LabMei3

Diego Fernández

16/11/2021

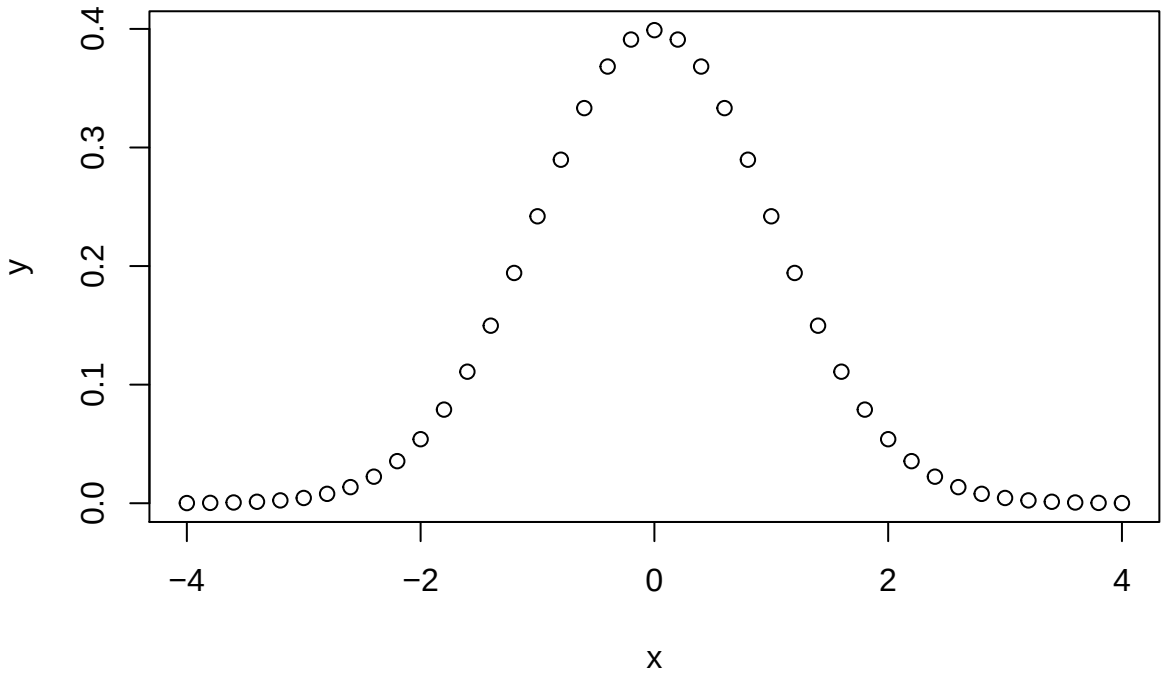
```
print("buenos dias")
```

```
## [1] "buenos dias"
```

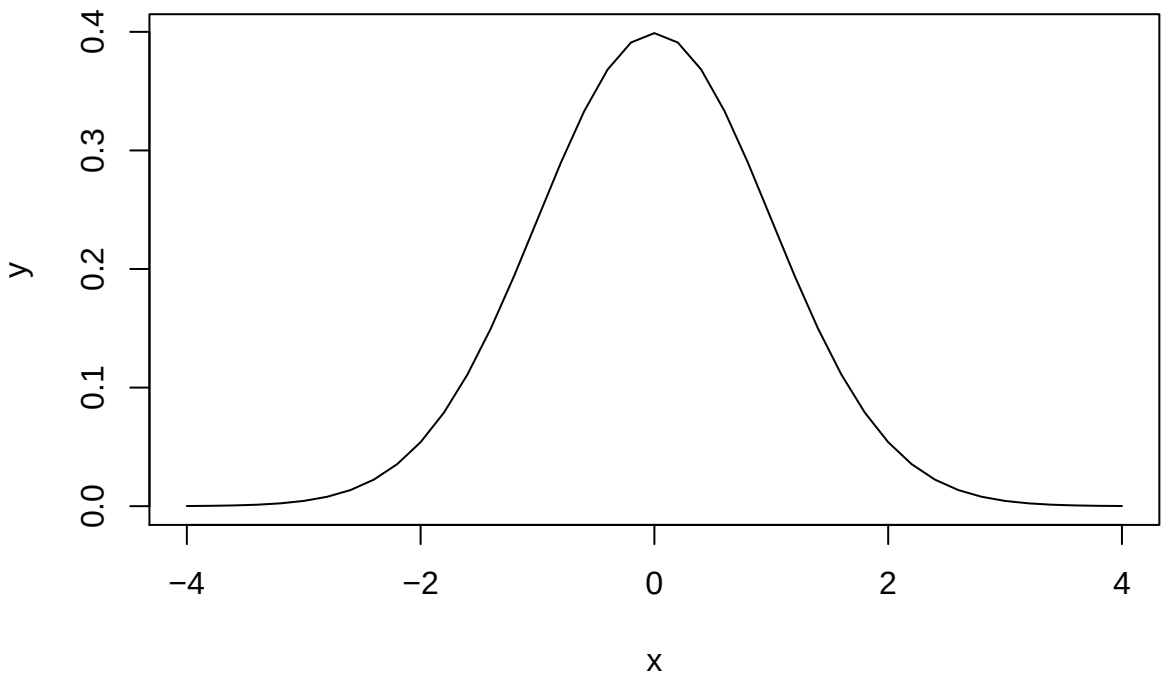
#ejercicio 1. Representar la distribucion normal

d -> funcion de densidad p -> funcion de distribucion q -> calcula el quantil r -> random

```
x <- seq(-4, 4, 0.2)
y <- dnorm(x)

plot(x,y)
```

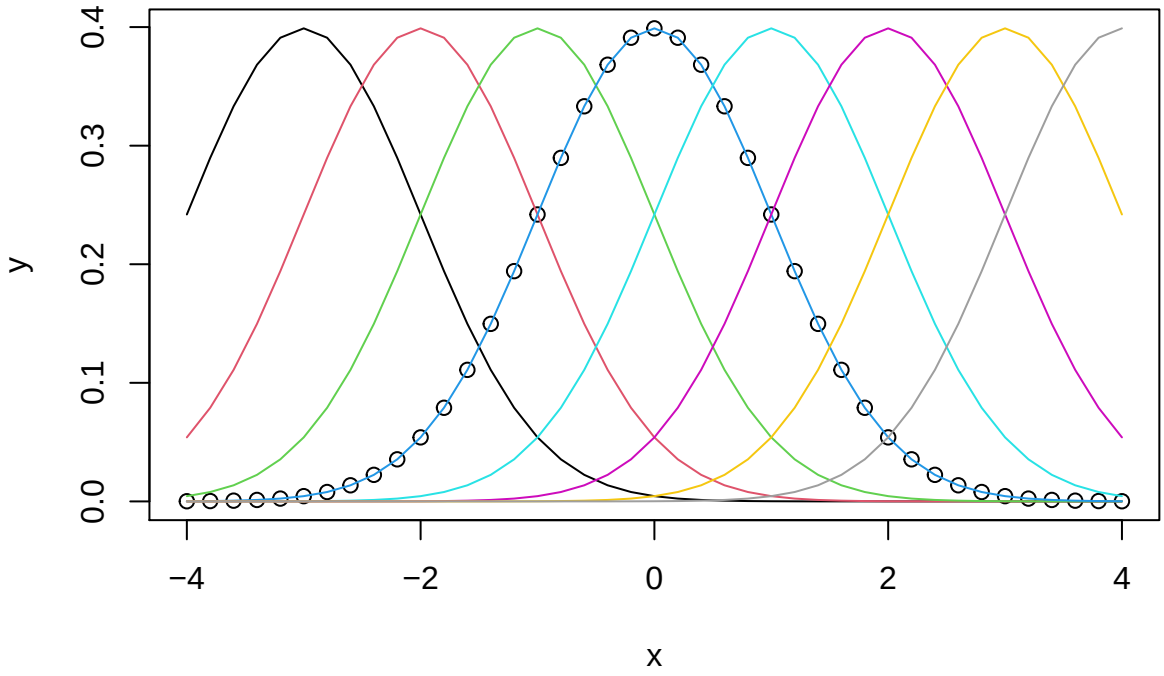


```r
plot(x,y, type = "l")
```



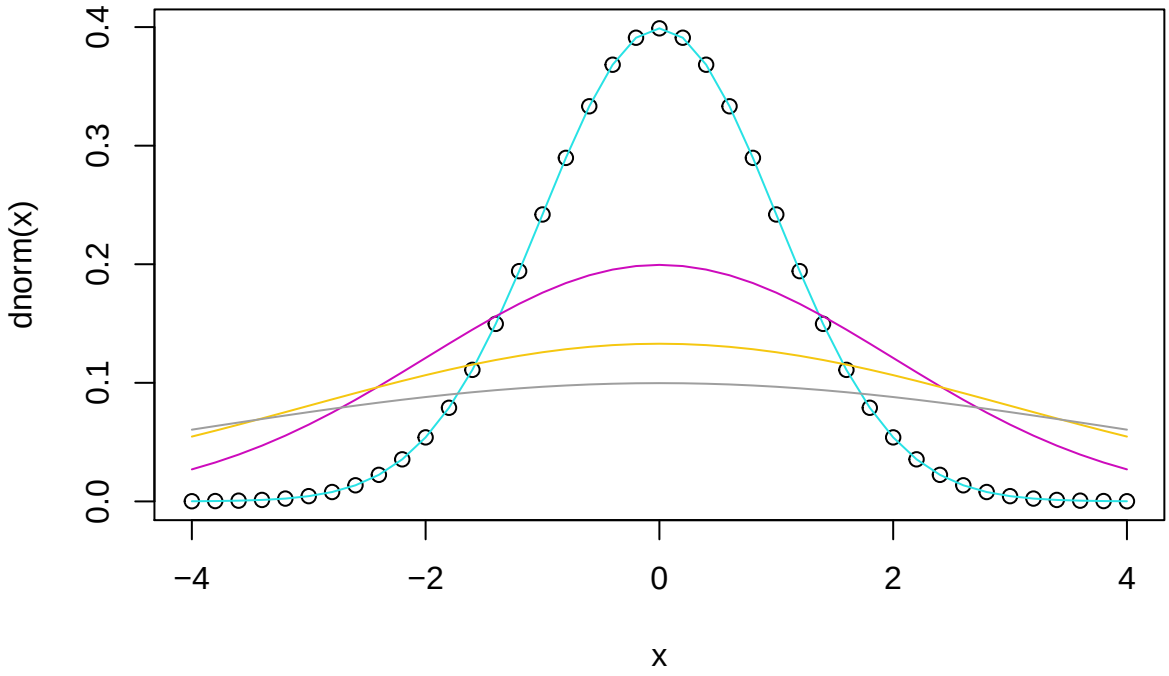
#ejercicio 2. Modificar la media

```r
x <- seq(-4, 4, 0.2)
y <- dnorm(x)
plot(x,y)

for (m in -4:4) {

  y <- dnorm(x,m)
  lines(x,y, col = m + 4)
}
```



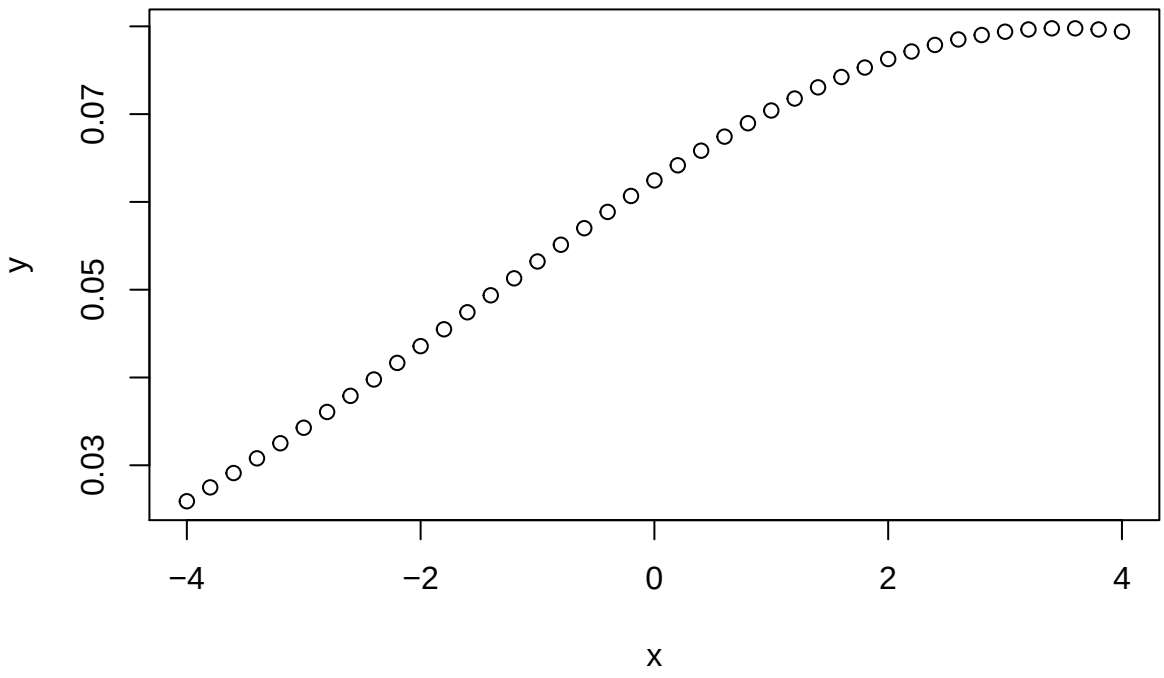
#ejercicio 3. Experimentando con la desviación típica

```
x <- seq(-4, 4, 0.2)
y <- dnorm(x)

plot(x, dnorm(x))
for (s in 1:4) {
  y <- dnorm(x, sd = s)
  lines(x,y, col = s + 4)
}
```



#ejercicio 4.

```
m <- 3.5
s <- 5
  #Dibujamos en [m-4*s, m+4*s]

  x <- seq(-4, 4, 0.2)
  y <- dnorm(x,m,s)


  plot(x, y)

  a <- rnorm(1, m, s)
  points(a, 0)
```

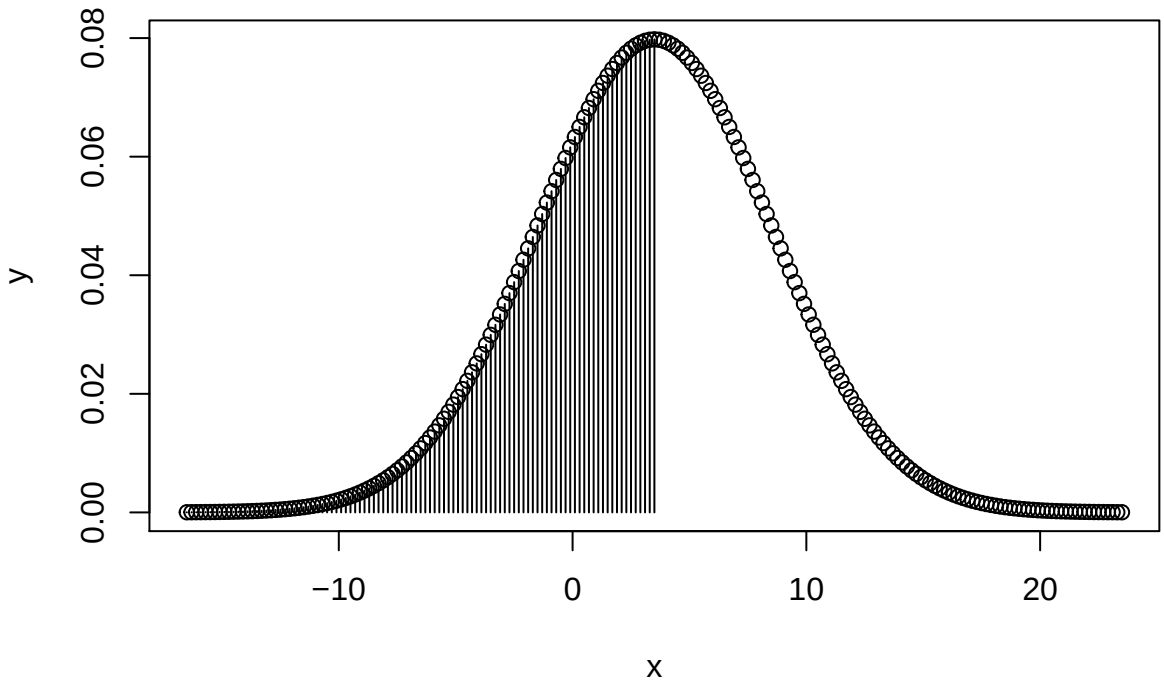



```
  pnorm(a,m,s)
```

```
## [1] 0.5075228
```

#ejercicio 5.

```
m <- 3.5
s <- 5

x <- seq(m-4*s, m+4*s, 0.2)
  y <- dnorm(x, m ,s)



x2 <- seq(m-4*s, a, 0.2)
y2 <- dnorm(x2, m, s)
plot(x,y)
points(x2, y2, type = "h")
```




```
p <- pnorm(a,m,s,lower.tail = FALSE)

x3 <- seq(a, m+4*s)
y3 <- dnorm(x3)
```

#ejercicio 6. Usar t-student

```
#dt(x, dof = k)
#pt


#dchisq(x, k)
#pchisq(a, k)
```