Chapter 4 - Practical Data Visualization

Segment 1 - Creating standard data graphics

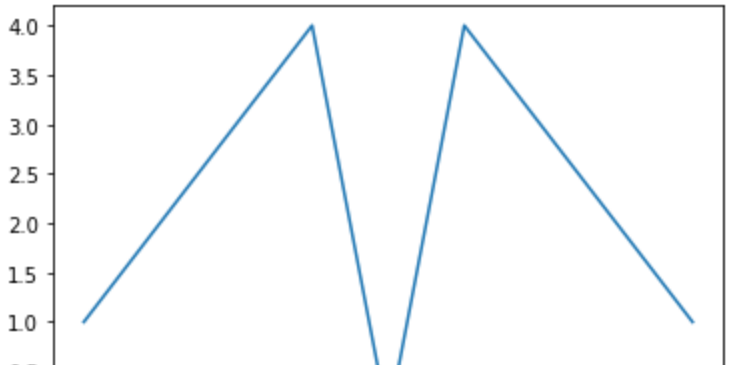
```
import numpy as np
'''import numpy as np
import pandas as pd
from pandas import Series, DataFrame
from numpy.random import randn

import matplotlib.pyplot as plt
from matplotlib import rcParams
'''
from numpy.random import randn
import pandas as pd
from pandas import Series, DataFrame

import matplotlib.pyplot as plt
from matplotlib import rcParams
```

Creating a line chart from a list object

Plotting a line chart in matplotlib

```
x = range(1,10)
y = [1,2,3,4,0,4,3,2,1]
'''x=range(1,10)
y=[1,2,3,4,5,6,7,8,9]
plt.plot(x,y)'''
plt.plot(x,y)
```

```
[<matplotlib.lines.Line2D at 0x7fefa0f40dd0>]
```



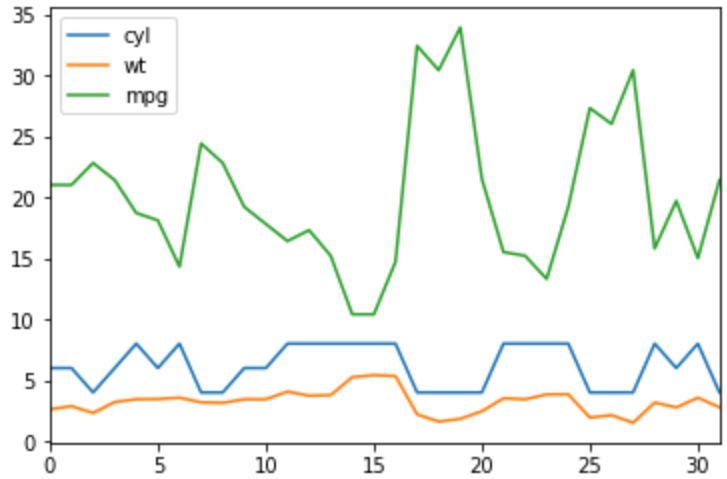
Plotting a line chart from a Pandas object

```
address = 'C:/Users/Lillian/Desktop/ExerciseFiles/Data/mtcars.csv'

cars = pd.read_csv(address)
cars.columns = ['car_names','mpg','cyl','disp', 'hp', 'drat', 'wt', 'qsec', 'vs', 'am', 'gear', 'carb']
''' cars=pd.read_csv(data)
cars.columns=[]
mpg=cars['mpg']
'''

mpg = cars['mpg']


mpg.plot()
'''mpg.plot()'''
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1d416101f28>
```

```
df = cars[['cyl','wt','mpg']]
df.plot()
'''df=cars[['cyl','mpg']]
df.plot()'''
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1d416071cf8>
```

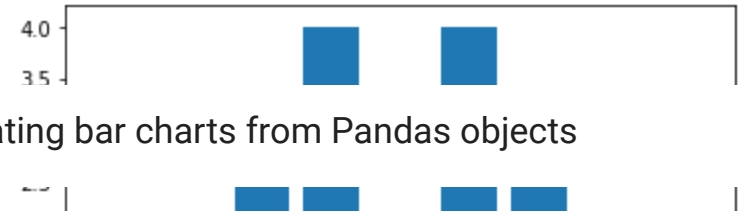


Creating bar charts

Creating a bar chart from a list

```
plt.bar(x, y)
'''plt.bar(x,y)'''
```

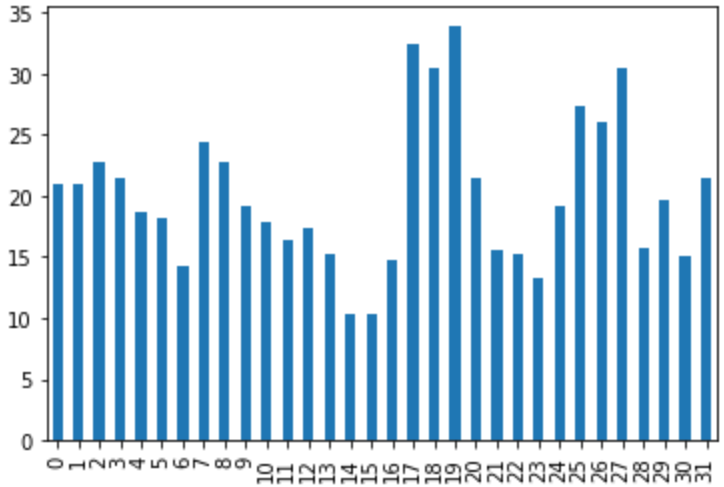
```
<BarContainer object of 9 artists>
```



Creating bar charts from Pandas objects


```
mpg.plot(kind="bar")
#mpg.plot(kind='bar')
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1d41657d6d8>
```

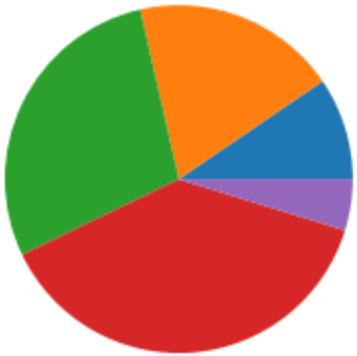



```
mpg.plot(kind="barh")
#mpg.plot(kind='barh')
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1d416632c88>
```

Creating a pie chart

```
x = [1,2,3,4,0.5]
plt.pie(x)
plt.show()
'''x=[1,2,3,4]
matplotlib.pyplot.pie(x)
matplotlib.pyplot.show()'''
```



Saving a plot

```
plt.pie(x)
plt.savefig('pie_chart.png')
plt.show()
''' plt.pie(x)
plt.savefig('pie.jpg')
plt.show()'''
```

```
%pwd
```

```
'C:\\Users\\Lillian\\Desktop\\ExerciseFiles\\04_01_begin'
```