



Exponential Distribution

[< Previous](#)[Next >](#)

Exponential Distribution

Exponential distribution is used for describing time till next event e.g. failure/success etc.

It has two parameters:

scale - inverse of rate (see lam in poisson distribution) defaults to 1.0.

size - The shape of the returned array.

Example

Draw out a sample for exponential distribution with 2.0 scale with 2x3 size:

```
from numpy import random

x = random.exponential(scale=2, size=(2, 3))

print(x)
```

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Visualization of Exponential Distribution

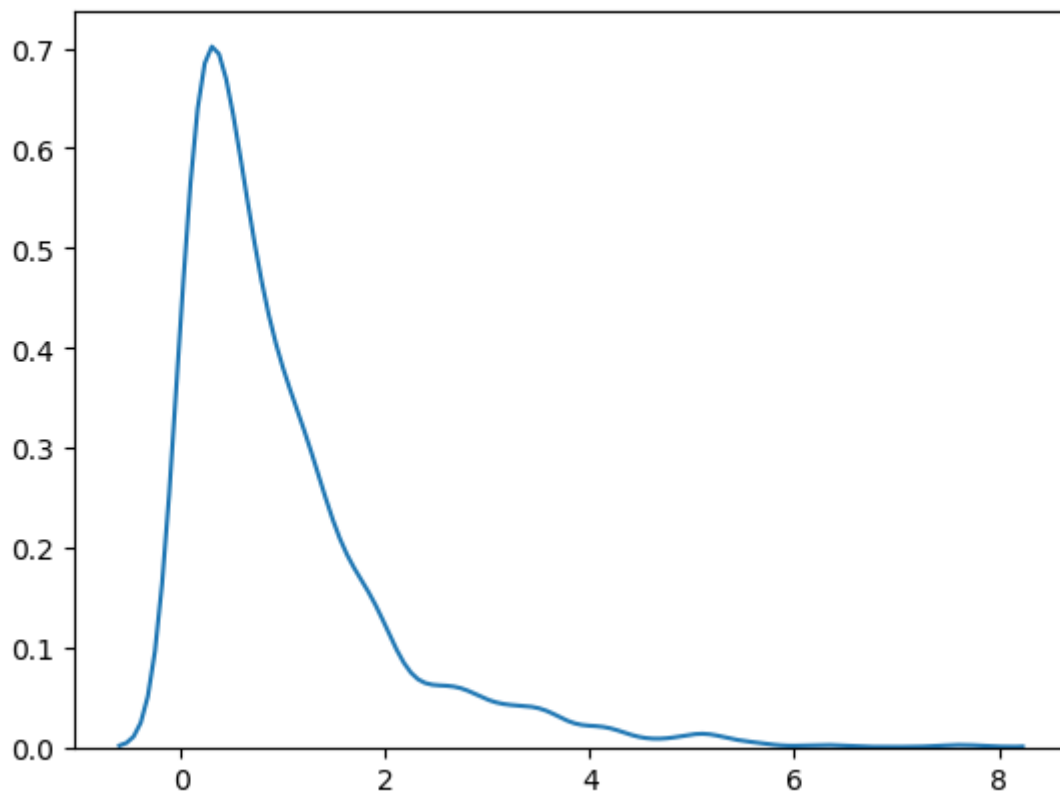
Example

```
from numpy import random
import matplotlib.pyplot as plt
import seaborn as sns

sns.distplot(random.exponential(size=1000), hist=False)

plt.show()
```

Result



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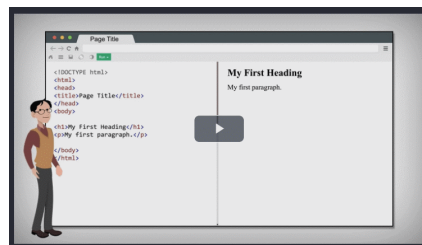
Relation Between Poisson and Exponential Distribution

Poisson distribution deals with number of occurrences of an event in a time period whereas exponential distribution deals with the time between these events.

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