In [1]:

```
# for inline plots in jupyter
%matplotlib inline
# import matplotlib
import matplotlib.pyplot as plt
# for latex equations
from IPython.display import Math, Latex
# for displaying images
from IPython.core.display import Image
import numpy as np
```

In [2]:

```
# import seaborn
import seaborn as sns
# settings for seaborn plotting style
sns.set(color_codes=True)
# settings for seaborn plot sizes
sns.set(rc={'figure.figsize':(5,5)})
```

Bernoulli Distribution

In [3]:

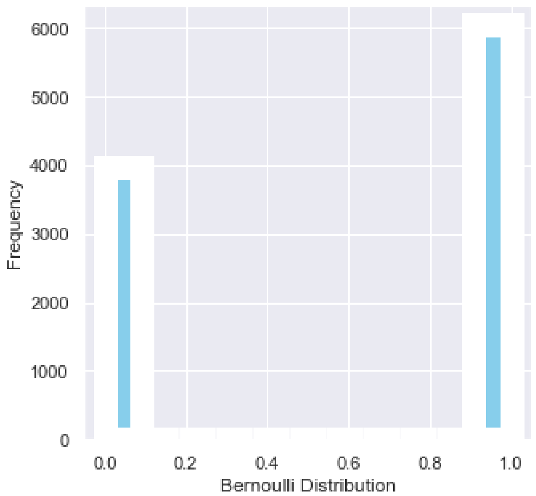
```
from scipy.stats import bernoulli
data_bern = bernoulli.rvs(size=10000,p=0.6)
```

In [4]:

```
ax= sns.distplot(data_bern,
              kde=False,
              color="skyblue",
              hist_kws={"linewidth": 15,'alpha':1})
ax.set(xlabel='Bernoulli Distribution', ylabel='Frequency')
```

Out[4]:

[Text(0, 0.5, 'Frequency'), Text(0.5, 0, 'Bernoulli Distribution')]



BINOMINAL DISTRIBUTION

In [5]:

```
from scipy.stats import binom
data_binom = binom.rvs(n=10,p=0.8,size=10000)
```

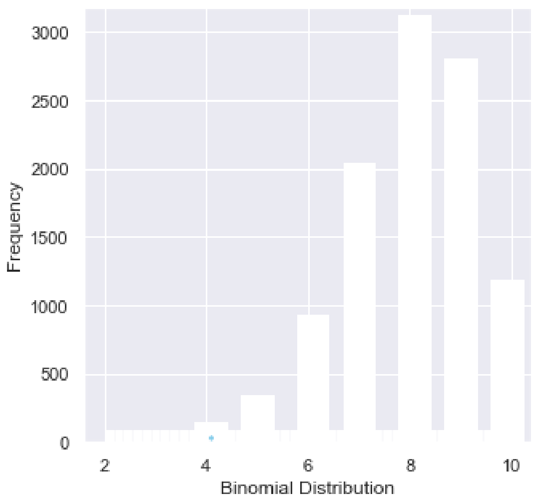
In [6]:

```
ax = sns.distplot(data_binom,
              kde=False,
```

```
             kde=False,
             color='skyblue',
             hist_kws={"linewidth": 15,'alpha':1})
ax.set(xlabel='Binomial Distribution', ylabel='Frequency')
```

Out[6]:

[Text(0, 0.5, 'Frequency'), Text(0.5, 0, 'Binomial Distribution')]



Poisson Distribution

Poisson random variable is typically used to model the number of times an event happened in a time interval

In [7]:

```
from scipy.stats import poisson
data_poisson = poisson.rvs(mu=3, size=10000)
```

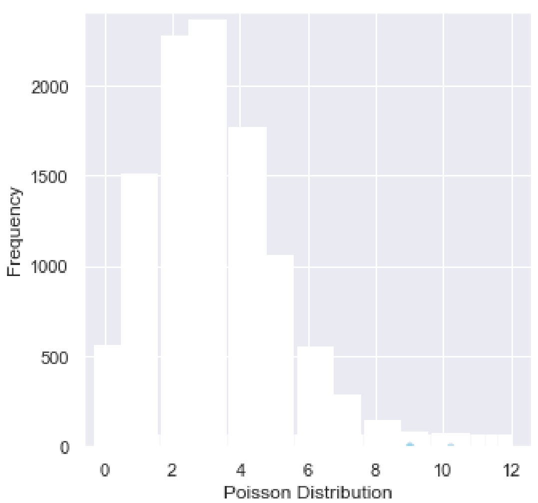
You can generate a poisson distributed discrete random variable using scipy.stats module's poisson.rvs() method which takes μ as a shape parameter and is nothing but the λ in the equation. To shift distribution use the loc parameter. size decides the number of random variates in the distribution. If you want to maintain reproducibility, include a random_state argument assigned to a number.

In [8]:

```
ax = sns.distplot(data_poisson,
             bins=30,
             kde=False,
             color='skyblue',
             hist_kws={"linewidth": 15,'alpha':1})
ax.set(xlabel='Poisson Distribution', ylabel='Frequency')
```

Out[8]:

[Text(0, 0.5, 'Frequency'), Text(0.5, 0, 'Poisson Distribution')]



In [ ]: