

Distribución Uniforme

Curso de Estadística Descriptiva

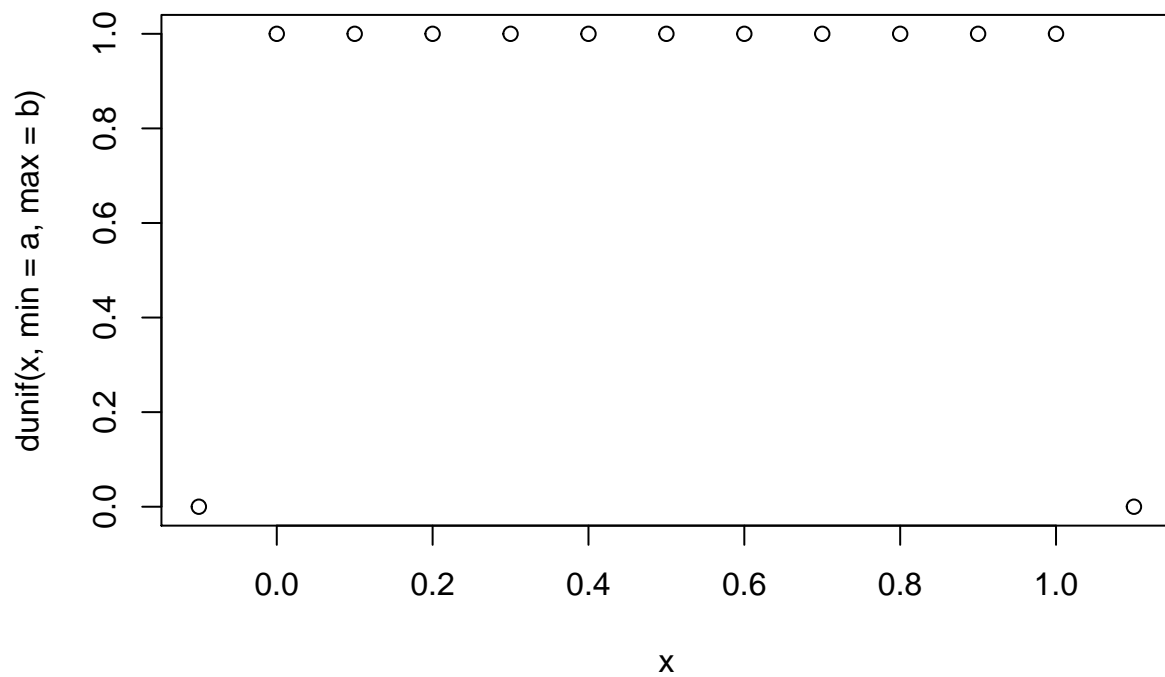
7/2/2019

Distribución Uniforme

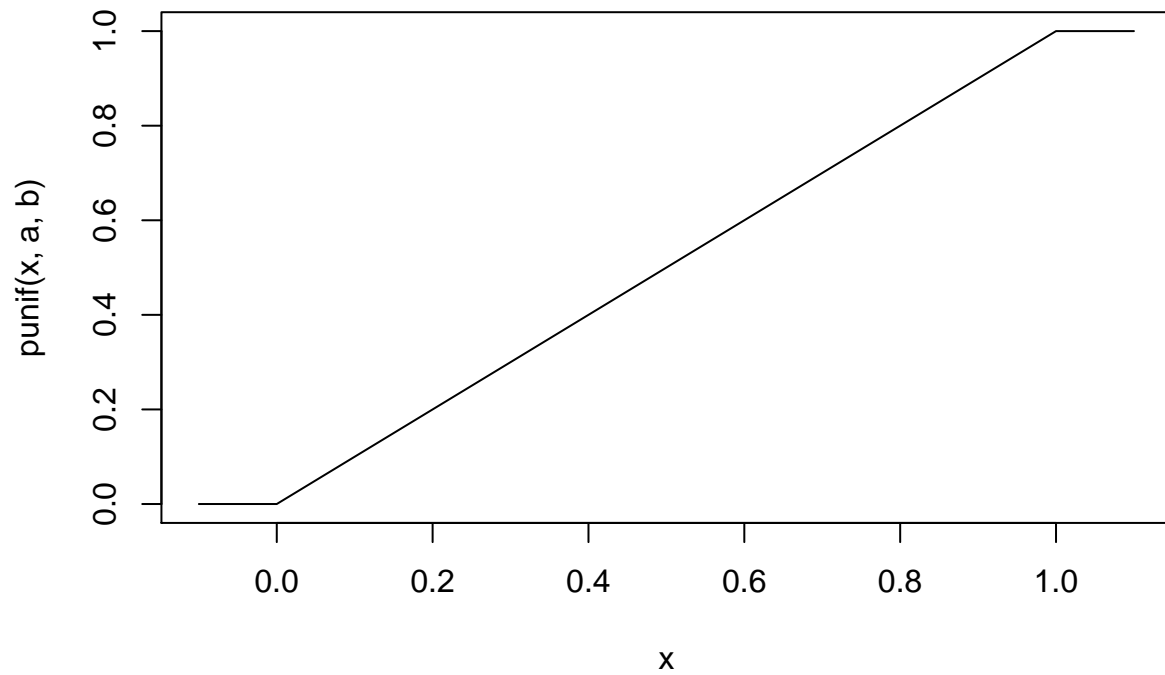
Supongamos que $X \sim U([0, 1])$ entonces podemos estudiar sus parámetros

En R

```
a = 0  
b = 1  
  
x = seq(-0.1, 1.1, 0.1)  
plot(x, dunif(x, min = a, max = b))
```



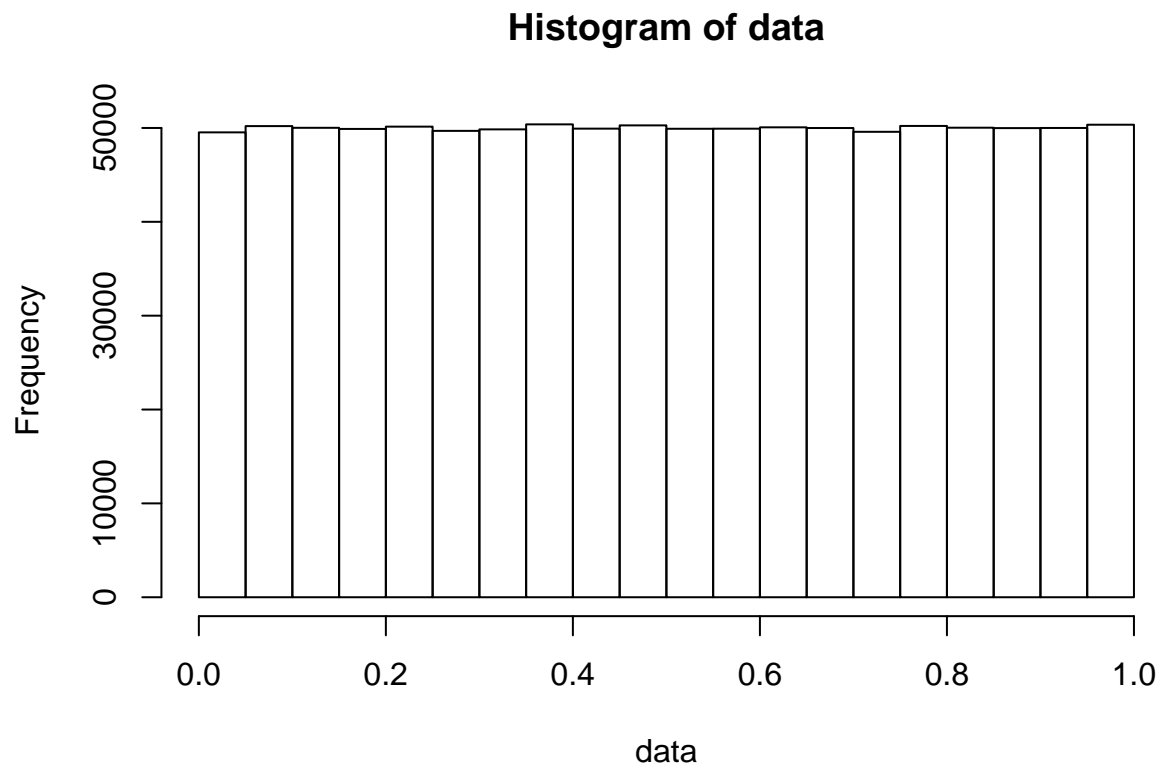
```
plot(x, punif(x, a, b), type = "l")
```



```
qunif(0.5, a, b)
```

```
## [1] 0.5
```

```
runif(1000000, a, b) -> data  
hist(data)
```



En Python

```
from scipy.stats import uniform
import matplotlib.pyplot as plt
import numpy as np

a = 0
b = 1

loc = a
scale = b-a

fig, ax = plt.subplots(1,1)

rv = uniform(loc = loc, scale = scale)

mean, var, skew, kurt = rv.stats(moments = 'mvsk')
print("Media %f"%mean)

## Media 0.500000
```

```

print("Varianza %f"%var)

## Varianza 0.083333

print("Sesgo %f"%skew)

## Sesgo 0.000000

print("Curtosis %f"%kurt)

## Curtosis -1.200000

x = np.linspace(-0.1, 1.1, 120)
ax.plot(x, rv.pdf(x), 'k-', lw = 2, label = "U(0,1)")

r = rv.rvs(size = 100000)
ax.hist(r, density = True, histtype = "stepfilled", alpha = 0.25)

## (array([0.9994142 , 1.00271424, 1.00061421, 0.99641415, 1.01101436,
##         1.00171423, 1.00151423, 0.99021406, 1.00261424, 0.99391412]), array([1.23178297e-05, 1.000108
##         4.00006636e-01, 5.00005216e-01, 6.00003795e-01, 7.00002375e-01,
##         8.00000955e-01, 8.99999534e-01, 9.9998114e-01]), [matplotlib.patches.Polygon object at 0x00

ax.legend(loc = 'best', frameon = False)
plt.show()

```

