Distribución Uniforme

Curso de Estadística Descriptiva

7/2/2019

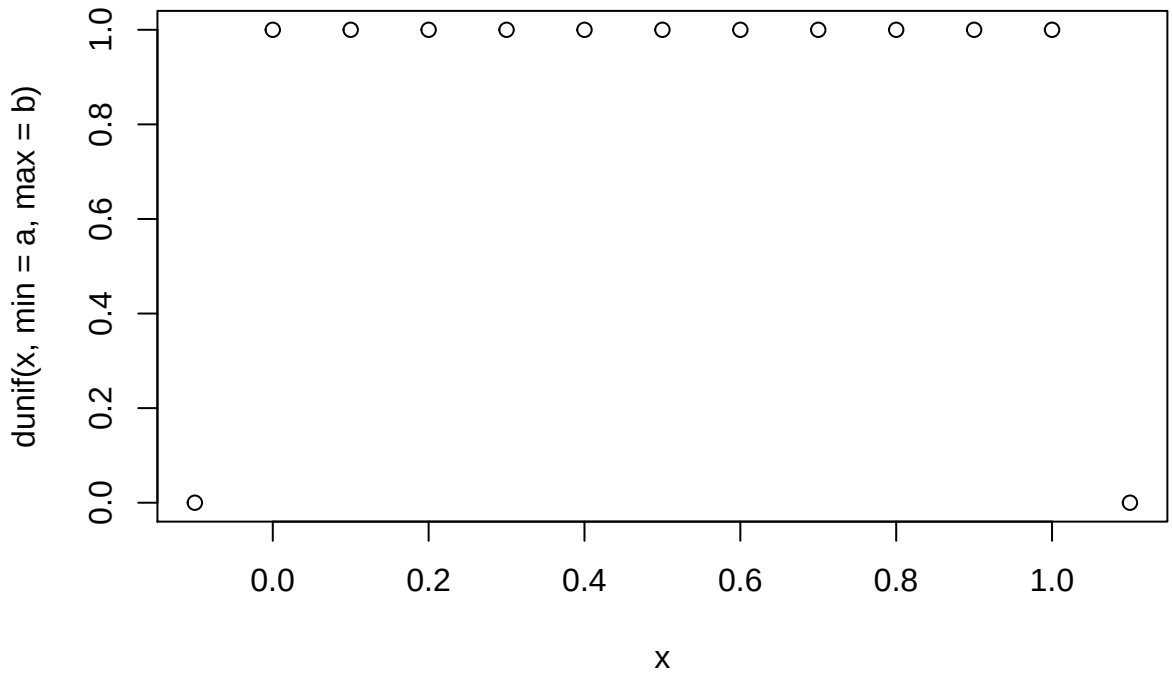
Distribución Uniforme

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

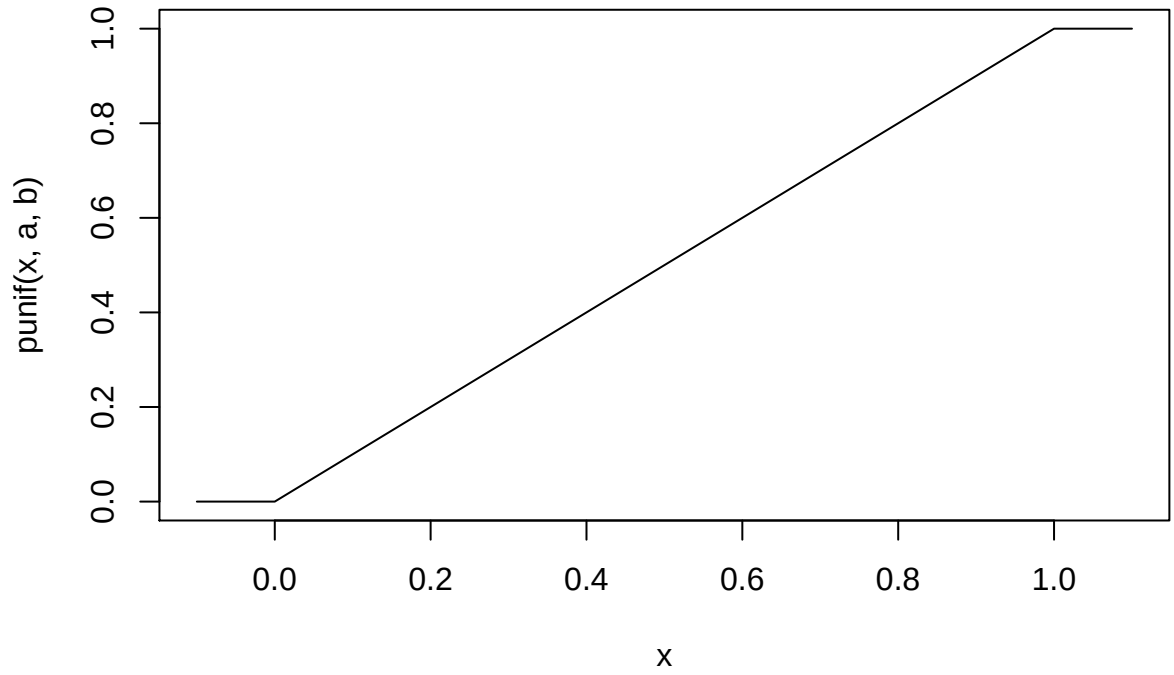
En R

```
a = 0
b = 1

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



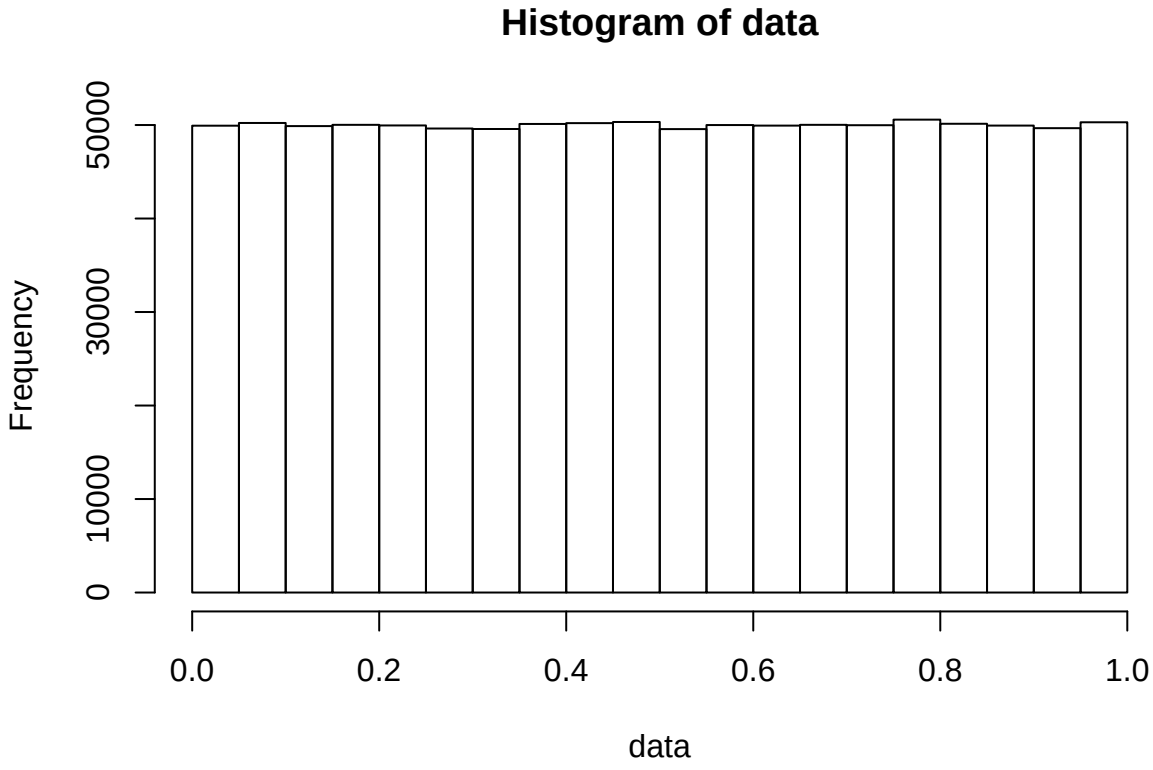

```
plot(x, punif(x, a, b), type = "l")
```




```
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
```

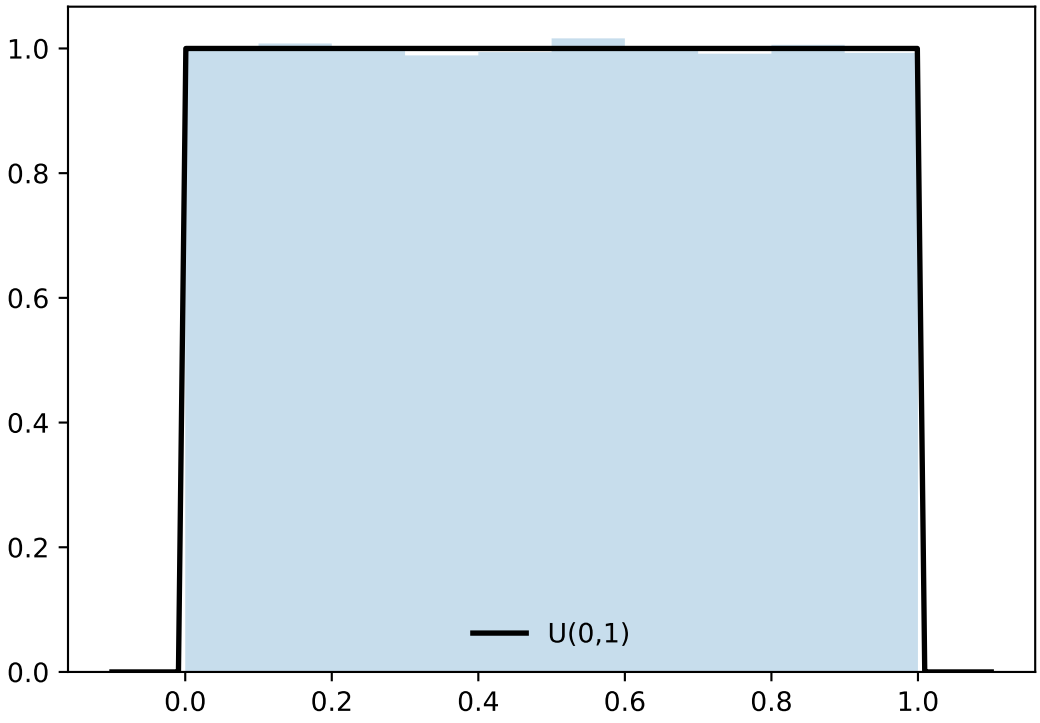
```
print("Sesgo %f"%skew)
```

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


1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
U(0,1)