Histograms

Matplotlib Function To Create Histogram

In Python, the `pyplot.hist()` function in the Matplotlib pyplot library can be used to plot a histogram. The function accepts a NumPy array, the range of the dataset, and the number of bins as input.

```
import numpy as np
from matplotlib import pyplot as plt

# numpy array
data_array = np.array([1,1,1,1,1,2,3,3,3,4,4,5,5,6,7])

# plot histogram
plt.hist(data_array, range = (1,7), bins = 7)
```

Mean of a Dataset

The *mean*, or average, of a dataset is calculated by adding all the values in the dataset and then dividing by the number of values in the set.

For example, for the dataset `[1,2,3]`, the mean is `1+2+3 / 3 = 2`.

Histogram Bins

In a histogram, the range of the data is divided into sub-ranges represented by *bins*. The width of the bin is calculated by dividing the range of the dataset by the number of bins, giving each bin in a histogram the same width.

What is a Histogram?

A *Histogram* is a plot that displays the spread, or distribution of a dataset. In a histogram, the data is split into intervals, called bins. Each bin shows the number of data points that are contained within that bin.

Histogram Bin Count

In a histogram, the bin *count* is the number of data points that fall within the bin's range.

Histogram's X and Y Axis

A histogram is a graphical representation of the distribution of numerical data. In a histogram, the bin ranges are on the x-axis and the counts are on the y-axis.