

Data Visualization with Pandas

```
import pandas as pd
import matplotlib.pyplot as plt
```

```
df = pd.read_csv('data.csv')
```

```
df.head(3)
```

	Duration	Pulse	Maxpulse	Calories
0	60	110	130	409.1
1	60	117	145	479.0
2	60	103	135	340.0



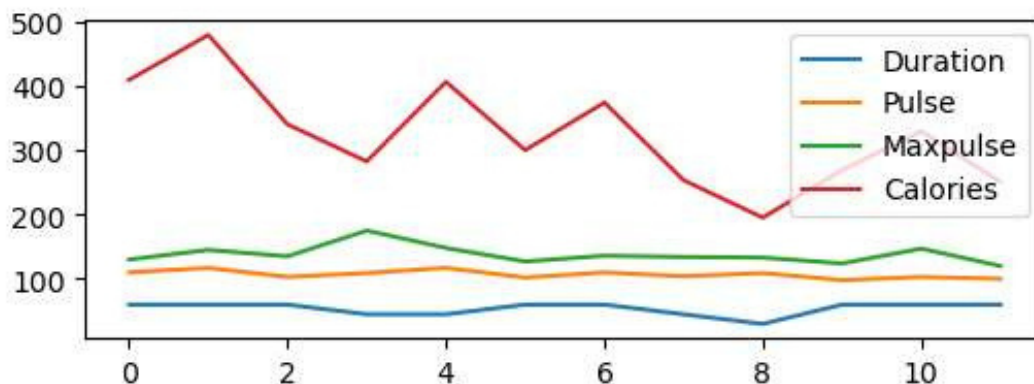
plot()

- It makes charts - defaults is line plot
- More graphs with kind='line', 'bar', 'scatter', 'hist', etc

Line Plot

syntax: `plot()` or `plot.line()`

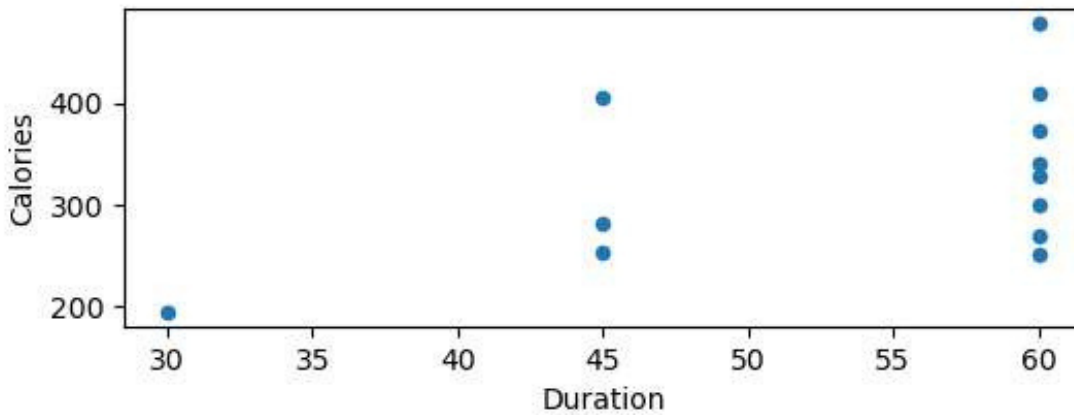
```
df.plot()
```



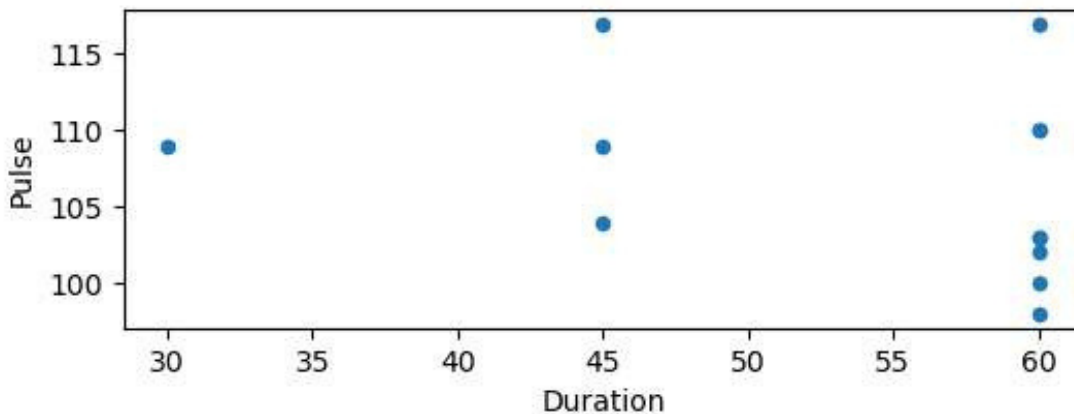
Scatter Plot

syntax: `plot(kind='scatter',x,y)` or `plot.scatter(x,y)`

```
df.plot(kind = 'scatter',  
        x='Duration',y='Calories')
```



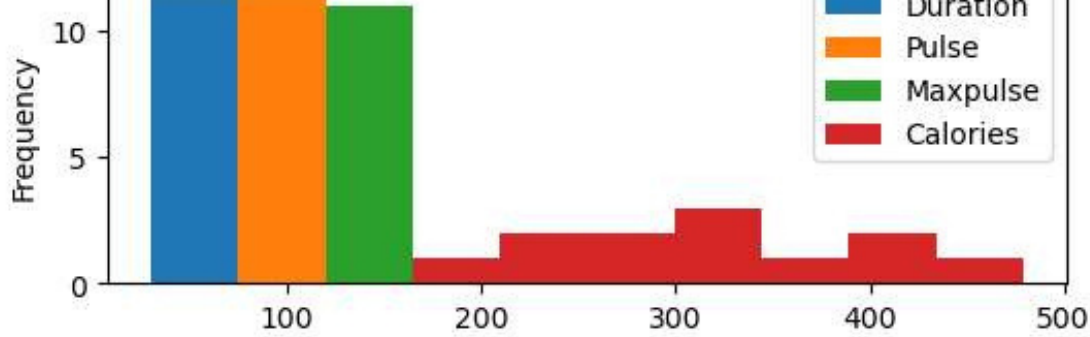
```
df.plot.scatter(x='Duration',y='Pulse')
```



Histogram

syntax: `plot(kind='hist')` or `plot.hist()`

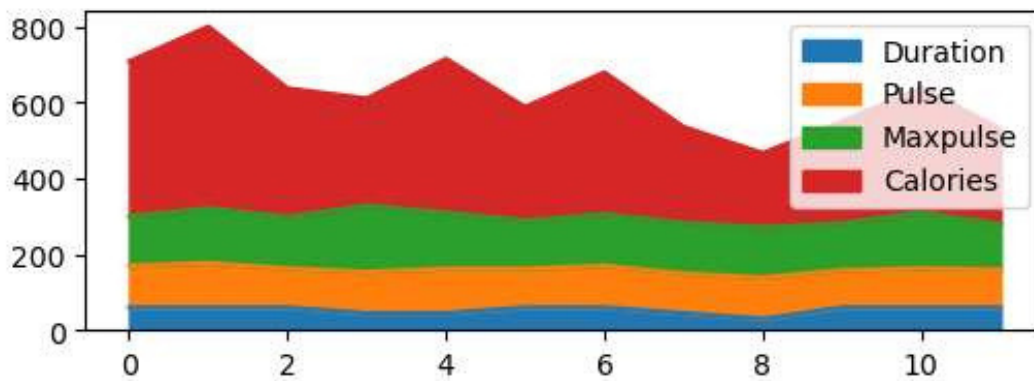
```
df.plot(kind = 'hist')  
  
# df.plot.hist()
```



Area Plot

syntax: `plot(kind='area')` or `plot.area()`

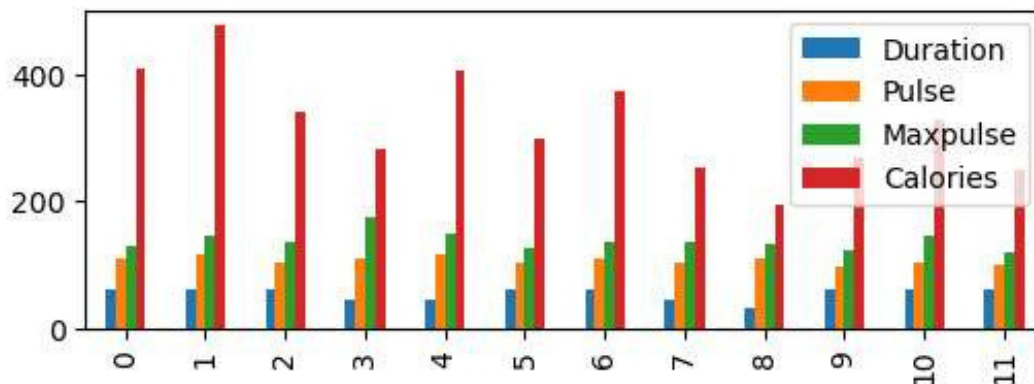
```
df.plot.area()
```



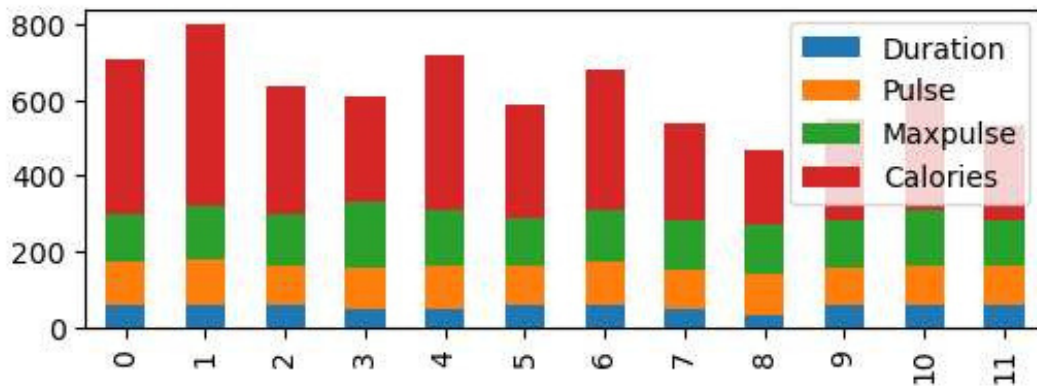
Bar Chart

syntax: `plot(kind='bar')` or `plot.bar()`
`barh()` for horizontal bar

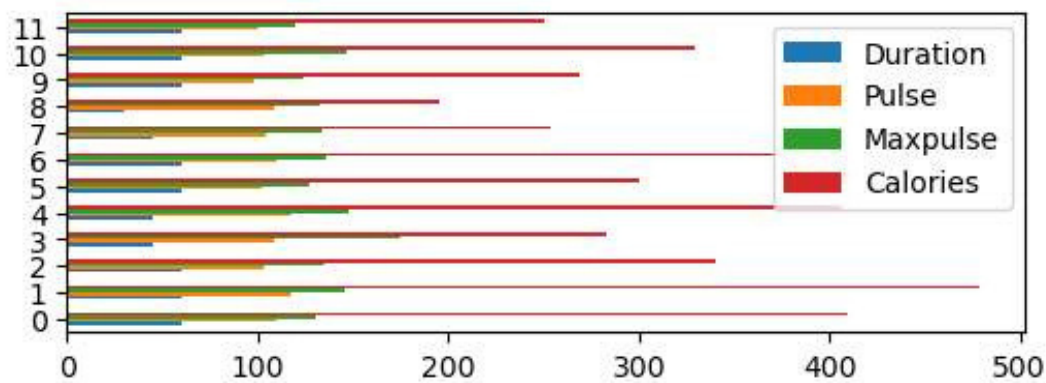
```
df.plot.bar()
```



```
df.plot.bar(stacked=True)
```



```
# horizontal bar  
df.plot.barh()
```

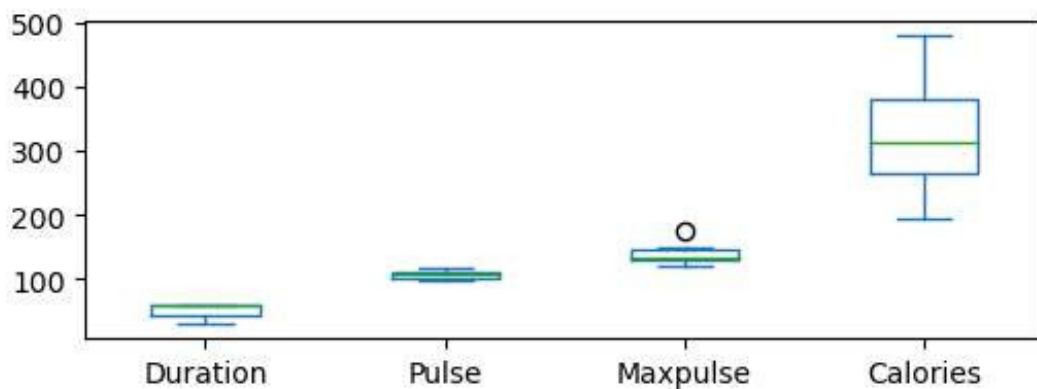


Box plot

syntax: `plot(kind='box')` or `plot.box()`



```
df.plot.box()
```

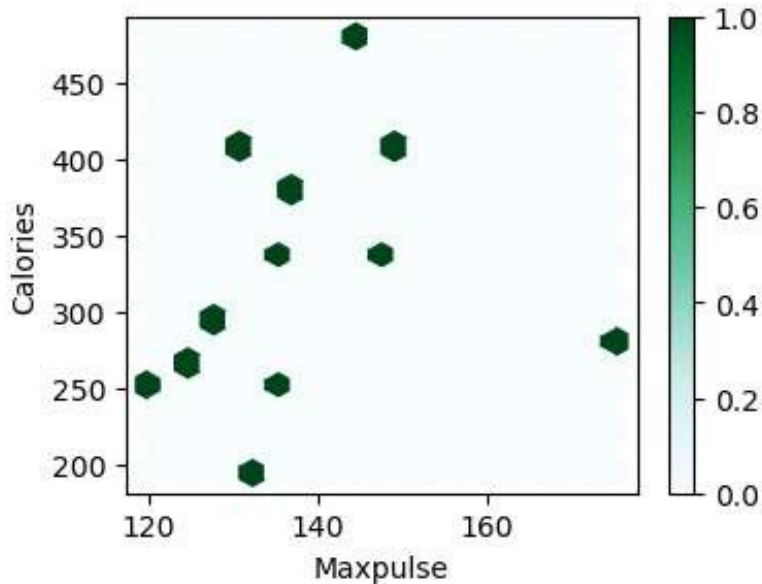


hexagonal binning plot

plot.hexbin()

```
df.plot.hexbin(x='Maxpulse',y='Calories',  
               gridsize=18)
```

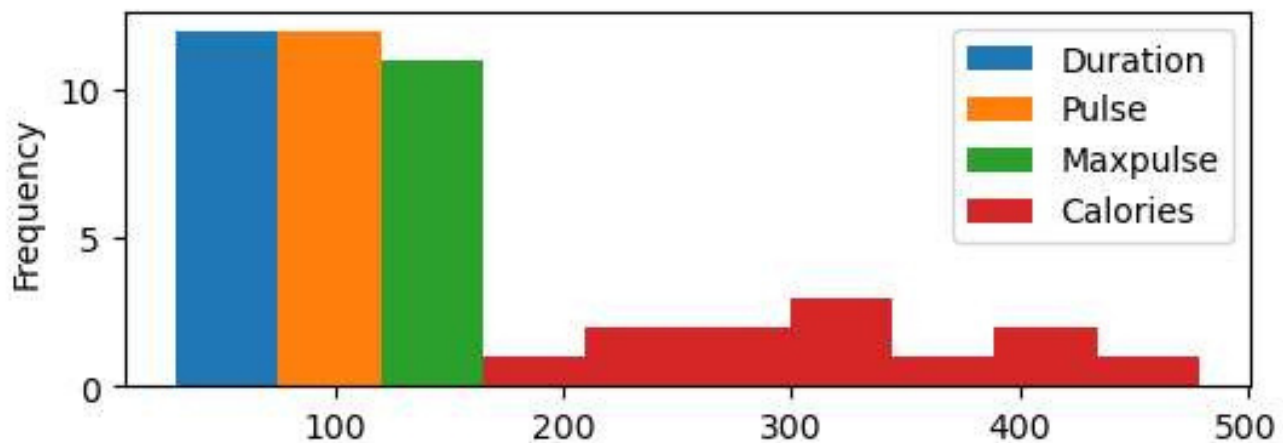
<Axes: xlabel='Maxpulse', ylabel='Calories'>



histogram plot

plot.hist()

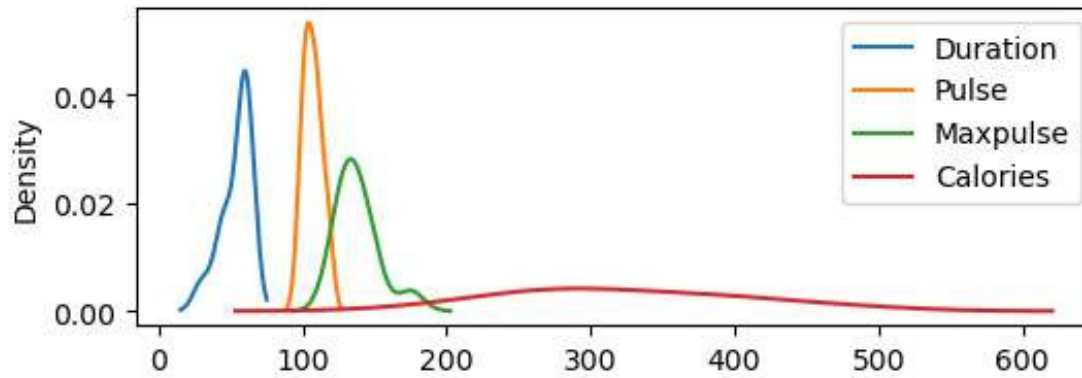
```
df.plot.hist()
```



Density Estimate plot

plot.kde() or plot.density()
kernel density estimate charts

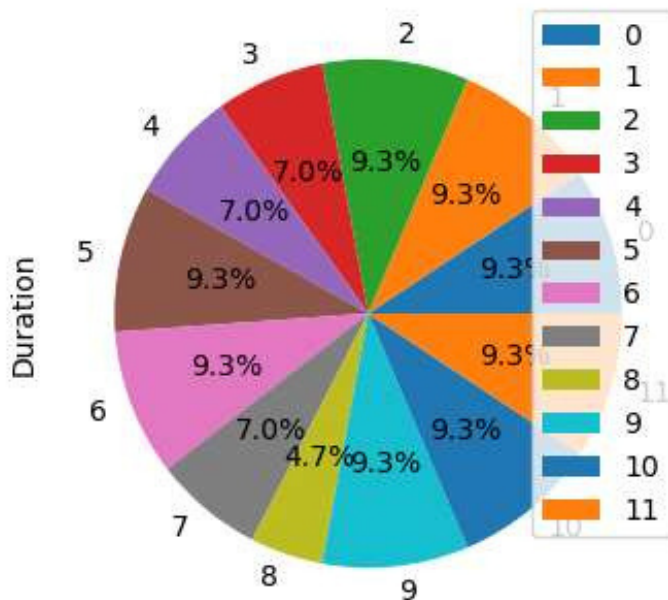
```
df.plot.kde()
```



Pie plot

pie.plot()

```
df.plot.pie(y='Duration', autopct='%1.1f%%')
```



Save the plot as an image | savefig()

```
df.plot()  
plt.savefig('lineplot.png')
```

*Thank
You*

