Tarea 8

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Ejercicio 1

$$X \sim B\left(5, \frac{1}{6}\right)$$

- $E(X)$ y $VAR(X)$

```
from scipy.stats import binom

n = 5
p = 1/6
m,v = binom.stats(n = n, p = p, moments = 'mv')

print(f"E(X) = {m}")
```

```
## E(X) = 0.8333333333333333
```

```
print(f"VAR(X) = {v}")
```

```
## VAR(X) = 0.6944444444444444
```

- $P(1 \leq X < 4) = P(1 \leq X \leq 3) = P(X \leq 3) - P(X \leq 1)$

```
binom.cdf(3,n,p) - binom.cdf(1,n,p)
```

```
## 0.1929012345679011
```

- $P(X \geq 2) = 1 - P(X < 2) = 1 - P(X \leq 1)$

```
1 - binom.cdf(1,n,p)
```

```
## 0.19624485596707808
```

Ejercicio 2

Sea X : "Número de USBs defectuosos"

$$X \sim B\left(10, \frac{1}{10}\right)$$

- $P(X = 0)$

```
n = 10
p = 1/10

binom.pmf(0,n,p)
```

```
## 0.34867844009999993
```

- $E(X)$

```python
m = binom.stats(n = n, p = p, moments = 'm')

print(f"E(X) = {m}")
```

```
## E(X) = 1.0
```