

Probability

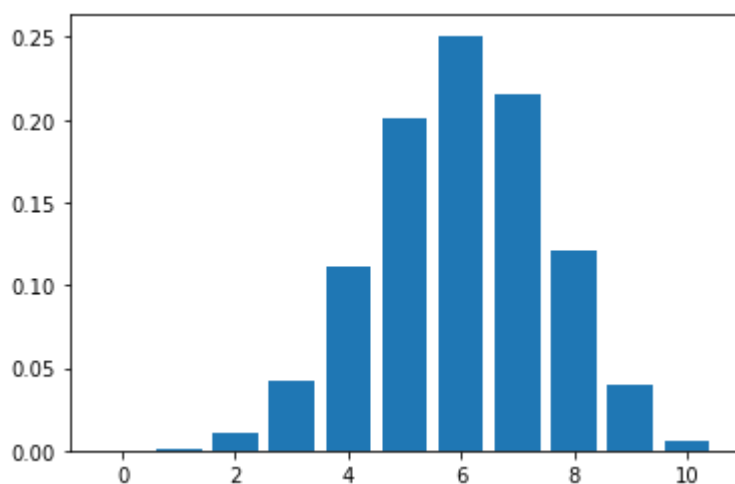
In [18]:

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

Binomial distributions

In [32]:

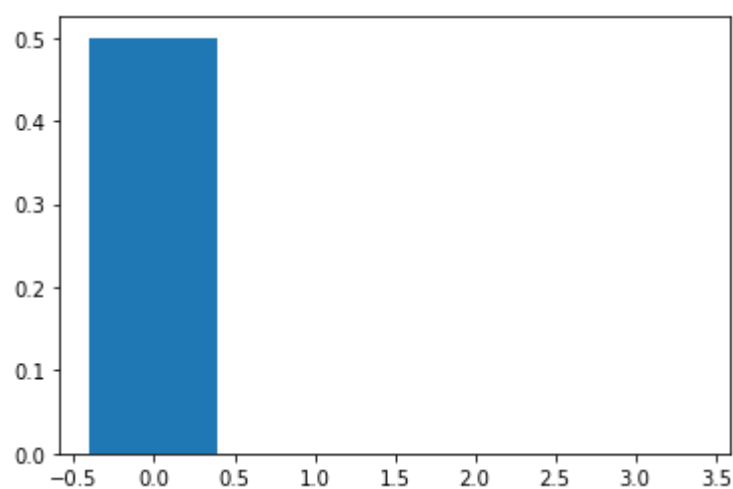
```
n=10
p=0.6
r_values=list(range(n+1))
dist=[binom.pmf(r,n,p) for r in r_values]
plt.bar(r_values,dist)
plt.show()
```



Bernoulli distributions

In [41]:

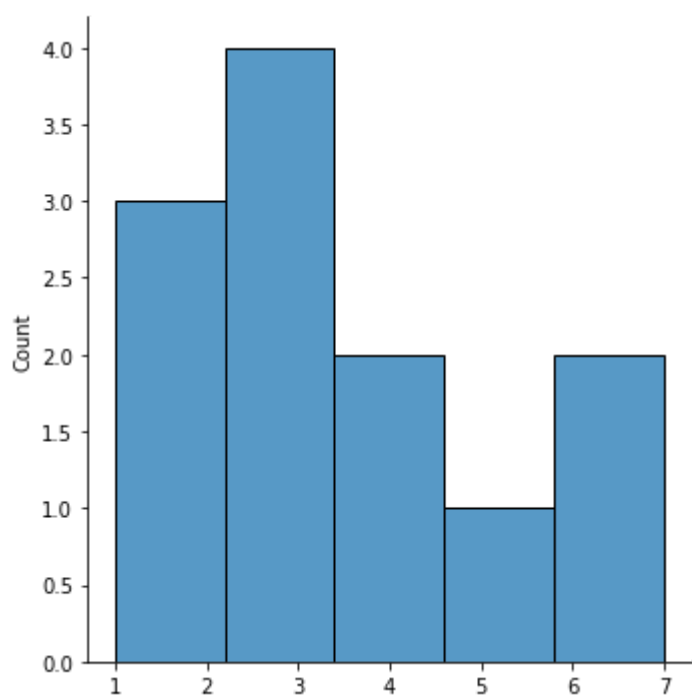
```
from scipy.stats import bernoulli
bd=bernoulli(0.5)
x=[0,3]
plt.bar(x,bd.pmf(x))
plt.show()
```



Poisson distribution

In [33]:

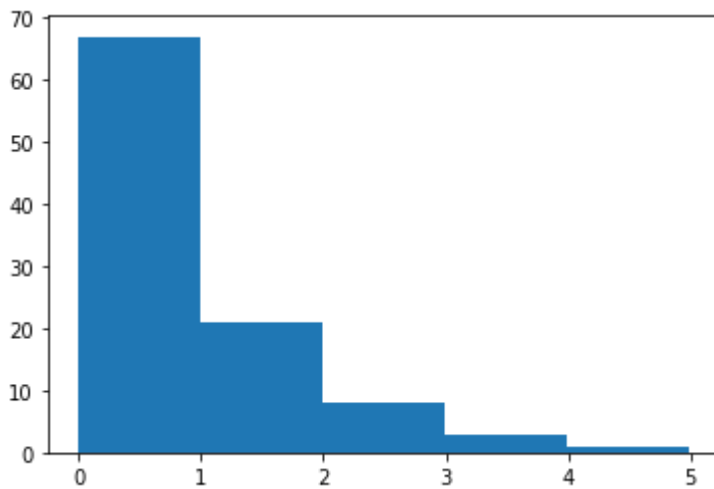
```
from numpy import random
import matplotlib.pyplot as plt
import seaborn as sns
sns.displot(random.poisson(lam=3,size=12))
plt.show()
```



Exponential distributions

In [19]:

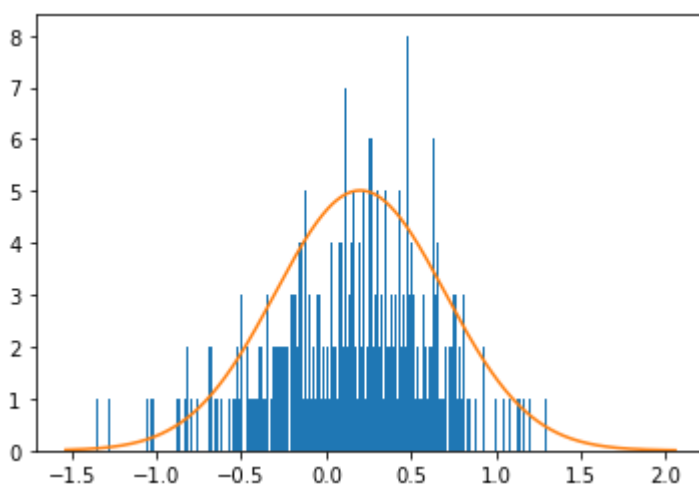
```
from numpy import random
import matplotlib.pyplot as plt
exp=np.random.exponential(1,100)
count,bins,ignored=plt.hist(exp,5)
plt.show()
```



Normal distributions

In [39]:

```
from numpy import random
import matplotlib.pyplot as plt
mu,sigma=0.2,0.5
s=np.random.normal(mu,sigma,1000)
count,bins,ignored=plt.hist(s,1000)
plt.plot(bins,1/sigma*np.sqrt(2*np.pi)*np.exp(-(bins-mu)**2/(2*sigma**2)))
plt.show()
```



In []:

