Chapter 7 - Collaborative Analytics with Plotly

Segment 1 - Creating basic charts

Setting up to use Plotly within Jupyter

```
! pip install Plotly
!pip install plotly
```

```
! pip install cufflinks
!pip install cufflinks
```

```
import numpy as np
import pandas as pd

import cufflinks as cf

import plotly.plotly as py
import plotly.tools as tls
import plotly.graph_objs as go

import numpy as np
import pandas as pd
import cufflinks as cf
import plotly.plotly as py
import plotly.tools as tls
import plotly.graph_objs as go
```

```
tls.set_credentials_file(username='', api_key='')
plotly.tools.set_credentials_file(username='', api_key='')
```

Creating line charts

A very basic line chart

```
a = np.linspace(start=0, stop=36, num=36)

np.random.seed(25)

b = np.random.uniform(low=0.0, high=1.0, size=36)

trace = go.Scatter(x=a, y=b)

data = [trace]

py.iplot(data, filename='basic-line-chart')

a= np.linspace(start=0, stop=36,num=36)
np.random.seed(25)
b=np.random.uniform(low=0.0,high=1.0,size=36)
trace= plotly.graph_obj.Scatter(x=a,y=b)
data=[trace]
plotly.plotly.iplot(data,filename='')
```

A line chart from a pandas dataframe

```
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']

df = cars[['cyl', 'wt','mpg']]

layout = dict(title='Chart from Pandas DataFrame', xaxis= dict(title='x-axis'), yaxis= dict(title='y-axis'))

df.iplot(filename='cf-simple-line-chart', layout=layout)
layout= {title='', xaxis={title='x-axis'},yaxis={title='y-axis'}}
df.iplot(layout=layout,filename='')
```

Creating bar charts

```
data =[go.Bar(x=[1,2,3,4,5,6,7,8,9,10], y=[1,2,3,4,0.5,4,3,2,1])]
print(data)
data= [ plotly.graph_obj.Bar( x=[], y=[])]


layout = dict(title='Simple Bar Chart',
              xaxis= dict(title='x-axis'), yaxis=dict(title='y-axis'))
py.iplot(data, filename='basic-bar-chart', layout)

layout={ title='', xaxis={title=''},yaxis={title=''}}
plotly.plotly.iplot(data,filename='',layout=layout)
```

Creating pie charts

```
fig = {'data':[{'labels': ['bicycle', 'motorbike','car','van', 'stroller'],
                 'values': [1, 2, 3, 4, 0.5],'type': 'pie'}],
       'layout': {'title': 'Simple Pie Chart'}}
py.iplot(fig)
fig={'data: [{'labels':['bicycle','motorbike'],
                'values':[1,2,3], 'type': 'pie'}]
     'layout': {'title': 'Simple Pie Chart'}}
plotly.plotly.iplot(fig)
```

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