# pandas.DataFrame.plot.hist

`DataFrame.plot.hist(by=None, bins=10, **kwargs)` [source

Draw one histogram of the DataFrame's columns.

A histogram is a representation of the distribution of data. This function groups the values of all given Series in the DataFrame into bins and draws all bins in one `matplotlib.axes.Axes`. This is useful when the DataFrame's Series are in a similar scale.

**Parameters:**

**by** : *str or sequence, optional*

Column in the DataFrame to group by.

> *Changed in version 1.4.0:* Previously, *by* is silently ignore and makes no groupings

**bins** : *int, default 10*

Number of histogram bins to be used.

****kwargs**

Additional keyword arguments are documented in `DataFrame.plot()`.

**Returns:**

**class:*matplotlib.AxesSubplot***

Return a histogram plot.

See also

`DataFrame.hist`

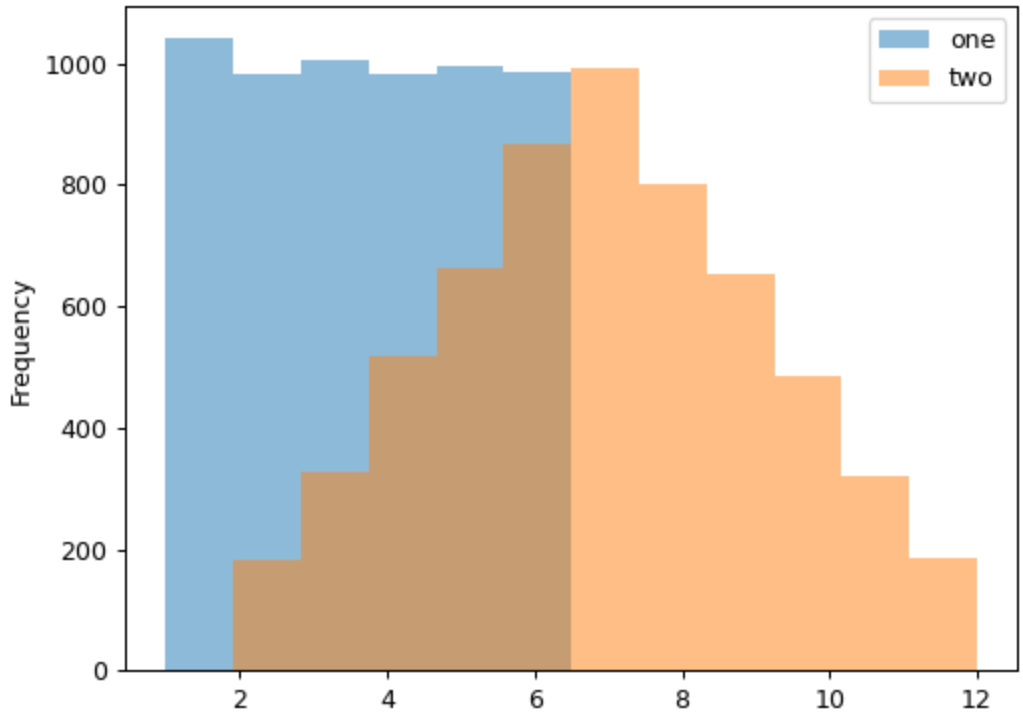
Draw histograms per DataFrame's Series.

`Series.hist`

Draw a histogram with Series' data.

When we roll a die 6000 times, we expect to get each value around 1000 times. But when we roll two dice and sum the result, the distribution is going to be quite different. A histogram illustrates those distributions.

```
>>> df = pd.DataFrame(
...     np.random.randint(1, 7, 6000),
...     columns = ['one'])
>>> df['two'] = df['one'] + np.random.randint(1, 7, 6000)
>>> ax = df.plot.hist(bins=12, alpha=0.5)
```




A grouped histogram can be generated by providing the parameter *by* (which can be a column name, or a list of column names):

```
>>> age_list = [8, 10, 12, 14, 72, 74, 76, 78, 20, 25, 30, 35, 60, 85]
>>> df = pd.DataFrame({"gender": list("MMMMMMMMFFFFFF"), "age": age_list})
>>> ax = df.plot.hist(column=["age"], by="gender", figsize=(10, 8))
```

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