

Importing packages

In [40]:

```
import numpy as np
import pandas as pd
import twitter
from twitter import Twitter
from twitter import OAuth

import json
from pandas.io.json import json_normalize

ck = 'QvGBrXMEZhicazT2XzvK1usgY' #consumer key
cs = 'TyYiFfvYsZrjtoikhN5d1MYWljuEPGQu3iU1PZmByZAgKwTgP2' #consumer key secret
at = '954075809018470400-2TRhibAbIA70BhPUXuf6xE8NIMTWa17'
ats = 'qbg2ibQ4QILAIYidy9kdANZ5cxS02a9jCPh0IYmsGm1Wv'

oauth = OAuth(at,ats,ck,cs)

api = Twitter(auth=oauth)
```

Extracting the tweets using API

In [42]:

```
df = pd.DataFrame()
mid = 0
for i in range(100):
    if i == 0:
        search_tw = api.search.tweets(q="Bitcoin", count = 100)
    else:
        search_tw = api.search.tweets(q="Bitcoin", count=100, max_id=mid)

    dftemp = json_normalize(search_tw, 'statuses')
    mid = dftemp['id'].min()
    mid=mid-1
    df = df.append(dftemp,ignore_index=True)
```

In [43]:

```
df.shape
```

Out[43]:

```
(9262, 30)
```

Normalizing the fetched JSON data

In [44]:

```
tweet = df['text']
df_u = json_normalize(df['user'])
df_u.head()
df_s = df_u['screen_name']
df_s.head()
df['screenname']=df_u['screen_name']
```

Importing NLP tool kit package Textblob

In [45]:

```
from textblob import TextBlob as tb
```

Determining sentiment of tweets

In [46]:

```
pol = []
sub = []

for j in tweet:
    tx = tb(j)
    pol.append(tx.sentiment.polarity)
    sub.append(tx.sentiment.subjectivity)
```

In [47]:

```
df_pols = pd.DataFrame({"polarity":pol,"subjectivity":sub})
df['polarity']=df_pols['polarity']
df['subjectivity']=df_pols['subjectivity']
```

In [48]:

```
df_sup = pd.DataFrame()
df3 = pd.DataFrame()
```

In [49]:

```
df3 = df[['polarity','subjectivity','screenname']]
df3.head()
```

Out[49]:

	polarity	subjectivity	screenname
0	0.136364	0.454545	Airdropnotecom
1	0.000000	0.000000	takigawa401
2	0.068182	0.227273	digiexchangeid
3	0.000000	0.000000	portal_bitcoin
4	0.000000	0.000000	CgAn_Doemela

Classifying tweets into positive, negative, and neutral

In [58]:

```
negative = pd.DataFrame()
positive = pd.DataFrame()
neutral = pd.DataFrame()

negative = df3[df3['polarity'] <= -0.4]
positive = df3[df3['polarity'] >= 0.4]
neutral = df3[(df3['polarity'] > -0.4) & (df3['polarity'] < 0.4)]
```

In [59]:

```
print((len(negative)/df.shape[0])*100 , "percent of negative tweets ")
```

3.2822284603757286 percent of negative tweets

In [60]:

```
negative.head()
```

Out[60]:

	polarity	subjectivity	screenname
5	-1.000000	1.0	CoinWatcherBot
17	-1.000000	1.0	bitbrokersinc
21	-0.600000	0.9	johnmally49
29	-0.666667	1.0	IllumineCrypto2
37	-1.000000	1.0	newsinvesting

In [61]:

```
print((len(positive)/df.shape[0])*100 , "percent of positive tweets ")
```

12.286763118117037 percent of positive tweets

In [62]:

```
positive.head()
```

Out[62]:

	polarity	subjectivity	screenname
7	0.500000	0.900	JaydeepPaul10
10	0.500000	1.000	ApolloCurrency
11	0.400000	0.600	btc_update
13	0.468182	0.625	goldcoinshinny
14	0.500000	0.750	lurlene77876014

In [63]:

```
print((len(neutral)/df.shape[0])*100 , "percent of neutral tweets ")
```

84.43100842150724 percent of neutral tweets

In [64]:

```
neutral.head()
```

Out[64]:

	polarity	subjectivity	screenname
0	0.136364	0.454545	Airdropnotecom
1	0.000000	0.000000	takigawa401
2	0.068182	0.227273	digiexchangeid
3	0.000000	0.000000	portal_bitcoin
4	0.000000	0.000000	CgAn_Doemela