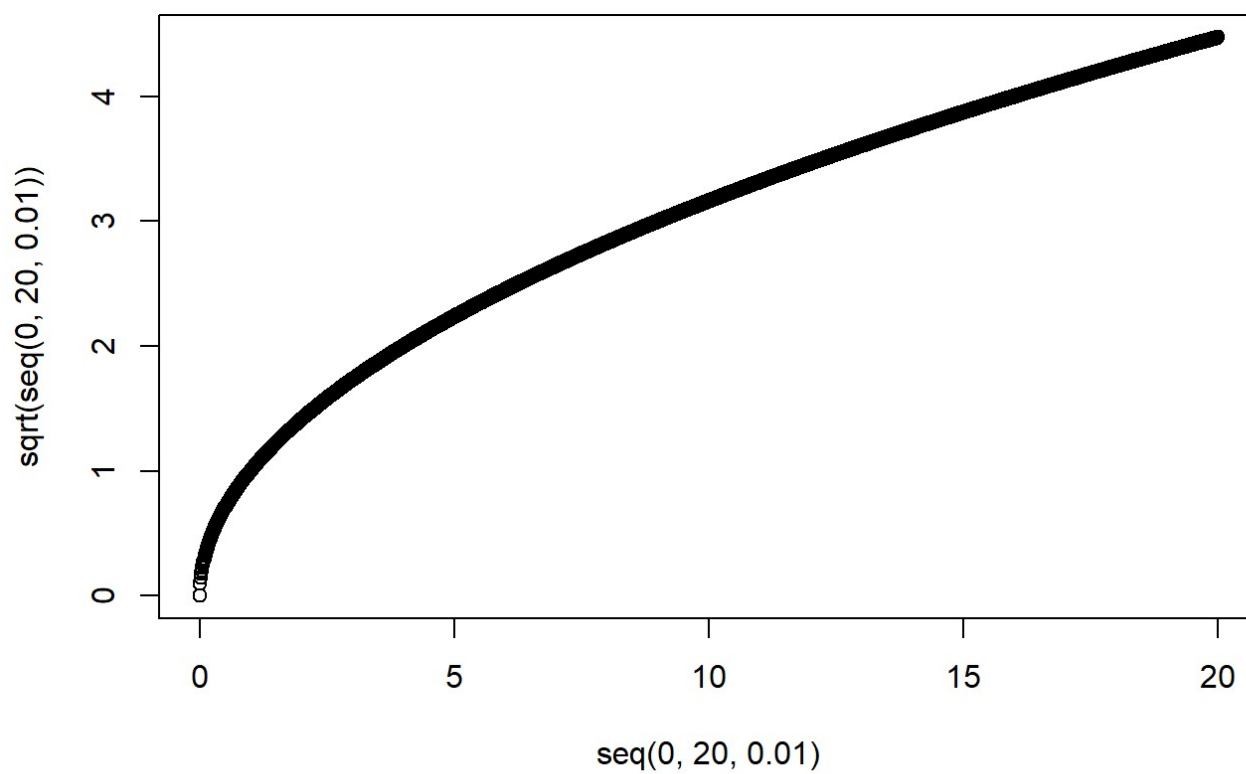
```
plot(seq(0, 20, 0.01), sqrt(seq(0, 20, 0.01)))
```



Títol

```
plot(seq(0, 20, 0.01), sqrt(seq(0, 20, 0.01)), main="Arrel Quadrada")
```

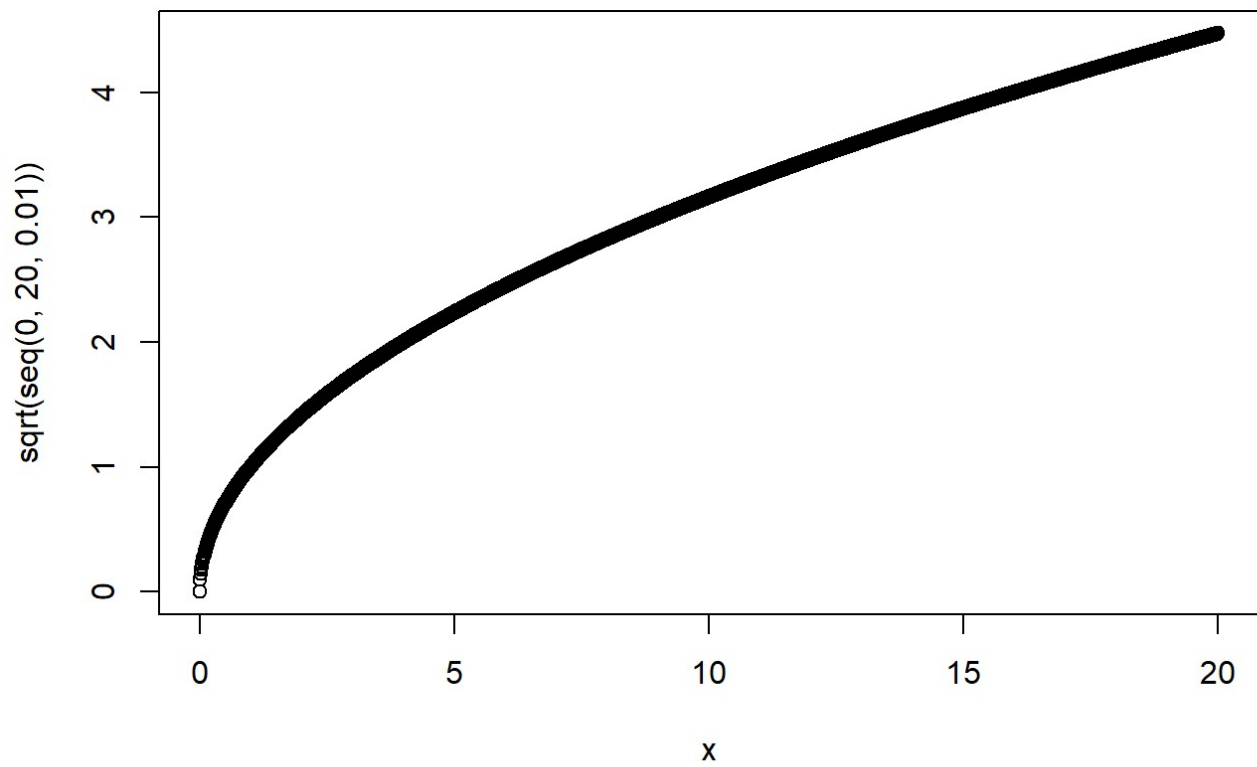
## Arrel Quadrada



## Eixos ordenades i absises

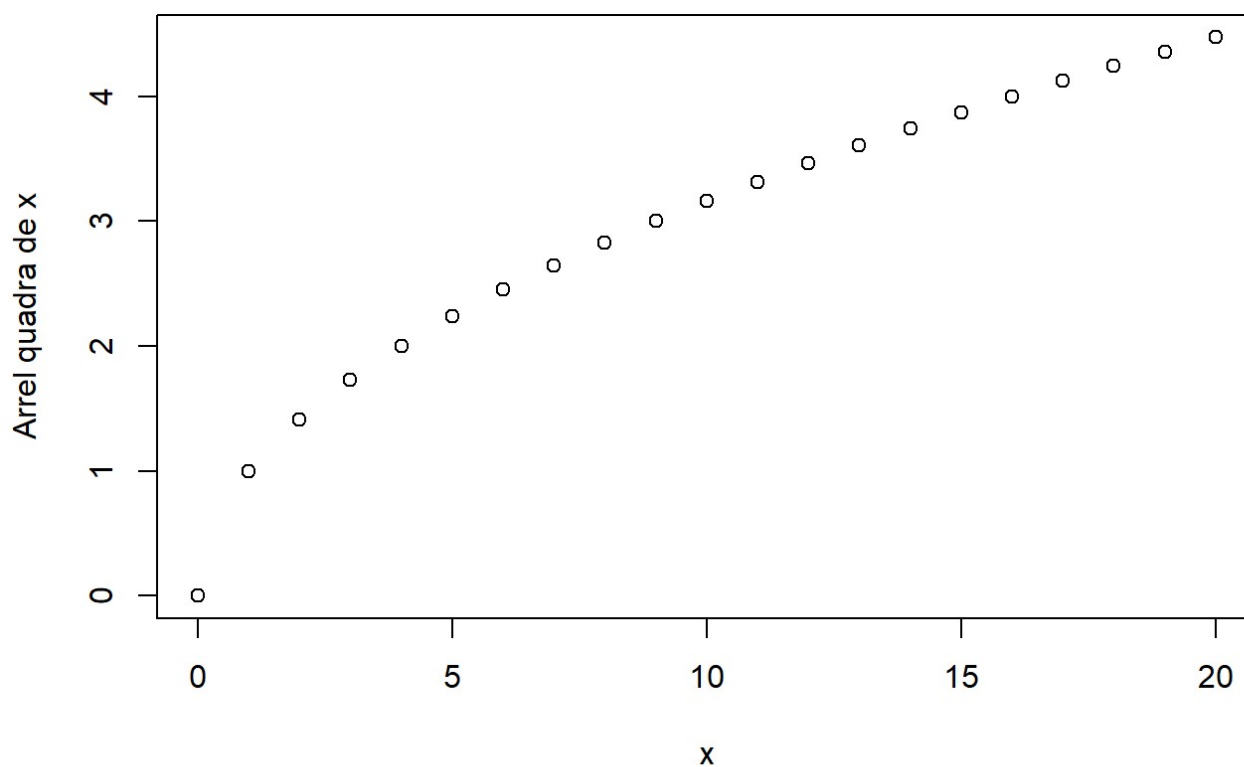
```
plot(seq(0, 20, 0.01), sqrt(seq(0, 20, 0.01)), main="Arrel Quadrada", xlab = "x")
```

## Arrel Quadrada



```
plot(seq(0, 20, 1), sqrt(seq(0, 20, 1)), main="Arrel Quadrada", xlab = "x", ylab =  
"Arrel quadra de x")
```

## Arrel Quadrada

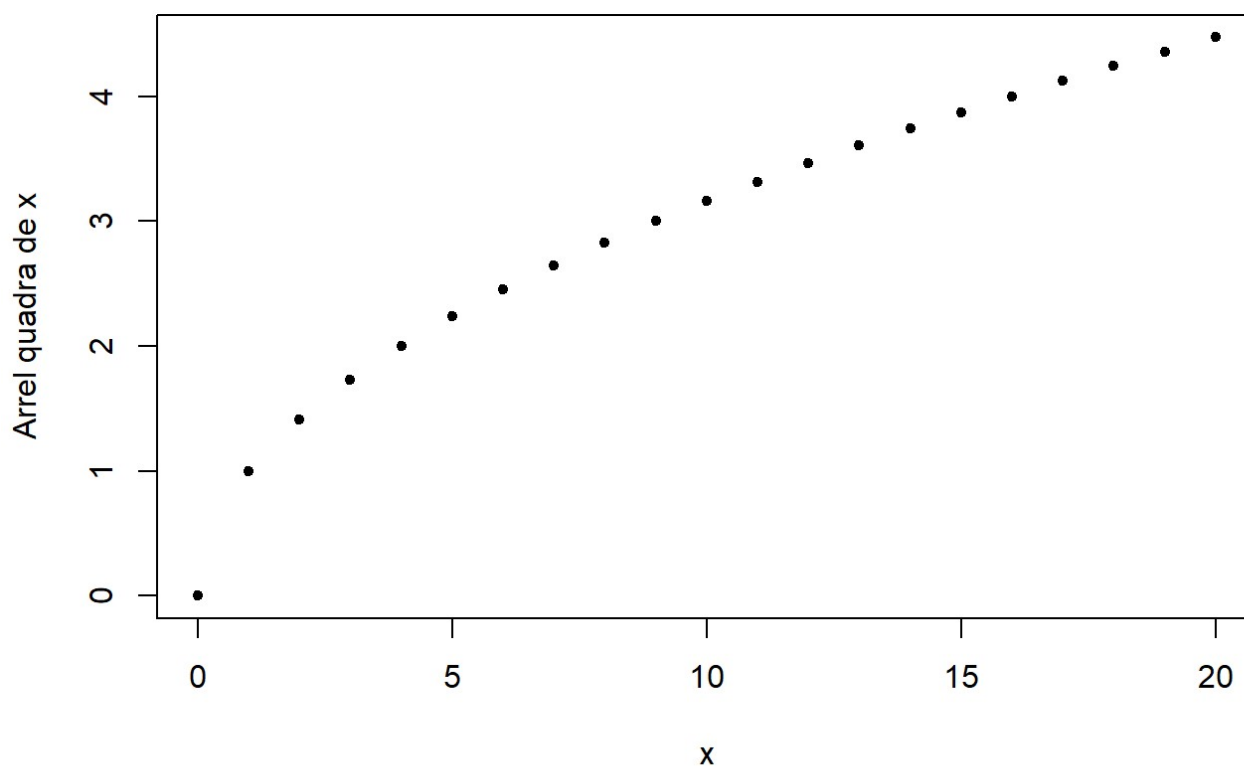


## Diferents tipus de punts

```
plot(seq(0, 20, 1), sqrt(seq(0, 20, 1)), main="Arrel Quadrada", xlab = "x", ylab =  
"Arrel quadra de x", pch = 20)
```



## Arrel Quadrada

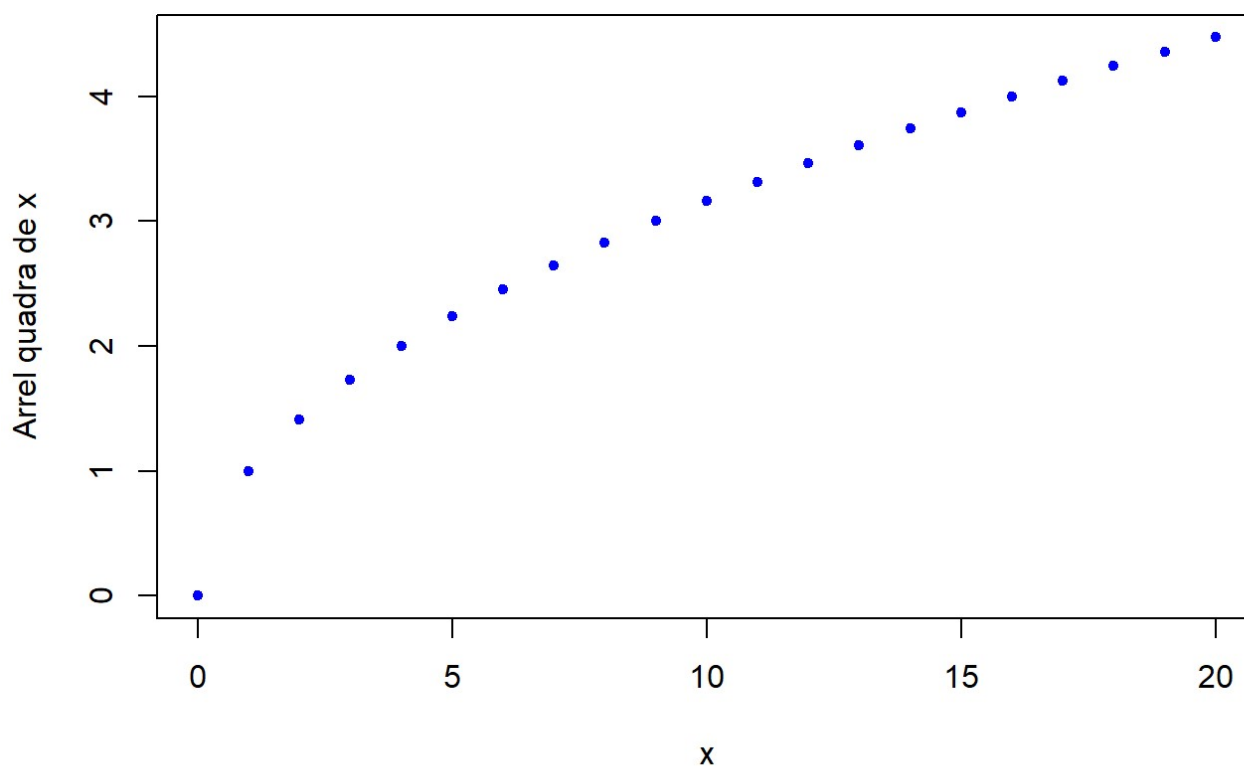


## Colors

Colors disponibles : <http://www.stat.columbia.edu/~tzheng/files/Rcolor.pdf> (<http://www.stat.columbia.edu/~tzheng/files/Rcolor.pdf>)

```
plot(seq(0, 20, 1), sqrt(seq(0, 20, 1)), main="Arrel Quadrada", xlab = "x", ylab =  
"Arrel quadra de x", pch = 20, col="blue")
```

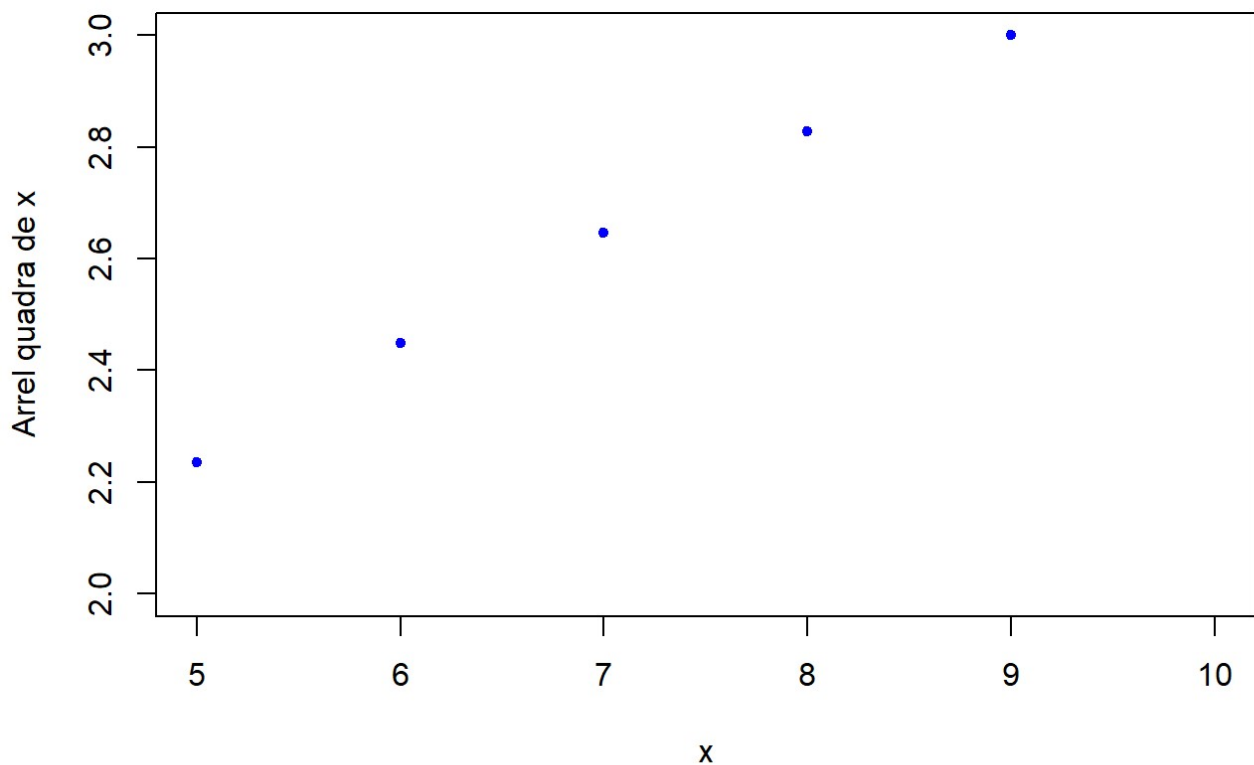
## Arrel Quadrada



## Limitam els eixos

```
plot(seq(0, 20, 1), sqrt(seq(0, 20, 1)), main="Arrel Quadrada", xlab = "x", ylab =  
"Arrel quadra de x", pch = 20, col="blue", xlim=c(5, 10), ylim=c(2, 3))
```

## Arrel Quadrada



## Gràfics amb línies i llegenda

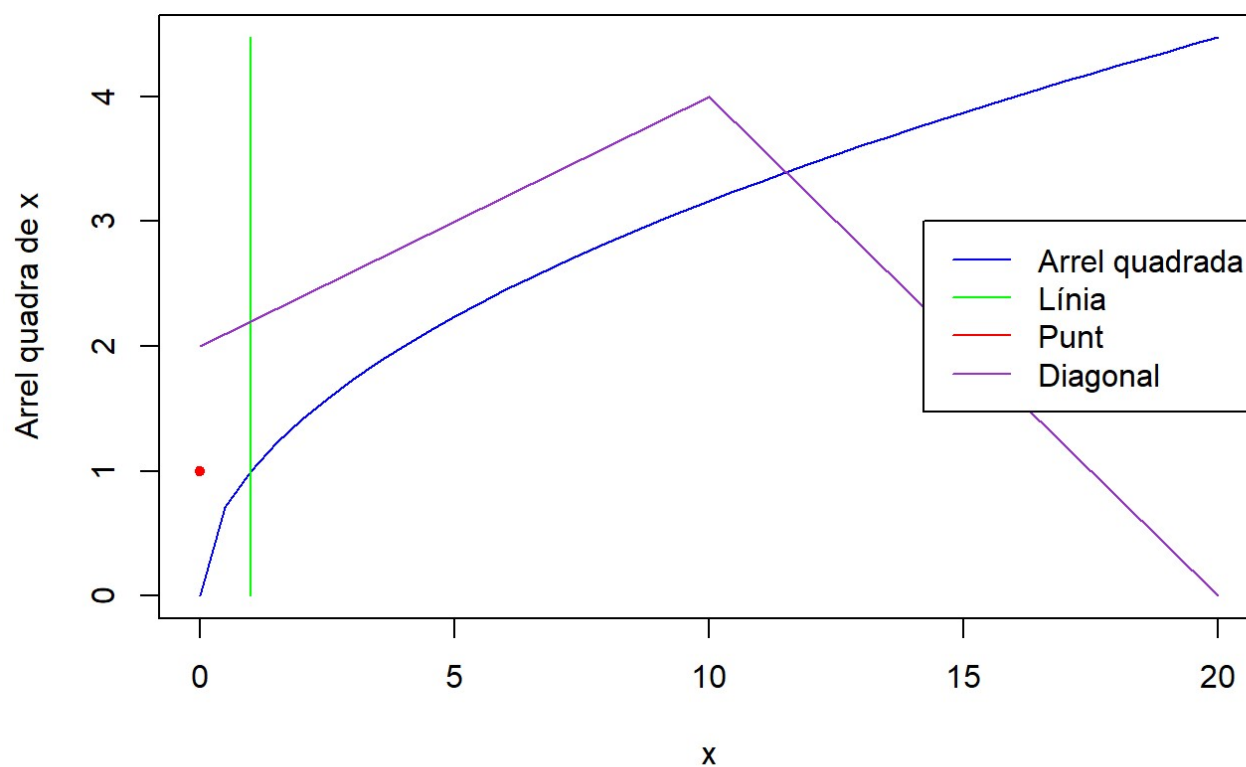
Afegim més d'una línia, punts i llegenda

```
plot(seq(0, 20, 0.5), sqrt(seq(0, 20, 0.5)), main="Arrel Quadrada", xlab = "x", ylab = "Arrel quadra de x", pch = 20, col="blue", type='l')

points(0, 1, col="red", pch = 20)
points(c(1,1), c(0, sqrt(20)), col="green", type='l')
points(c(0, 10, 20), c(2, 4, 0), col="darkorchid", type='l')

legend("right", legend=c("Arrel quadrada", "Línia", "Punt", "Diagonal"), col=c("blue", "green", "red", "darkorchid"), lwd=c(1, 1, 1, 1))
```

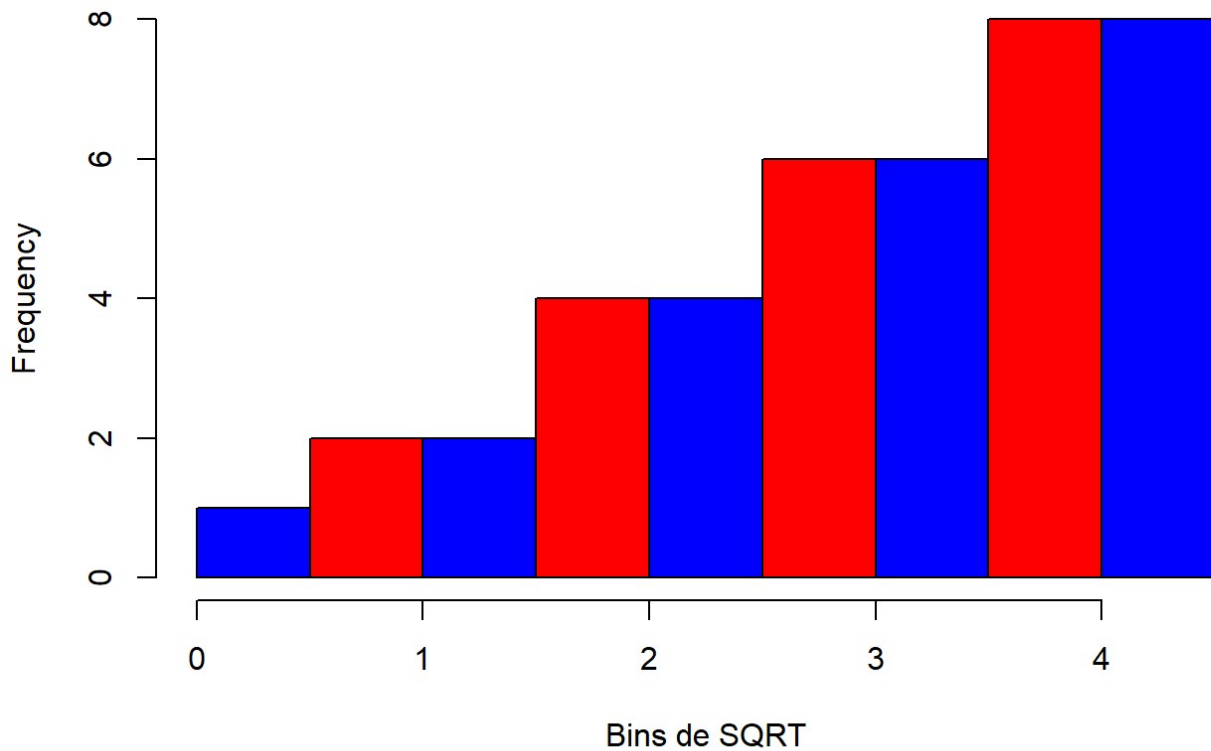
## Arrel Quadrada



## Histograma

```
hist(sqrt(seq(0, 20, 0.5)), col=c("blue", "red", "blue", "red", "blue", "red", "blue", "red", "blue"), xlab = "Bins de SQRT")
```

**Histogram of sqrt(seq(0, 20, 0.5))**



## Gràfic de barres

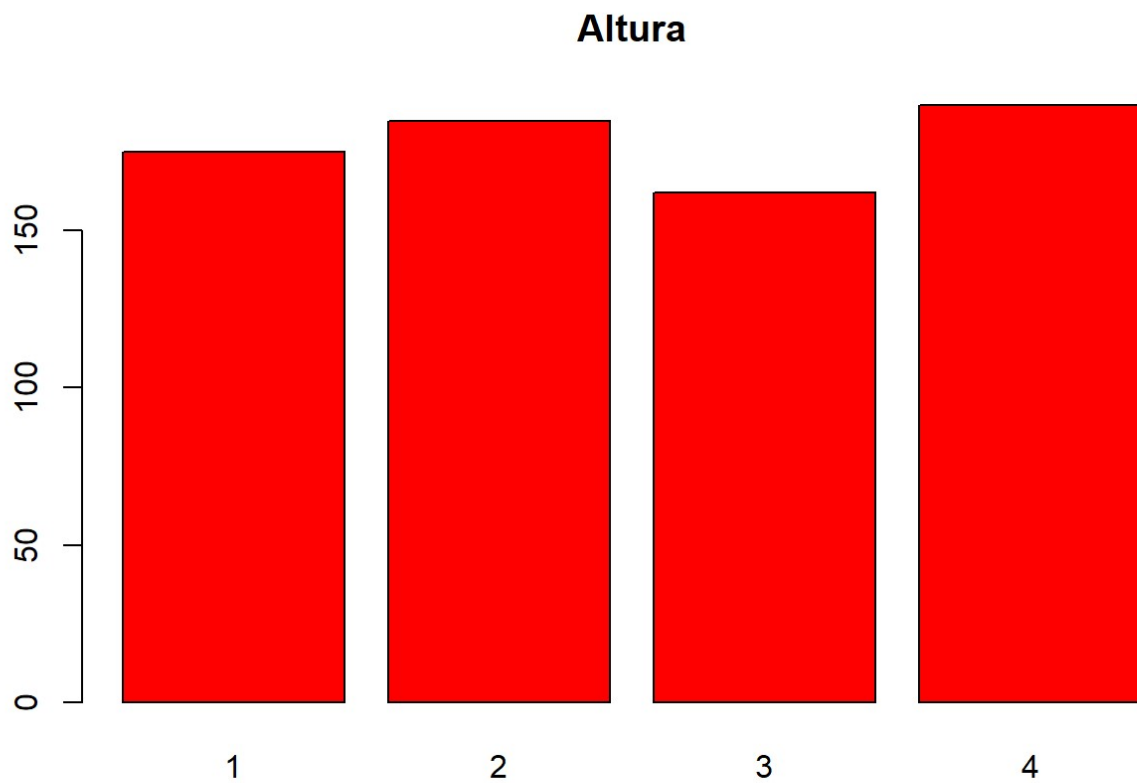
Presentam un nou tipus de gràfic un gràfic de barres. Per emprar-ho primerament cream un dataframe

```
sexe = c("H", "D", "H", "H")
edat = c(17, 25, 47, 58)
germans = c(1, 0, 0, 2)

df.gent = data.frame(sexe, edat, germans)
df.gent$Altura = c(175, 185, 162, 190)
```

Una vegada tenim les dades de mostra cream el gràfic

```
barplot(df.gent$Altura, names.arg = 1:length(df.gent$Altura), col="red", main="Altura")
```



## Gràfics de tarta

Mostram un nou tipus de gràfic, un **gràfic de tarta**

```
aparacions = c(15, 10, 10 , 12)
etiquetes = c("Patates", "Perritos", "Gelats", "Hamburguesses")

pie(aparacions, etiquetes, main="Ventes McDonalds", col=c("red", "blue", "green",
"pink"), border=0)
```

## Ventes McDonalds

