Representacion Grafica en R

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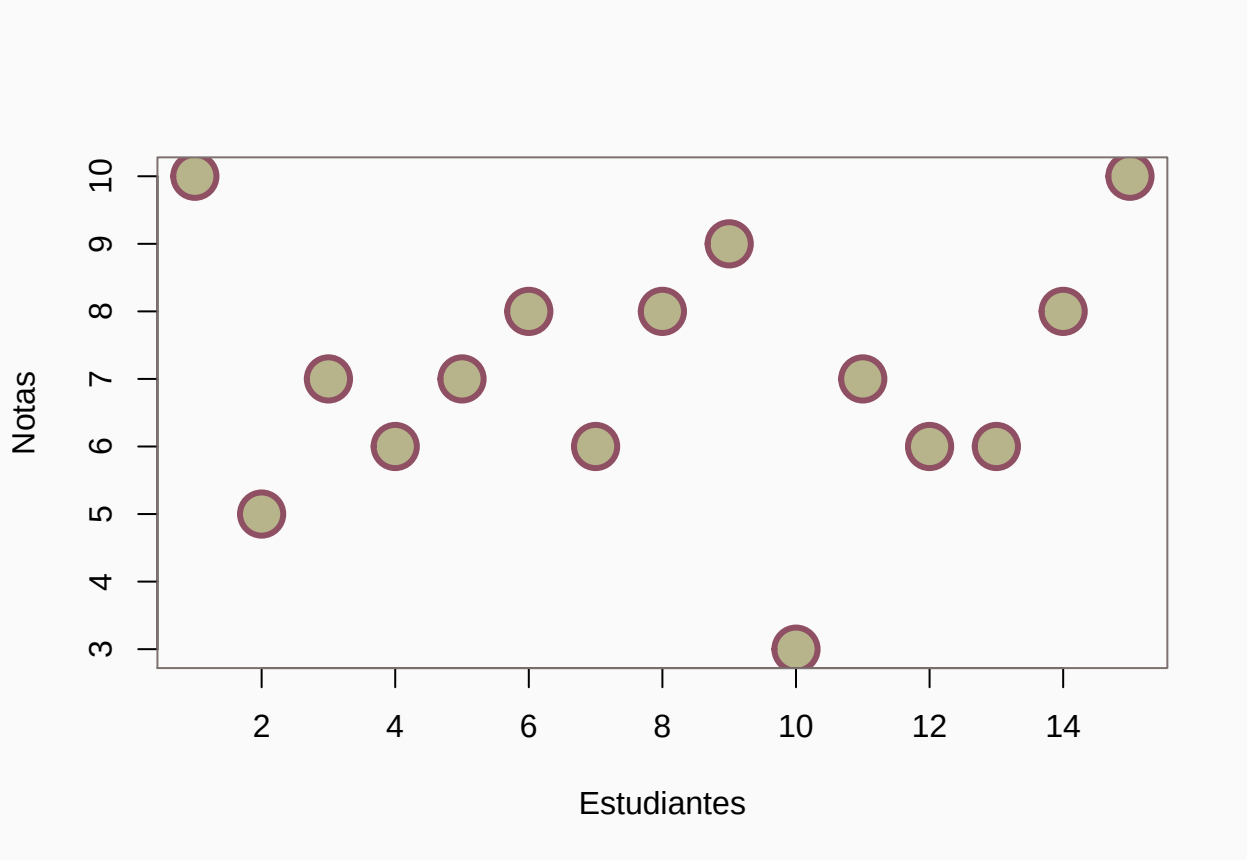
Representacion Grafica

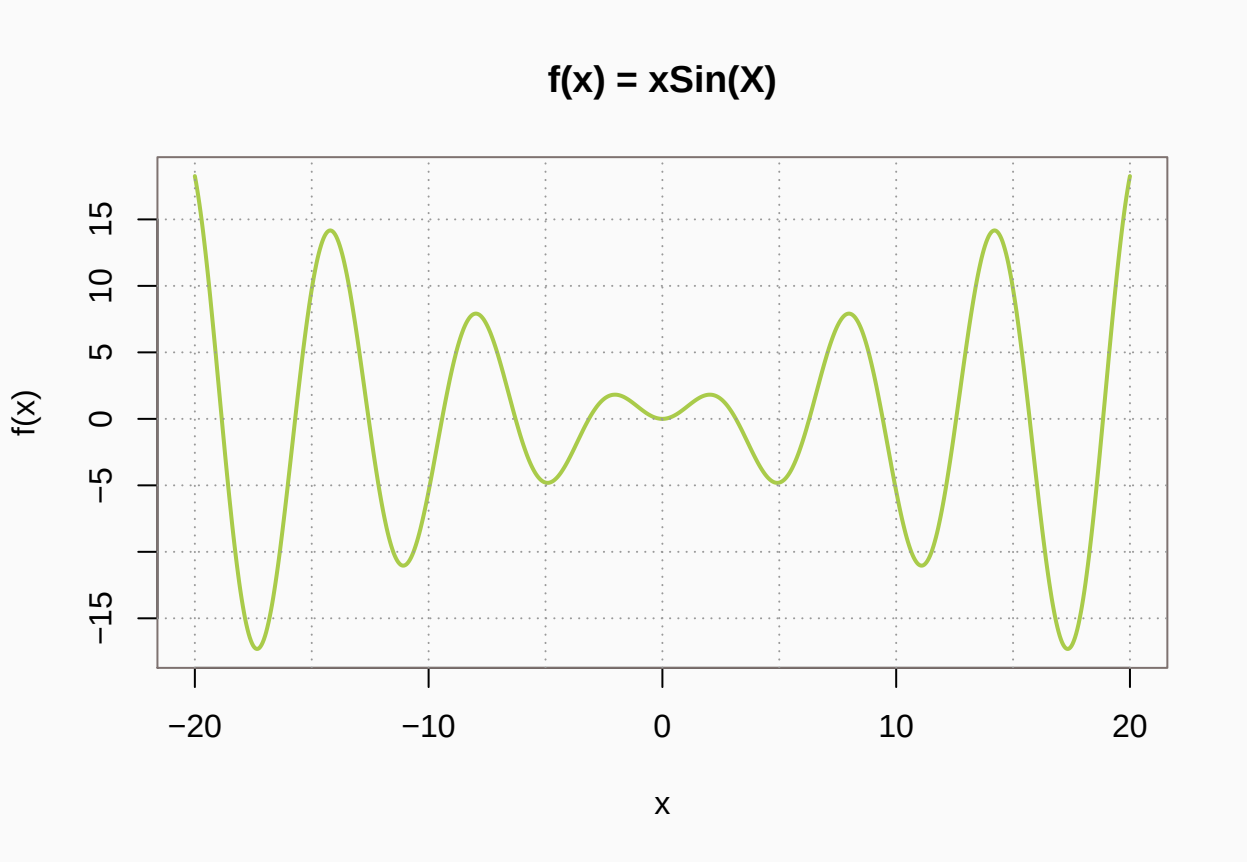
```
par(bg = "#fafafa", col="#7E7270")
estudiantes <- 1:15
notas <- c(10,5,7,6,7,8,6,8,9,3,7,6,6,8,10)
plot(estudiantes, notas, xlab = "Estudiantes", ylab = "Notas", pch = 21, col = "#8F5064",
     bg = "#B7B48C", cex = 3, lwd = 3)
```



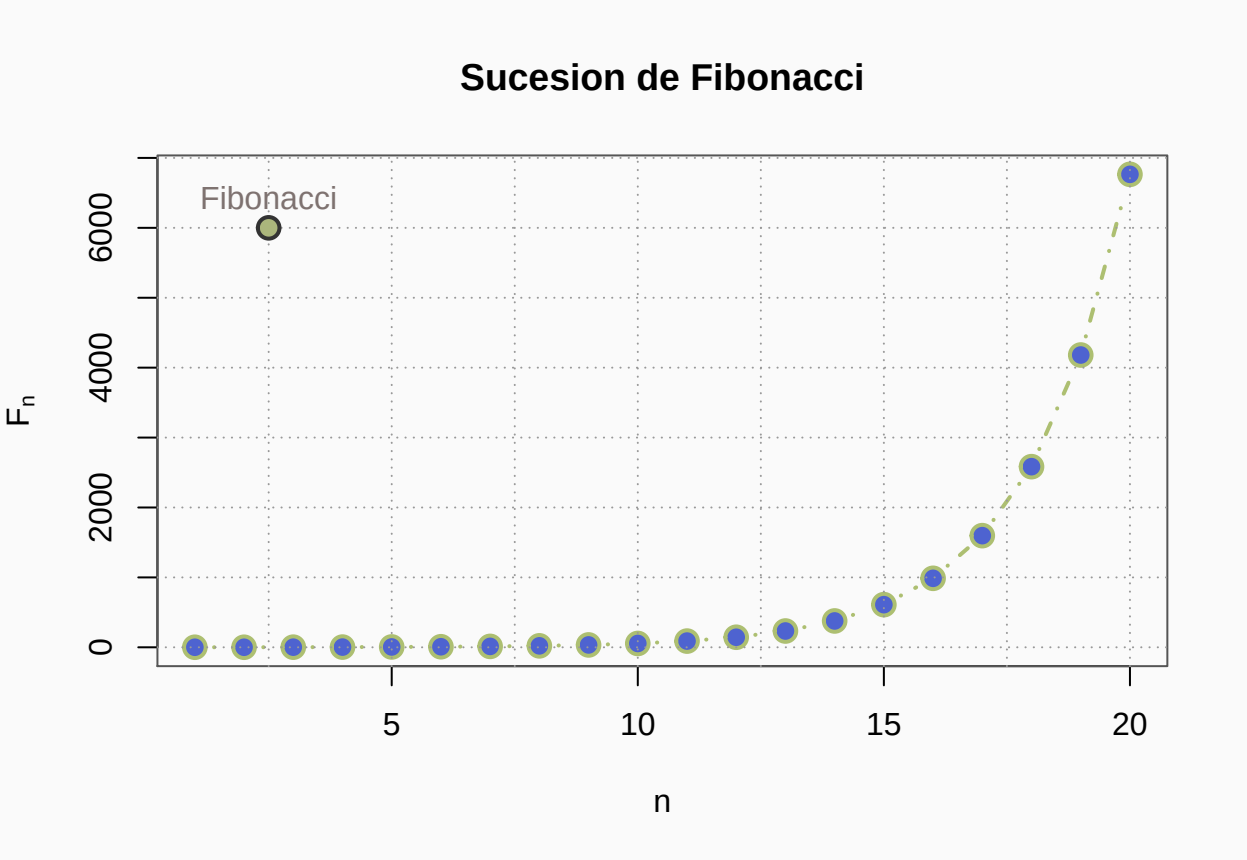

```
x <- seq(-20,20,0.05)
length(x)
```

```
## [1] 801
```

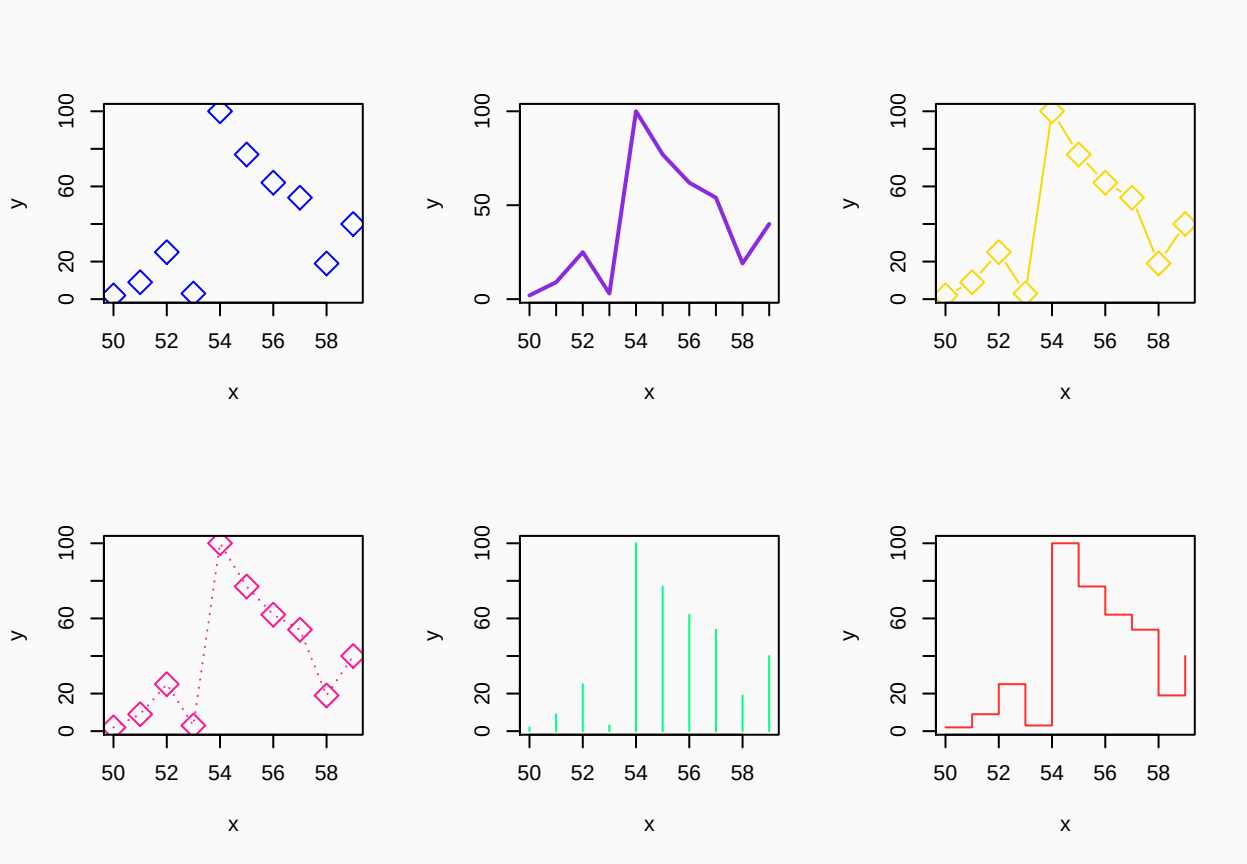
```r
par(bg = "#fafafa", col="#7E7270")
plot(x,x*sin(x), xlab = expression(x), ylab = "f(x)", main = "f(x) = xSin(X)",
     col = "#A9CB4A", type = "l", lty = 1, lwd = 2)
abline(h = seq(-15,15,5), v = seq(-20,20,5), col = "#999999", lty = 3)
```



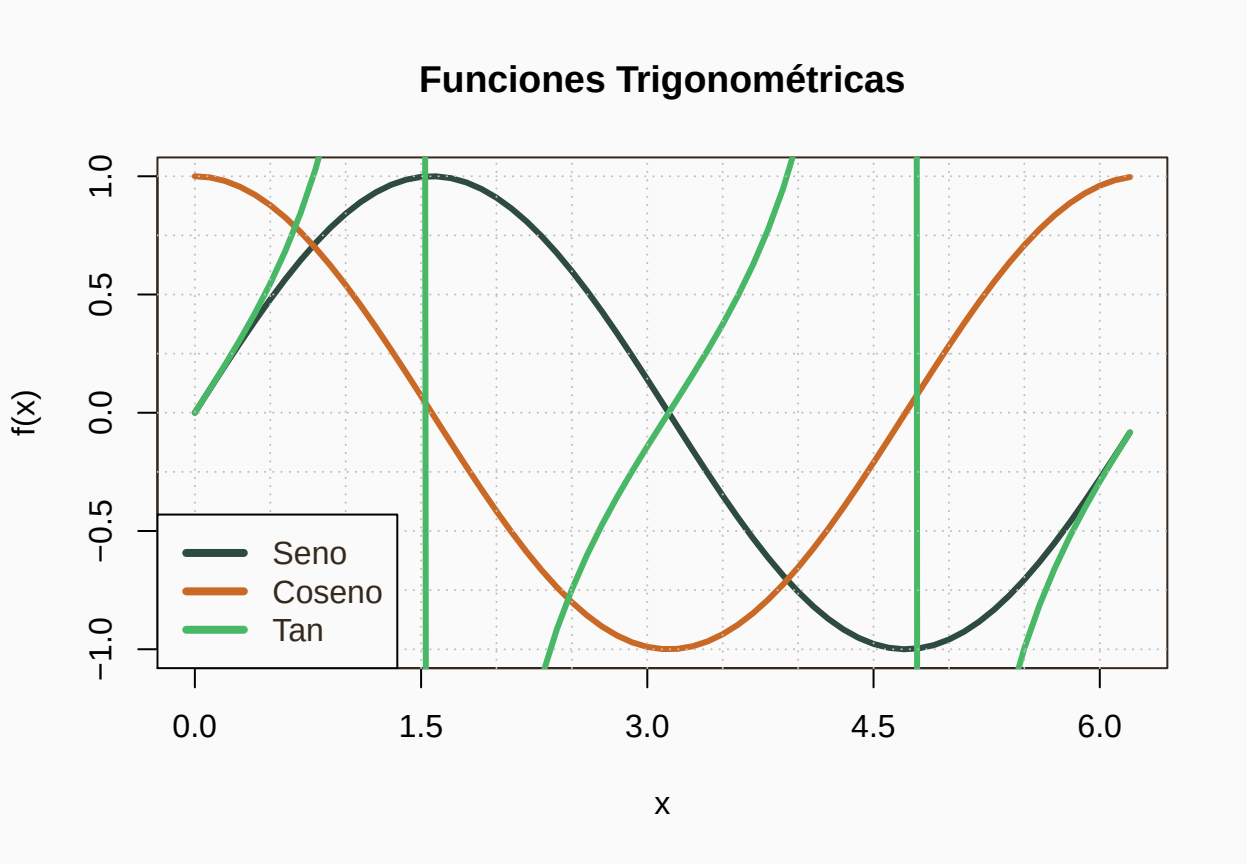

```r
n <- 1:20
fib <- (1/sqrt(5))*(((1+sqrt(5))/2)^n-((1-sqrt(5))/2)^n)
par(bg = "#fafafa", col="#555555")
plot(n, fib, pch = 21, cex = 1.5, lwd = 2, col = "#ADBF71", bg = "#4E63D0",
     type = "b", lty = 4, xlab = "n", ylab = expression(F[n]), main = "Sucesion de Fibonacci")
abline(h = seq(0,7000,1000), v = seq(0,20,2.5), col = "#999999", lty = 3)
#puntos y texto
points(2.5,6000, pch = 21, cex = 1.5, lwd = 2, col = "#333333", bg = "#ABB67C")
text(2.5, 6000, "Fibonacci", pos = 3, cex = 1, col = "#7E7270")
```




```
par(bg = "#fafafa", mfrow = c(2,3))
x = c(50:59)
y = c(2,9,25,3,100,77,62,54,19,40)
plot(x,y, pch = 23, cex = 2, col = "blue", type = "p")
plot(x,y, pch = 23, cex = 2, col = "blueviolet", type = "l", lwd = 2, xaxp = c(50,59,9),
     yaxp = c(0,100,2))
plot(x,y, pch = 23, cex = 2, col = "gold", type = "b")
plot(x,y, pch = 23, cex = 2, col = "deeppink", type = "o", lty = 3)
plot(x,y, pch = 23, cex = 2, col = "springgreen", type = "h")
plot(x,y, pch = 23, cex = 2, col = "firebrick1", type = "s")
```

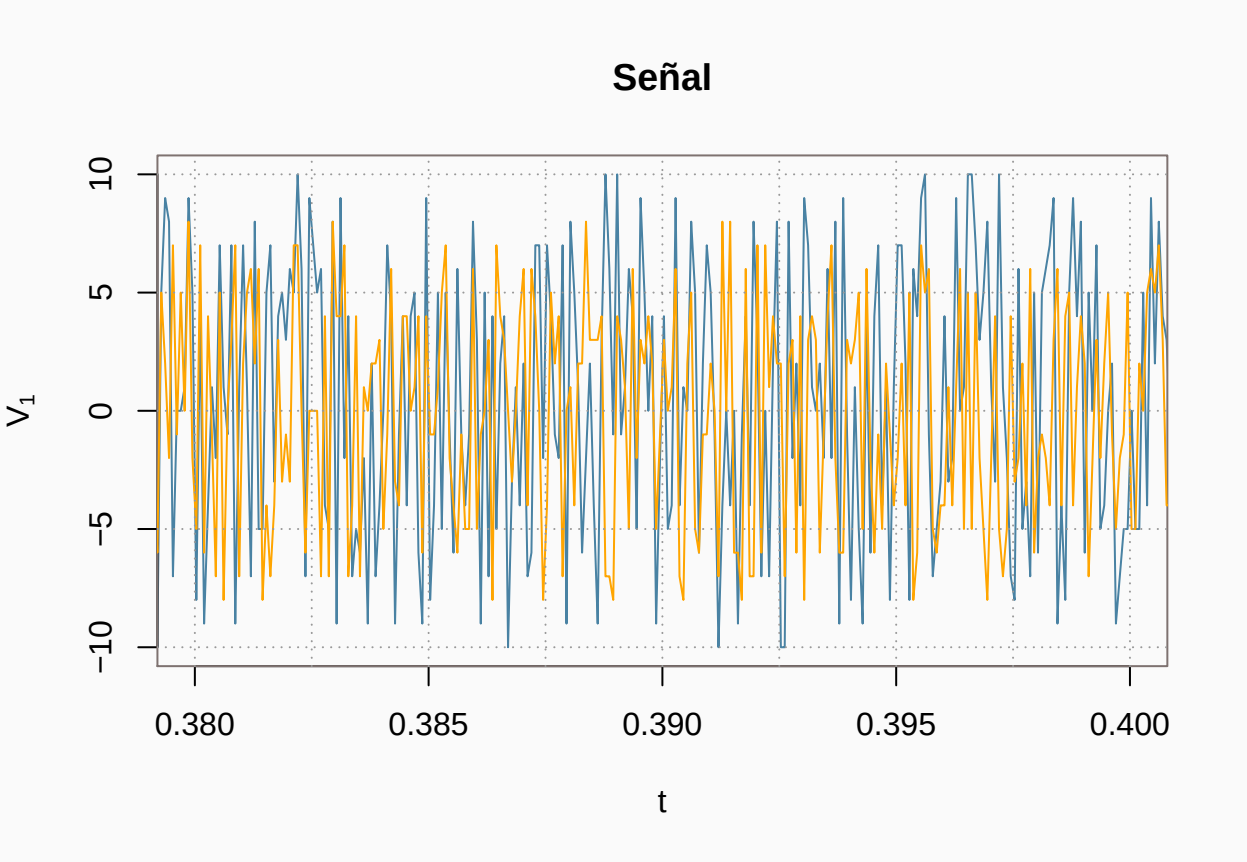



```
par(bg = "#fafafa", col="#35291D")
x <- seq(0,2*pi,0.1)
f1 = plot(x, sin(x), type = "l", col = "#2E4B3F", lwd = 3, xlab = "x", ylab = "f(x)",
          main = "Funciones Trigonométricas", xaxp = c(0,6,4))
f2 = lines(x, cos(x), col = "#C96925", lwd = 3)
f3 = lines(x, tan(x), col = "#48B866", lwd = 3)
ejes = abline(h = seq(-1,1,0.5/2),v = seq(0,6,0.5), col = "grey", lty = 3)
legend("bottomleft", legend = c("Seno", "Coseno", "Tan"),
       col = c("#2E4B3F", "#C96925", "#48B866"), lwd = 4, lty = 1)
```



Señal Basica con Ruido

```
t <- seq(0,1,length.out = 12000)
v1 <-  round(20*runif(12000)-10)
v2 <- round(16*runif(12000)-8)
par(bg = "#fafafa", col="#7E7270")
plot(t,v1, xlim = c(0.38,0.40), xlab = expression(t), ylab = expression(V[1]),
     main = "Señal", col = "#4982A3", type = "l", lty = 1, lwd = 1)
lines(t, v2, xlim = c(0.38,0.40), col = "orange", type = "l", lty = 1, lwd = 1)
abline(h = seq(-15,15,5), v = seq(0.38,0.40,(0.385-0.38)/2), col = "#999999", lty = 3)
```



Gráfica Usando el paquete Plotly

```
library(plotly)
```

```
## Loading required package: ggplot2

## Warning: package 'ggplot2' was built under R version 3.6.2

##
## Attaching package: 'plotly'

## The following object is masked from 'package:ggplot2':
##
##     last_plot

## The following object is masked from 'package:stats':
##
##     filter

## The following object is masked from 'package:graphics':
##
##     layout
```

```
fig <- plot_ly(midwest, x = ~percollege, color = ~state, type = "box")
fig
```