AUTHOR - AYUSH CHHOKER

Cryptocurrency Analysis

Import libraries

In [90]:

```
import pandas as pd
import numpy as np

import matplotlib.pyplot as plt
import seaborn as sns
sns.set_style('whitegrid')
plt.style.use("fivethirtyeight")
%matplotlib inline
import matplotlib
from matplotlib.colors import LinearSegmentedColormap

# For reading stock data from yahoo
from pandas_datareader.data import DataReader

# For time stamps
from datetime import datetime

import warnings
warnings.filterwarnings("ignore")
```

Data Importing

Bitcoin Data

In [91]:

```
dateparse = lambda dates: pd.datetime.strptime(dates, '%d-%m-%Y')
btc=pd.read_csv('E:\CRYPTO/Bitcoin.csv',parse_dates=['Date'],index_col='Date', date_par
ser=dateparse)
btc = btc.iloc[::-1]
btc.tail(5)
```

Out[91]:

Date	Open	High	Low	Close	Volume	Market Cap
2021-06-02	36699.922920	38231.339176	35966.307156	37575.179576	3.307087e+10	7.035997e+11
2021-06-03	37599.409940	39478.951182	37243.973728	39208.765995	3.546075e+10	7.342243e+11
2021-06-04	39242.486262	39242.486262	35717.722303	36894.405330	4.183109e+10	6.909151e+11
2021-06-05	36880.155971	37917.714149	34900.412237	35551.958726	3.595947e+10	6.658046e+11
2021-06-06	35538.608730	36436.420964	35304.580078	35862.377727	2.891344e+10	6.716526e+11

In [92]:

```
maxValue=btc[btc['Close']==max(btc.Close)]
print("Highiest value of bitcoin")
maxValue
```

```
Highiest value of bitcoin
```

Out[92]:

Date	Open	High	Low	Close	Volume	Market Cap
2021-04-13	59890.01779	63742.283337	59869.956293	63503.45793	6.998345e+10	1.186364e+12

In [93]:

```
btc.describe()
```

Out[93]:

	Open	High	Low	Close	Volume	Market Cap
count	2962.000000	2962.000000	2962.000000	2962.000000	2.962000e+03	2.962000e+03
mean	6407.764091	6591.588833	6206.335384	6419.520662	1.062187e+10	1.153601e+11
std	10964.884959	11309.383417	10562.273164	10976.995214	1.875586e+10	2.047627e+11
min	68.504997	74.561096	65.526001	68.431000	0.000000e+00	7.784112e+08
25%	426.729256	434.269989	420.553246	426.923508	2.991980e+07	6.278850e+09
50%	1832.229980	1889.205017	1791.869995	1868.609985	8.037465e+08	3.051675e+10
75%	8322.660156	8550.659668	8150.036667	8327.271942	1.532879e+10	1.478702e+11
max	63523.754869	64863.098908	62208.964366	63503.457930	3.509679e+11	1.186364e+12

In [94]:

```
btc.info()
```

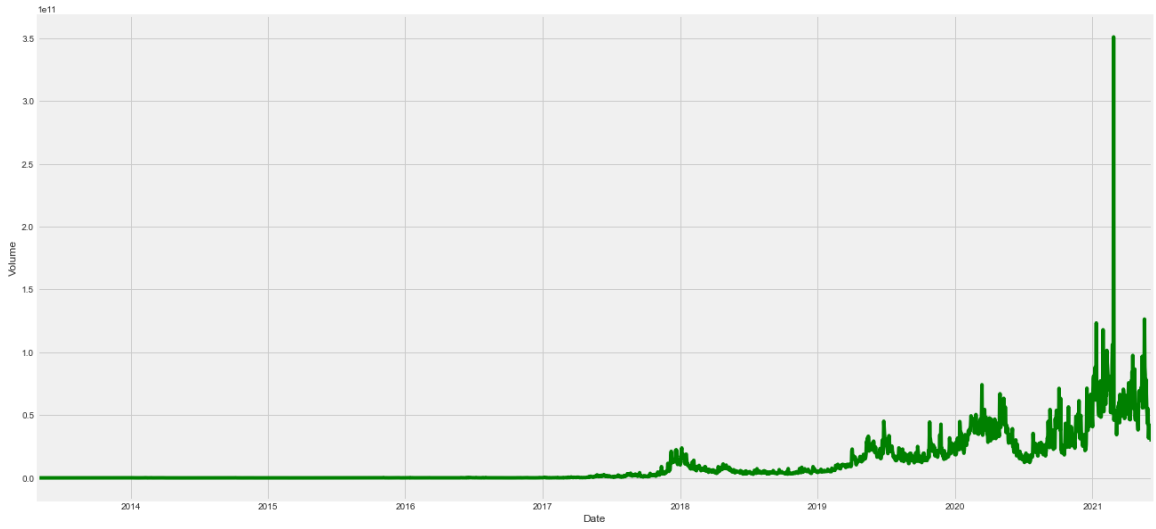
```
<class 'pandas.core.frame.DataFrame'>
DatetimeIndex: 2962 entries, 2013-04-28 to 2021-06-06
Data columns (total 6 columns):
 #   Column      Non-Null Count  Dtype  
---  ------      --------------  -----  
 0   Open        2962 non-null   float64
 1   High        2962 non-null   float64
 2   Low         2962 non-null   float64
 3   Close       2962 non-null   float64
 4   Volume      2962 non-null   float64
 5   Market Cap  2962 non-null   float64
dtypes: float64(6)
memory usage: 162.0 KB
```

In [95]:

```
plt.figure(figsize = (20,10))
btc.groupby('Date')['Volume'].median().plot(color = 'g')
plt.xlabel('Date')
plt.ylabel('Volume')
```

Out[95]:

```
Text(0, 0.5, 'Volume')
```



In [96]:

```
btc.isnull().sum()
```

Out[96]:

```
Open          0
High          0
Low           0
Close         0
Volume        0
Market Cap    0
dtype: int64
```

In [97]:

```
df1 = btc.tail(30)
```

Lets Visualize the dataset with the Timespan

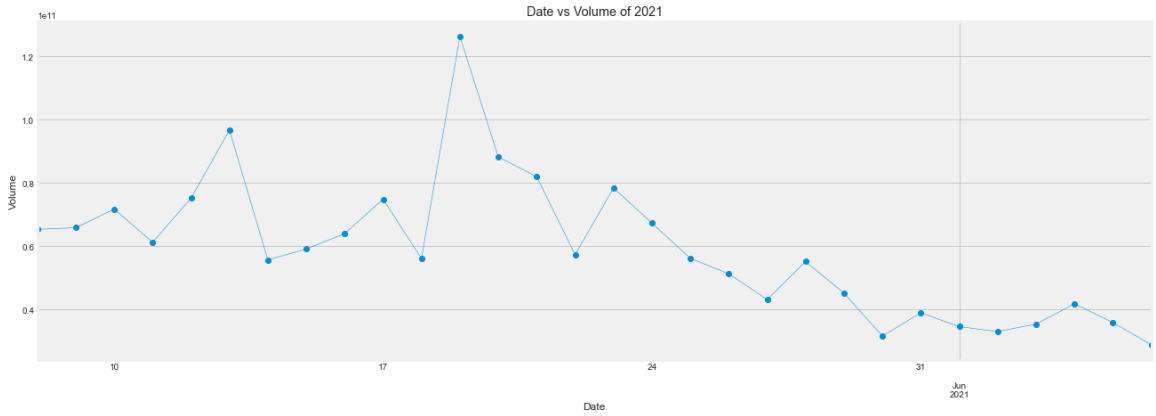
the dataset with the Timespan of year 2021

In [98]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Volume'].mean().plot(linewidth = 0.5, marker ='o')
plt.xlabel('Date')
plt.ylabel('Volume')
plt.title("Date vs Volume of 2021")
```

Out[98]:

```
Text(0.5, 1.0, 'Date vs Volume of 2021')
```



Lets Check the correlation between features of the dataset. How much they close to eachother.

In [99]:

```
new_df =pd.read_csv('E:\CRYPTO\Bitcoin.csv', usecols = ['Open','High','Low','Close','Volume']).fillna(method='ffill')
```

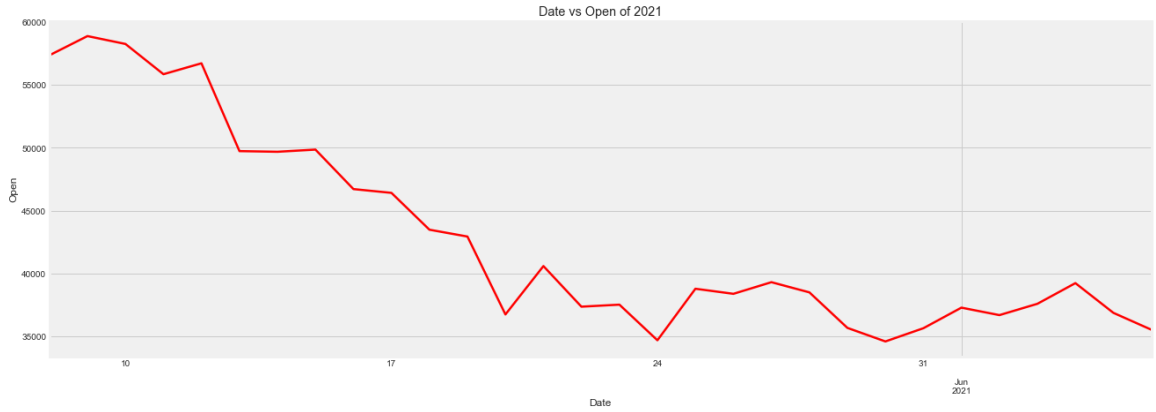
the opening status of the Bitcoin in the year 2021

In [100]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Open'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Open')
plt.title("Date vs Open of 2021")
```

Out[100]:

```
Text(0.5, 1.0, 'Date vs Open of 2021')
```



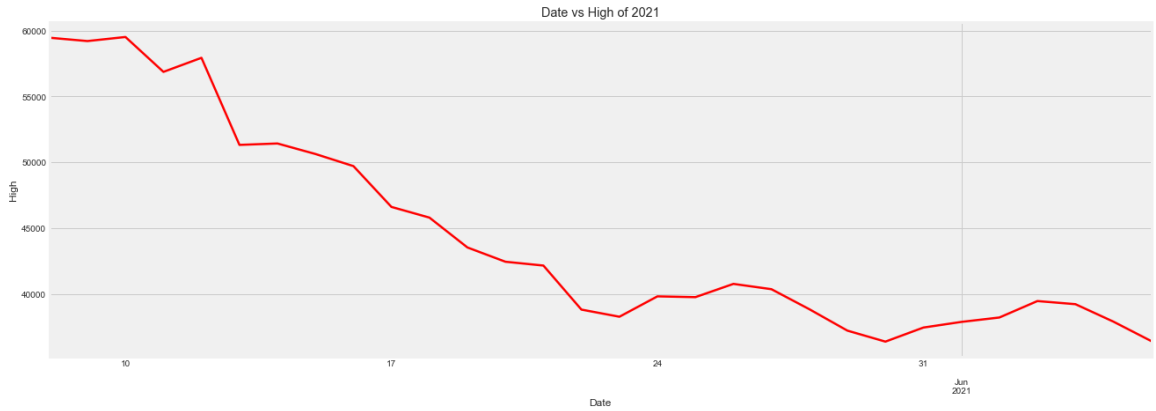
the highest bids of the Bitcoin

In [101]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['High'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('High')
plt.title("Date vs High of 2021")
```

Out[101]:

```
Text(0.5, 1.0, 'Date vs High of 2021')
```



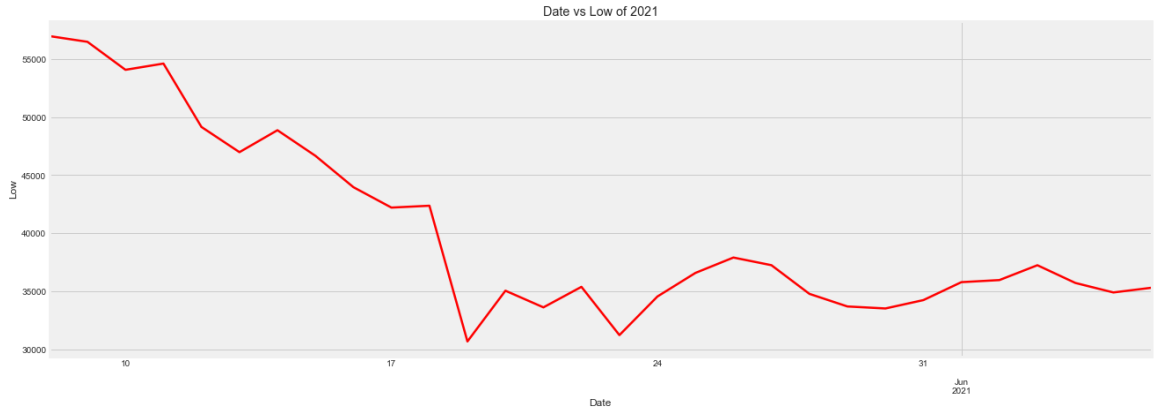
the lowest bids for the Bitcoin

In [102]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Low'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Low')
plt.title("Date vs Low of 2021")
```

Out[102]:

```
Text(0.5, 1.0, 'Date vs Low of 2021')
```



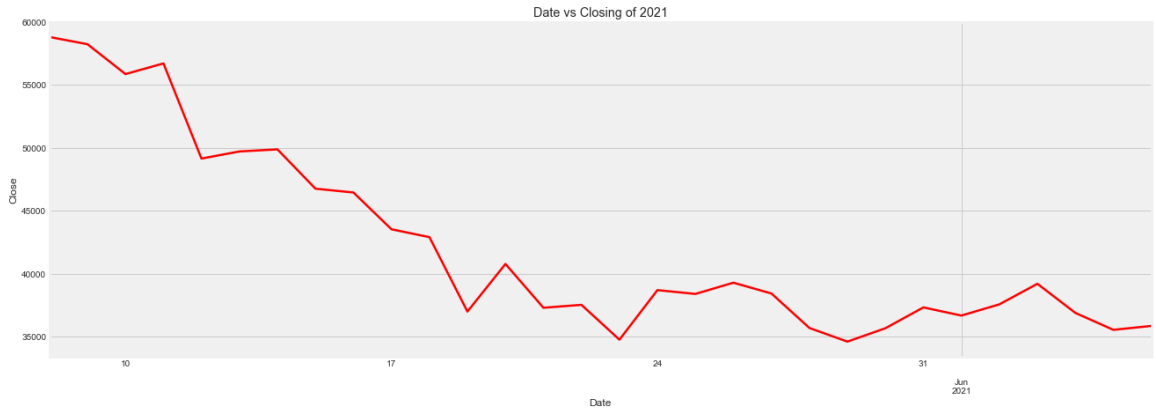
closing status of the Bitcoin

In [103]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Close'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Close')
plt.title("Date vs Closing of 2021")
```

Out[103]:

```
Text(0.5, 1.0, 'Date vs Closing of 2021')
```



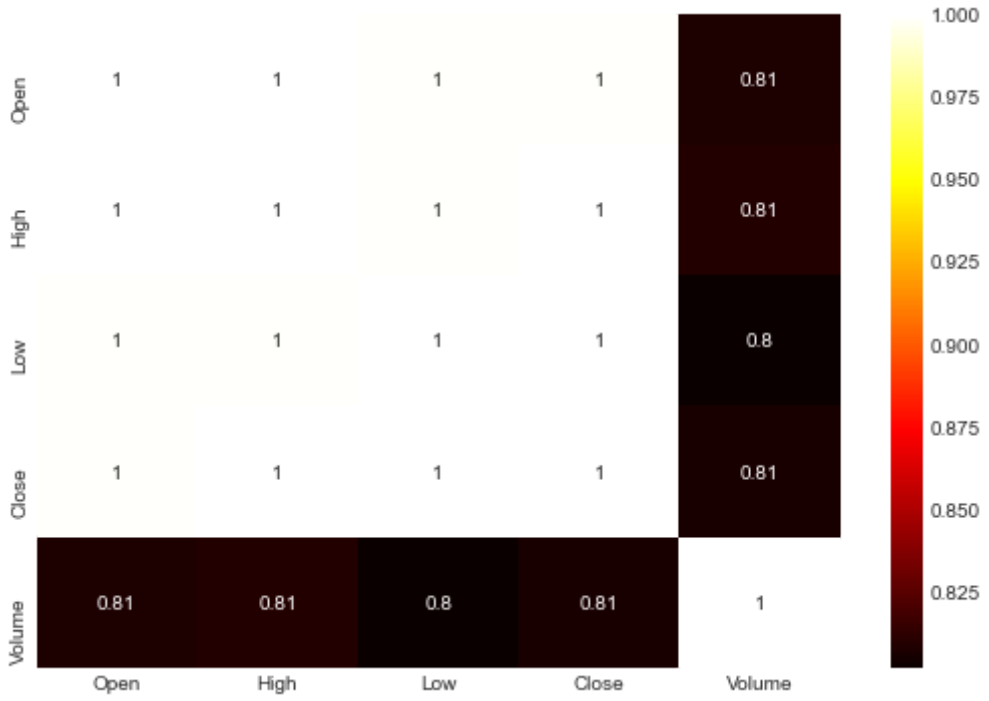
Now for the correlation between all the attributes from the beginning of bitcoin creation

In [104]:

```
plt.figure(figsize = (8,6))
sns.heatmap(new_df.corr() , cmap = 'hot', annot = True)
```

Out[104]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246a6758730>
```



Growth of the bitcoin demand has been tremendous in the year 2020.

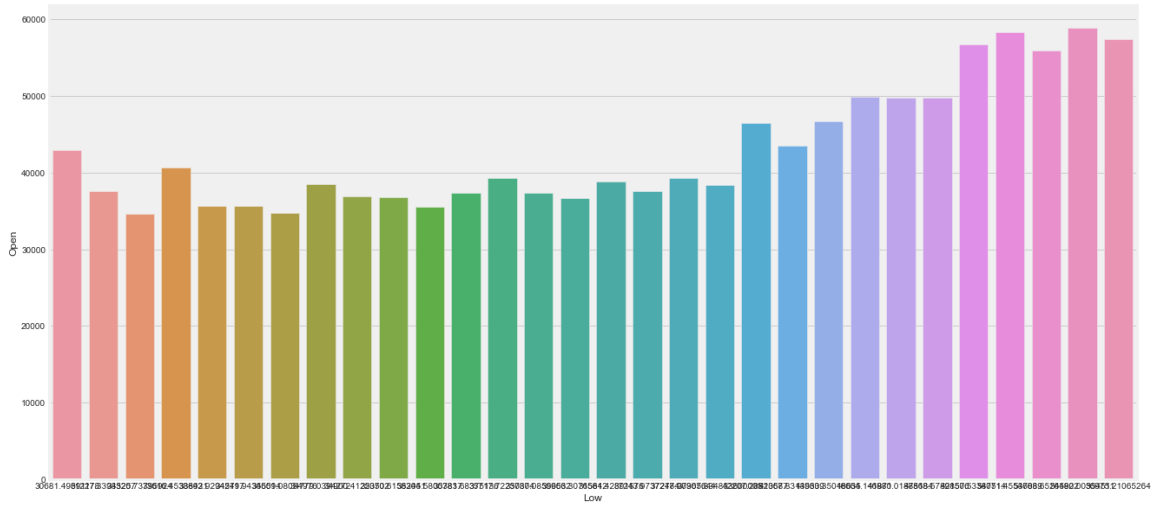
By the present date, you see that the value of the opening is almost reach the maximum state

In [105]:

```
plt.figure(figsize = (20,10))
sns.barplot(x = 'Low',  y ='Open', data = df1)
```

Out[105]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246a90e5700>
```



DogeCoin Data (MEME COIN)

In [106]:

```
doge=pd.read_csv('E:\CRYPTO/Dogecoin.csv',parse_dates=['Date'],index_col='Date', date_p
arser=dateparse)
doge = doge.iloc[::-1]
doge.tail(5)
```

Out[106]:

Date	Open	High	Low	Close	Volume	Market Cap
2021-06-02	0.370302	0.444590	0.352588	0.423374	1.142559e+10	5.497691e+10
2021-06-03	0.423739	0.440763	0.378819	0.399963	6.809900e+09	5.194245e+10
2021-06-04	0.400982	0.400982	0.351442	0.376323	5.889983e+09	4.887746e+10
2021-06-05	0.376752	0.393886	0.360488	0.372177	3.464039e+09	4.834516e+10
2021-06-06	0.371676	0.376798	0.367254	0.371807	1.836611e+09	4.830211e+10

In [107]:

```
maxValue=doge[doge['Close']==max(doge.Close)]
print("Highiest value of Dogecoin")
maxValue
```

```
Highiest value of Dogecoin
```

Out[107]:

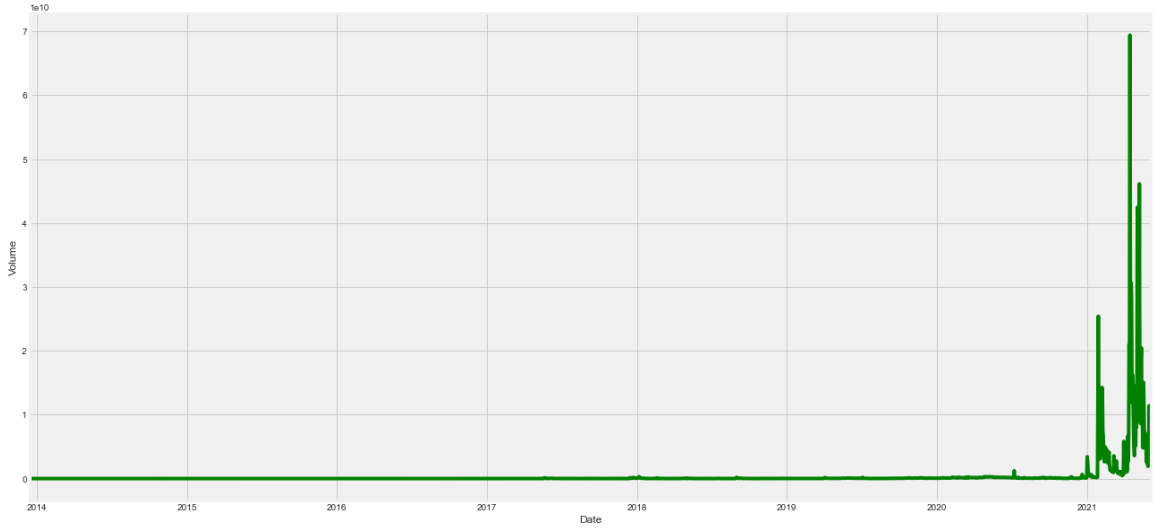
Date	Open	High	Low	Close	Volume	Market Cap
2021-05-07	0.58111	0.731972	0.520174	0.684777	2.861508e+10	8.868082e+10

In [108]:

```
plt.figure(figsize = (20,10))
doge.groupby('Date')['Volume'].median().plot(color = 'g')
plt.xlabel('Date')
plt.ylabel('Volume')
```

Out[108]:

```
Text(0, 0.5, 'Volume')
```



In [109]:

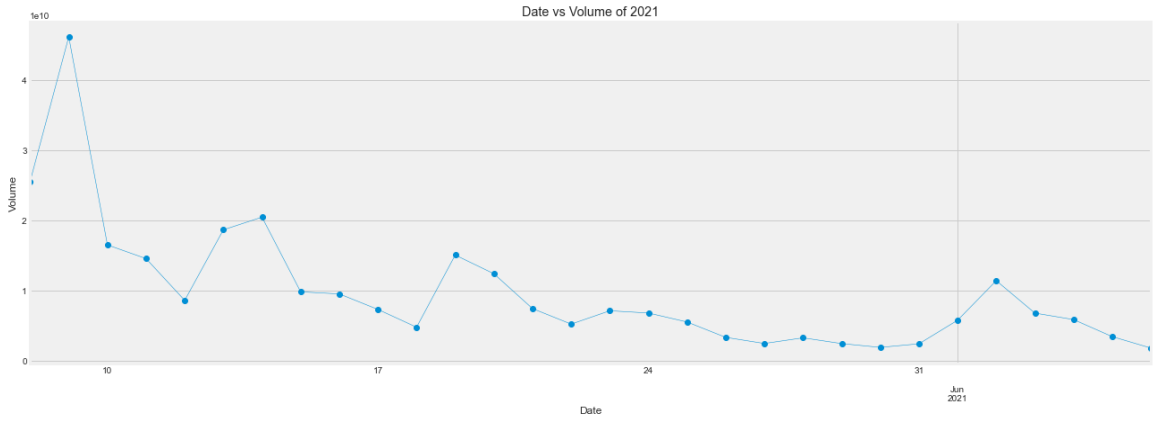
```
df1 = doge.tail(30)
```

In [110]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Volume'].mean().plot(linewidth = 0.5, marker ='o')
plt.xlabel('Date')
plt.ylabel('Volume')
plt.title("Date vs Volume of 2021")
```

Out[110]:

```
Text(0.5, 1.0, 'Date vs Volume of 2021')
```



Lets Check the correlation between features of the dataset. How much they close to eachother.

In [142]:

```
new_df =pd.read_csv('E:\CRYPTO\Dogecoin.csv', usecols = ['Open','High','Low','Close','Volume']).fillna(method='ffill')
```

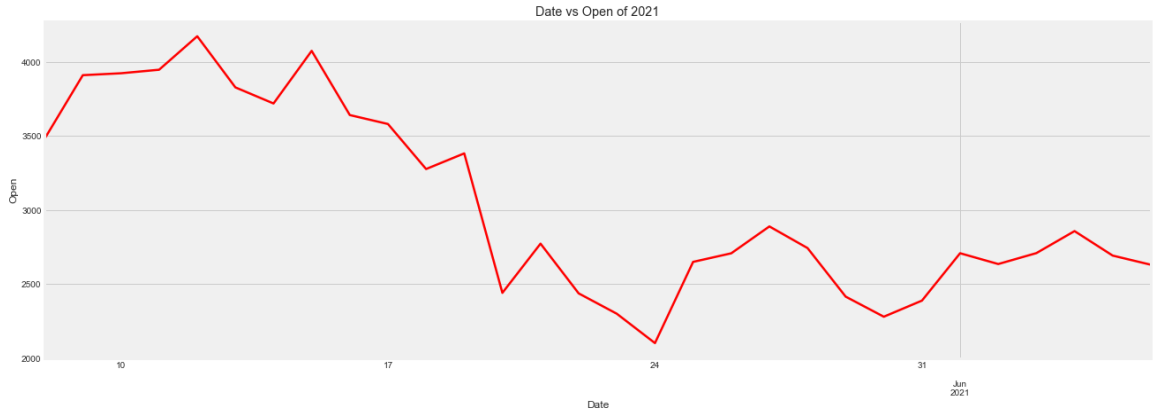
the opening status of the Dogecoin in the year 2021

In [143]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Open'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Open')
plt.title("Date vs Open of 2021")
```

Out[143]:

```
Text(0.5, 1.0, 'Date vs Open of 2021')
```



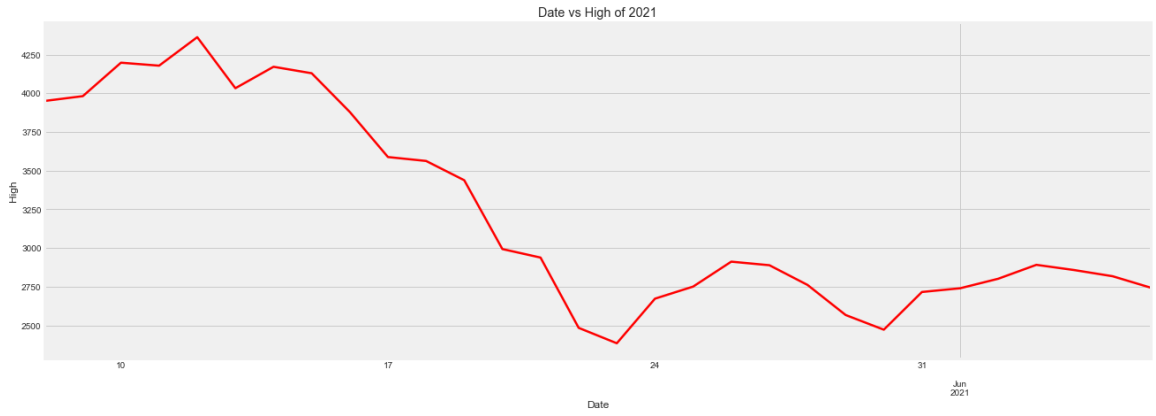
the highest bids of the dogecoin

In [144]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['High'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('High')
plt.title("Date vs High of 2021")
```

Out[144]:

```
Text(0.5, 1.0, 'Date vs High of 2021')
```



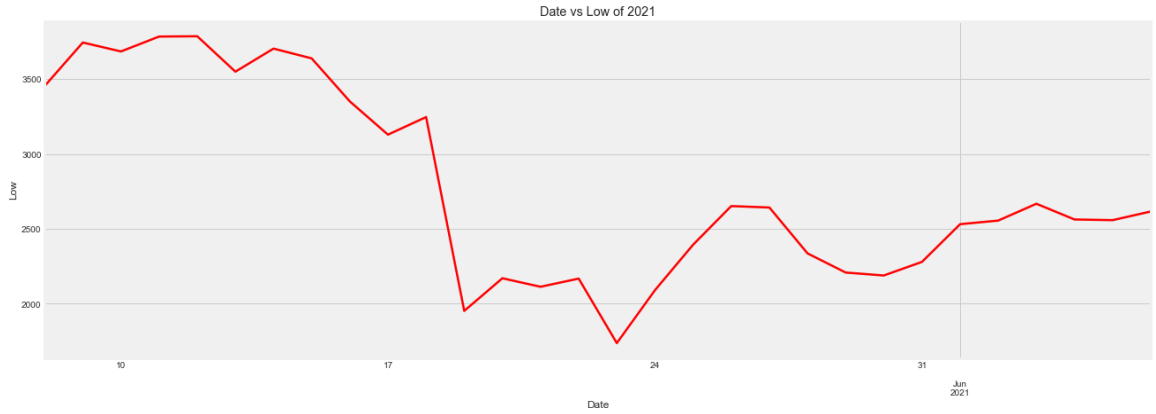
the lowest bids for the Dogecoin

In [145]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Low'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Low')
plt.title("Date vs Low of 2021")
```

Out[145]:

```
Text(0.5, 1.0, 'Date vs Low of 2021')
```



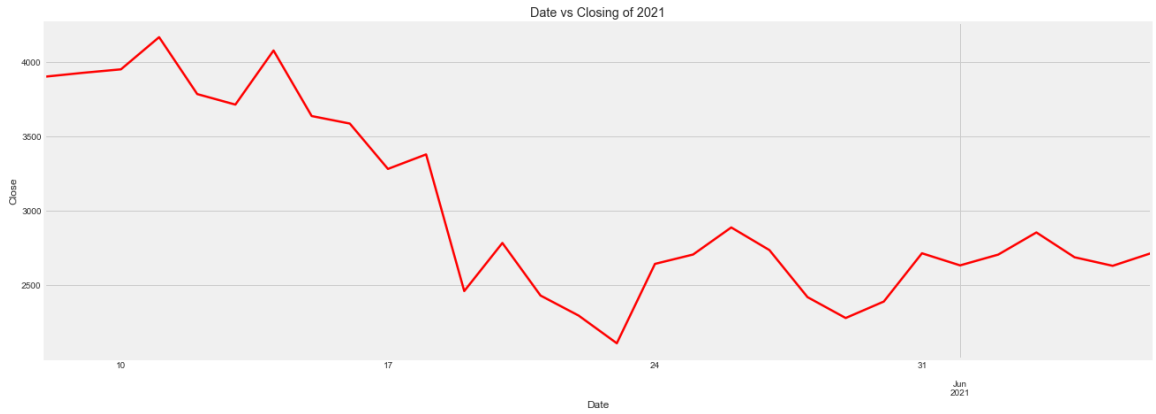
closing status of the Dogecoin

In [146]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Close'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Close')
plt.title("Date vs Closing of 2021")
```

Out[146]:

```
Text(0.5, 1.0, 'Date vs Closing of 2021')
```



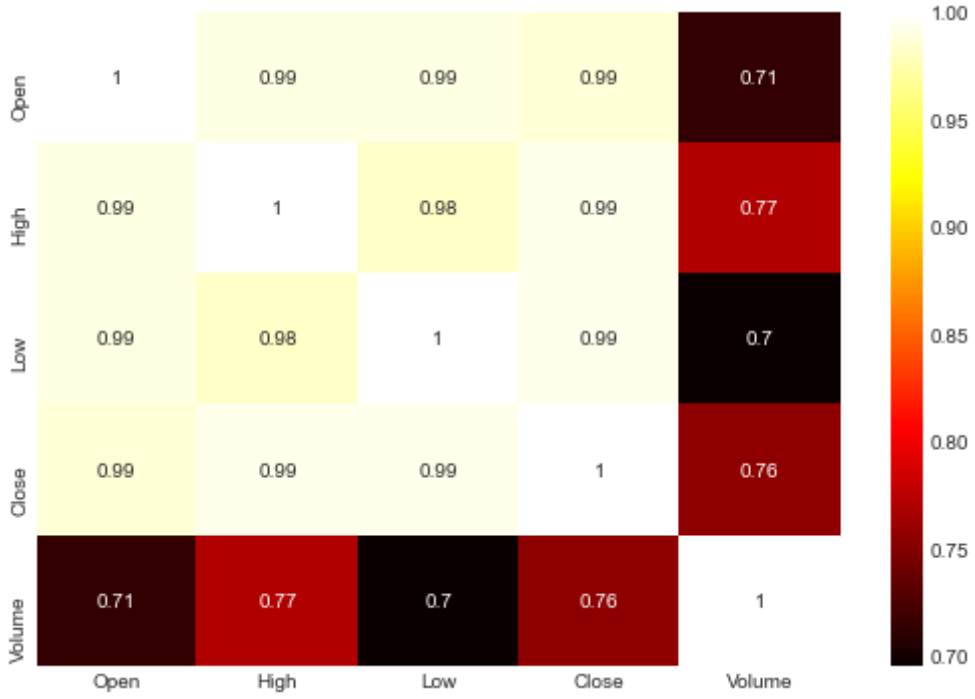
Now for the correlation between all the attributes from the beginning of Dogecoin creation

In [147]:

```
plt.figure(figsize = (8,6))
sns.heatmap(new_df.corr() , cmap = 'hot', annot = True)
```

Out[147]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246aff5d820>
```



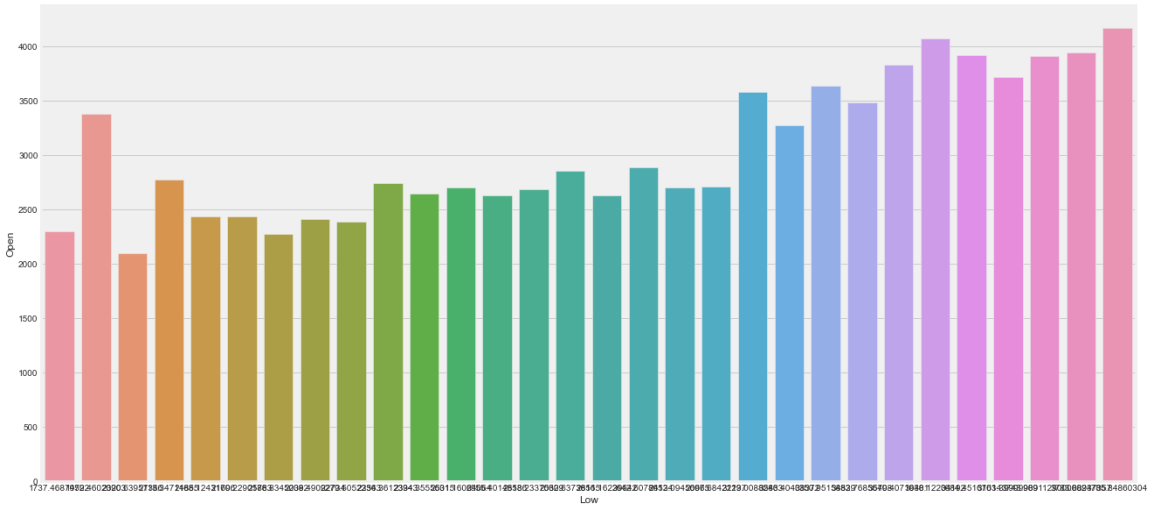
By the present date, you see that the value of the opening is almost reach the maximum state

In [148]:

```
plt.figure(figsize = (20,10))
sns.barplot(x = 'Low',  y ='Open', data = df1)
```

Out[148]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246b0001160>
```



Bitconnect Data (DEAD COIN)

In [118]:

```
bit=pd.read_csv('E:\CRYPTO/bitconnect.csv',parse_dates=['Date'],index_col='Date', date_
parser=dateparse)
bit=bit.iloc[:,1:7]
bit = bit.iloc[::-1]
bit=bit.iloc[:1580]
bit18=bit[:609]
bit.tail(5)
```

Out[118]:

Date	Open	High	Low	Close	Volume	Volume(BCC)
2021-05-16	2.40	2.48	2.14	2.25	0.00	0.00
2021-05-17	2.25	2.30	2.06	2.19	4.26	1.92
2021-05-18	2.19	2.50	2.18	2.32	18.81	8.01
2021-05-19	2.31	2.34	1.68	2.01	0.00	0.00
2021-05-20	2.01	2.28	1.91	2.19	0.00	0.00

In [119]:

```
axValue=bit[bit['Close']==max(bit.Close)]
print("Highiest value of Bitconnect")
maxValue
```

```
Highiest value of Bitconnect
```

Out[119]:

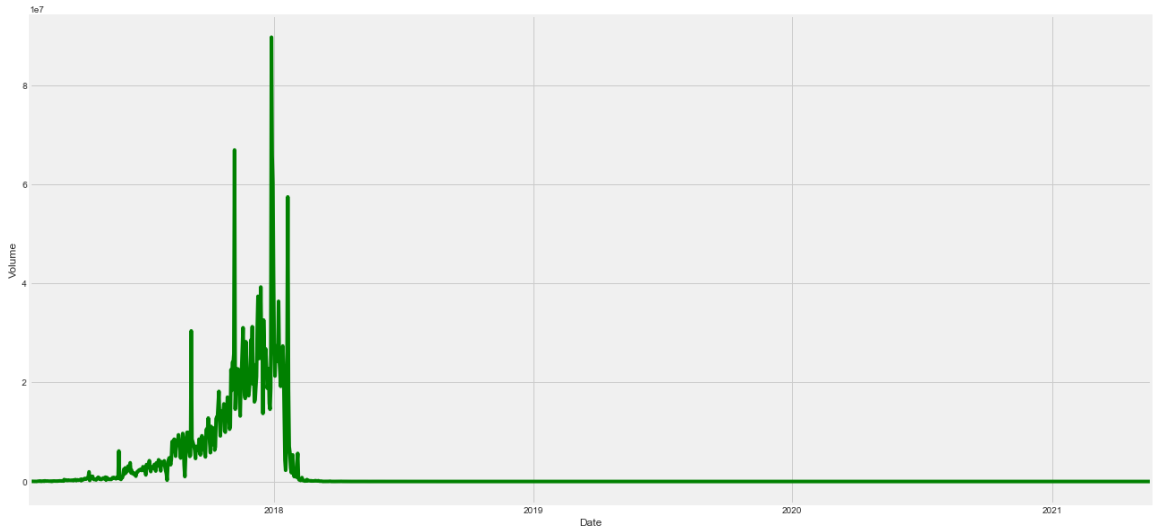
Date	Open	High	Low	Close	Volume	Market Cap
2021-05-07	0.58111	0.731972	0.520174	0.684777	2.861508e+10	8.868082e+10

In [120]:

```
plt.figure(figsize = (20,10))
bit.groupby('Date')['Volume'].median().plot(color = 'g')
plt.xlabel('Date')
plt.ylabel('Volume')
```

Out[120]:

```
Text(0, 0.5, 'Volume')
```



In [121]:

```
df1 = bit.tail(30)
```

Lets Visualize the dataset with the Timespan

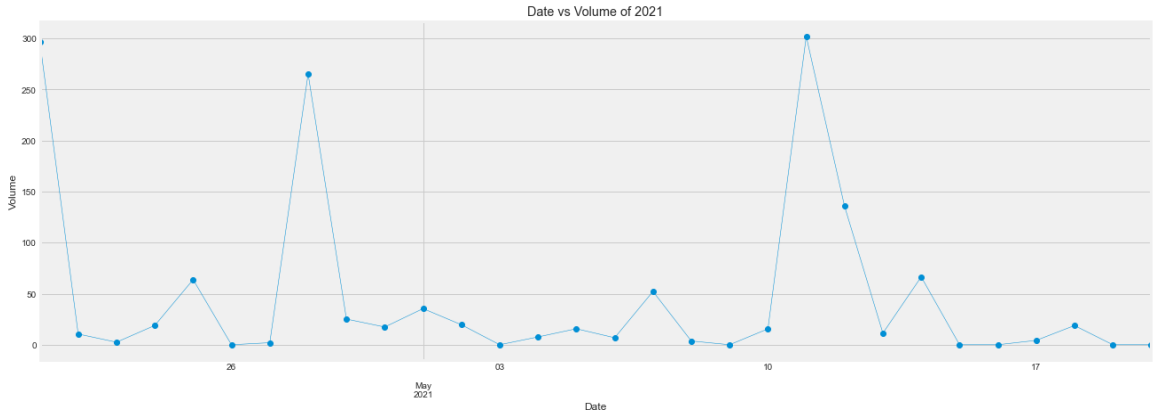
Timespan of year 2021

In [122]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Volume'].mean().plot(linewidth = 0.5, marker ='o')
plt.xlabel('Date')
plt.ylabel('Volume')
plt.title("Date vs Volume of 2021")
```

Out[122]:

```
Text(0.5, 1.0, 'Date vs Volume of 2021')
```



Lets Check the correlation between features of the dataset. How much they close to eachother

In [123]:

```
new_df =pd.read_csv('E:\CRYPTO/bitconnect.csv', usecols = ['Open','High','Low','Close',
'Volume']).fillna(method='ffill')
```

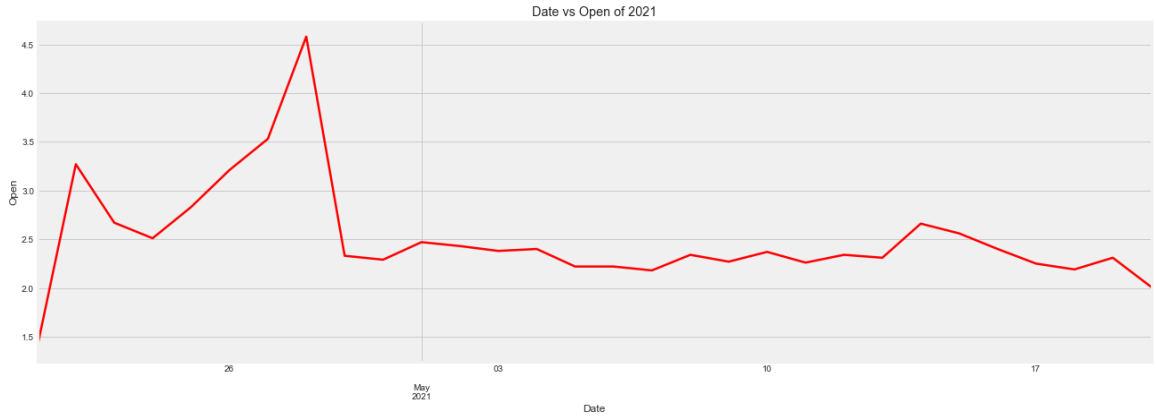
the opening status of the Bitconnect in the year 2021

In [124]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Open'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Open')
plt.title("Date vs Open of 2021")
```

Out[124]:

```
Text(0.5, 1.0, 'Date vs Open of 2021')
```



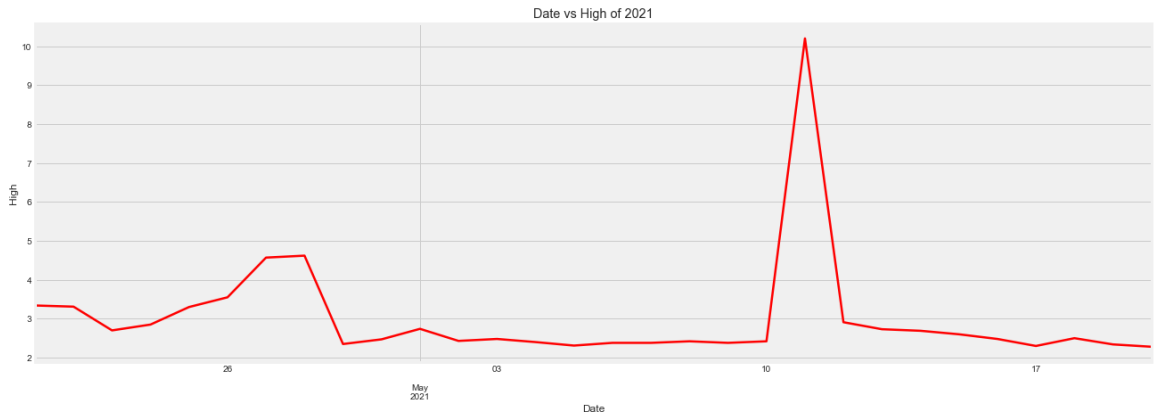
the highest bids of the Bitconnect

In [125]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['High'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('High')
plt.title("Date vs High of 2021")
```

Out[125]:

```
Text(0.5, 1.0, 'Date vs High of 2021')
```



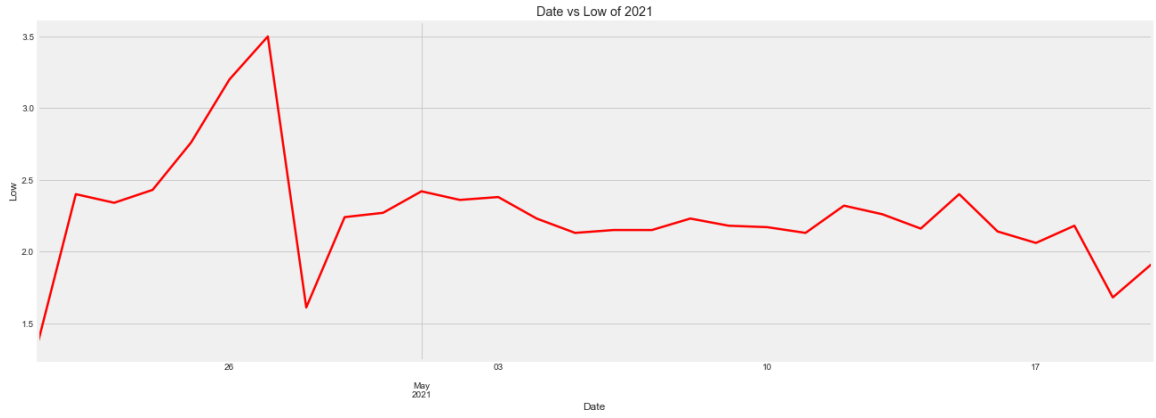
the lowest bids for the Bitconnect

In [126]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Low'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Low')
plt.title("Date vs Low of 2021")
```

Out[126]:

```
Text(0.5, 1.0, 'Date vs Low of 2021')
```



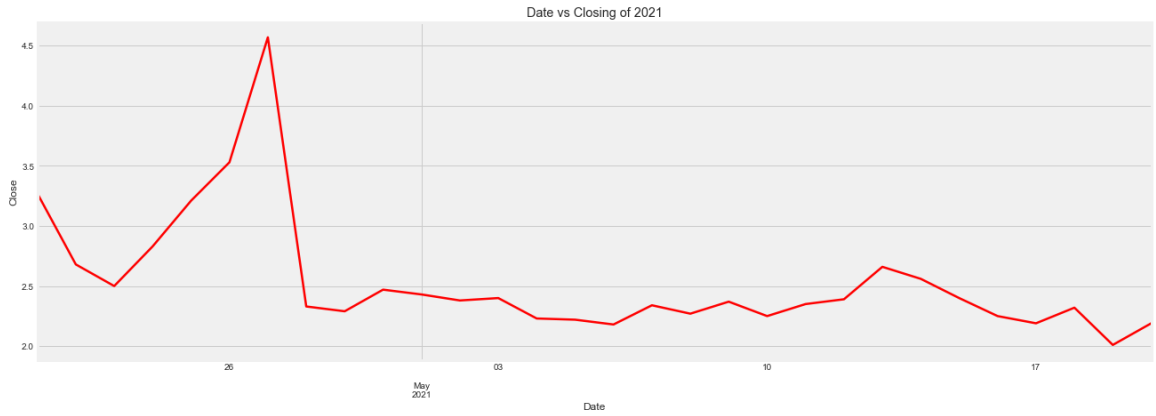
closing status of the Bitconnect

In [127]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Close'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Close')
plt.title("Date vs Closing of 2021")
```

Out[127]:

```
Text(0.5, 1.0, 'Date vs Closing of 2021')
```



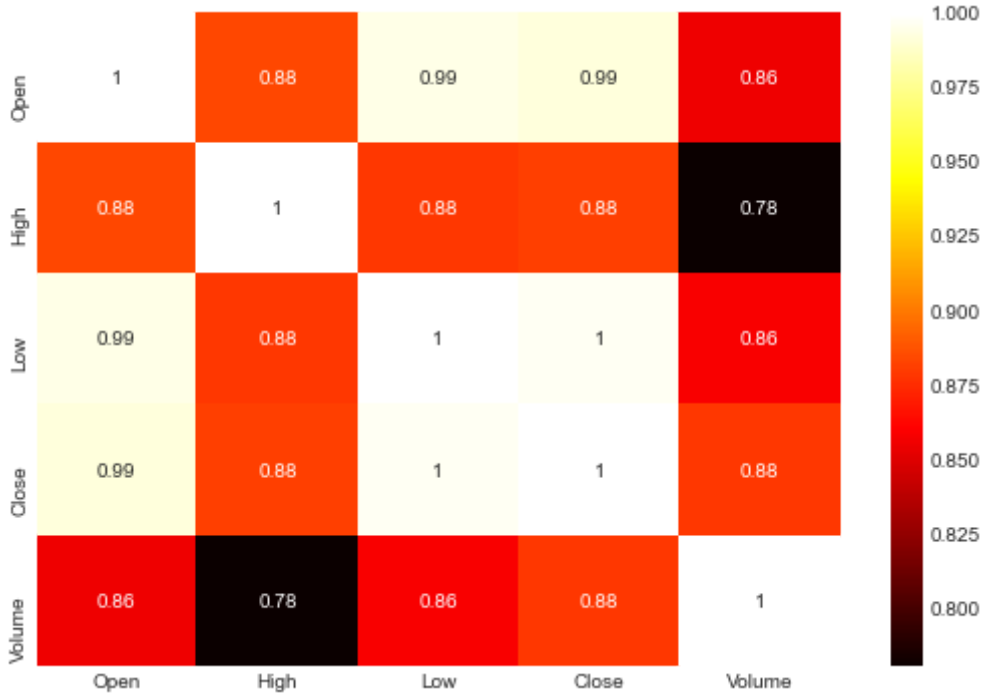
Now for the correlation between all the attributes from the beginning of bitconnect creation

In [128]:

```
plt.figure(figsize = (8,6))
sns.heatmap(new_df.corr() , cmap = 'hot', annot = True)
```

Out[128]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246abe2a850>
```



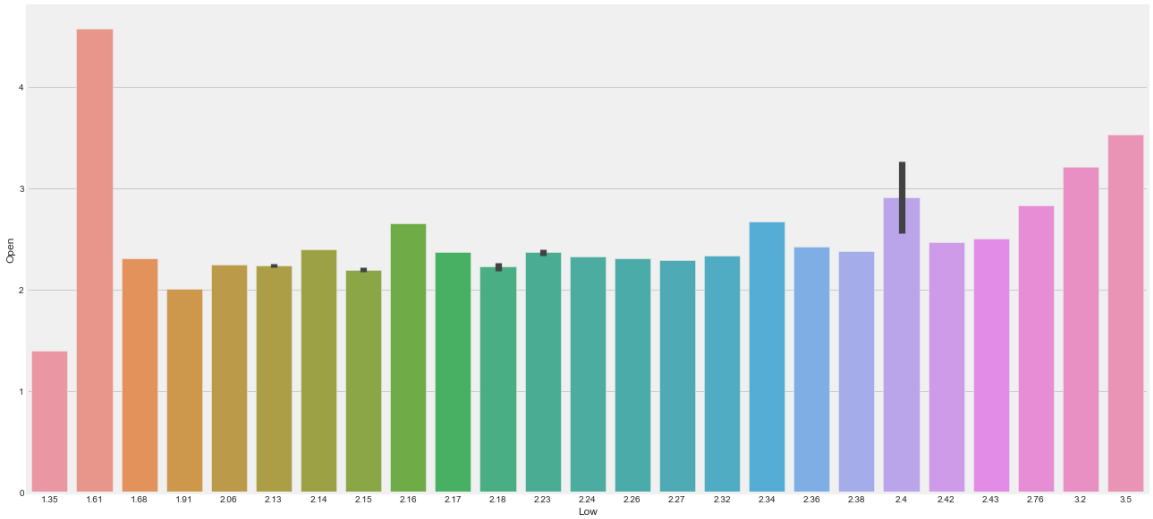
By the present date, you see that the value of the opening is almost reach the maximum state

In [129]:

```
plt.figure(figsize = (20,10))
sns.barplot(x = 'Low',  y ='Open', data = df1)
```

Out[129]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246abfe1970>
```



Ethereum Data

In [130]:

```
eth=pd.read_csv('E:\CRYPTO/Ethereum.csv',parse_dates=['Date'],index_col='Date', date_pa
rser=dateparse)
eth = eth.iloc[::-1]
eth.tail(5)
```

Out[130]:

Date	Open	High	Low	Close	Volume	Market Cap
2021-06-02	2634.455996	2801.392396	2555.401481	2706.124971	2.772327e+10	3.142663e+11
2021-06-03	2708.376141	2891.254971	2667.684221	2855.126531	3.003821e+10	3.316081e+11
2021-06-04	2857.165616	2857.165616	2562.637385	2688.194999	3.417384e+10	3.122566e+11
2021-06-05	2691.619506	2817.484904	2558.233703	2630.576801	3.049667e+10	3.055987e+11
2021-06-06	2629.748703	2743.441092	2616.162395	2715.092661	2.531164e+10	3.154539e+11

In [131]:

```
maxValue=eth[eth['Close']==max(eth.Close)]
print("Highiest value of Ethereum")
maxValue
```

```
Highiest value of Ethereum
```

Out[131]:

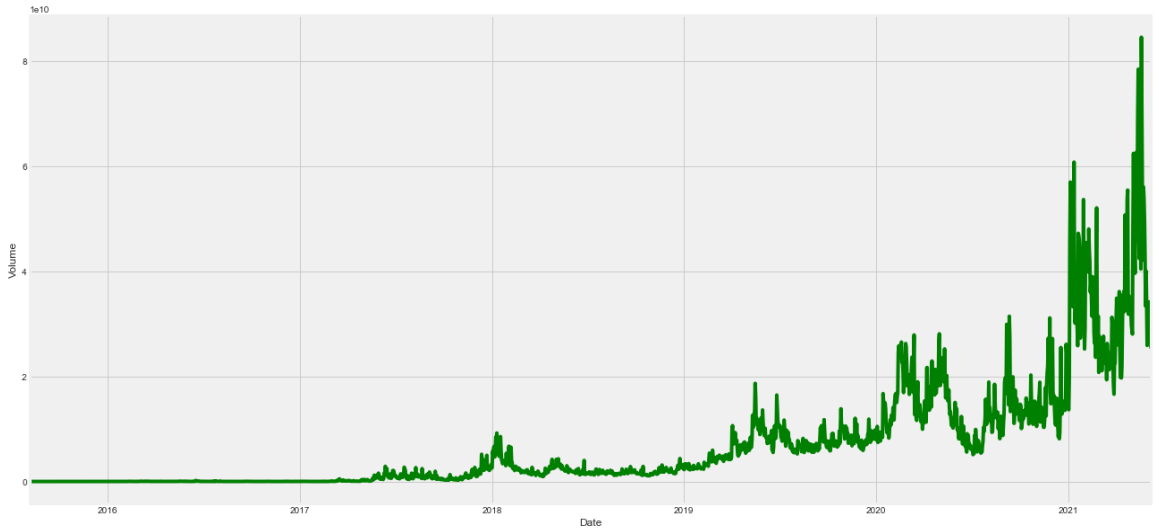
Date	Open	High	Low	Close	Volume	Market Cap
2021-05-11	3948.271909	4178.208815	3783.889474	4168.701049	5.267974e+10	4.828819e+11

In [132]:

```
plt.figure(figsize = (20,10))
eth.groupby('Date')['Volume'].median().plot(color = 'g')
plt.xlabel('Date')
plt.ylabel('Volume')
```

Out[132]:

```
Text(0, 0.5, 'Volume')
```



In [133]:

```
df1 = eth.tail(30)
```

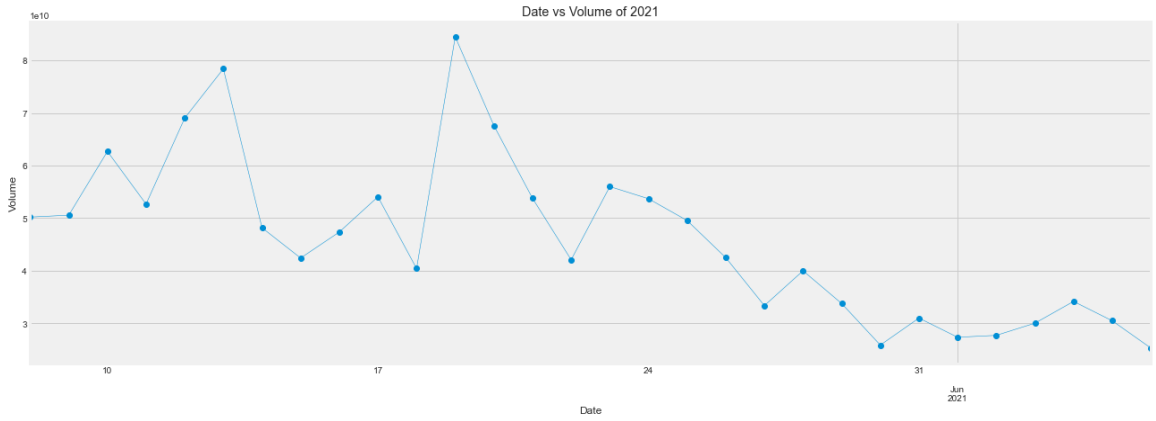
Lets Visualize the dataset with the Timespan of year 2021

In [134]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Volume'].mean().plot(linewidth = 0.5, marker ='o')
plt.xlabel('Date')
plt.ylabel('Volume')
plt.title("Date vs Volume of 2021")
```

Out[134]:

```
Text(0.5, 1.0, 'Date vs Volume of 2021')
```



Lets Check the correlation between features of the dataset. How much they close to eachother.

In [135]:

```
new_df =pd.read_csv('E:\CRYPTO/Ethereum.csv', usecols = ['Open','High','Low','Close','Volume']).fillna(method='ffill')
```

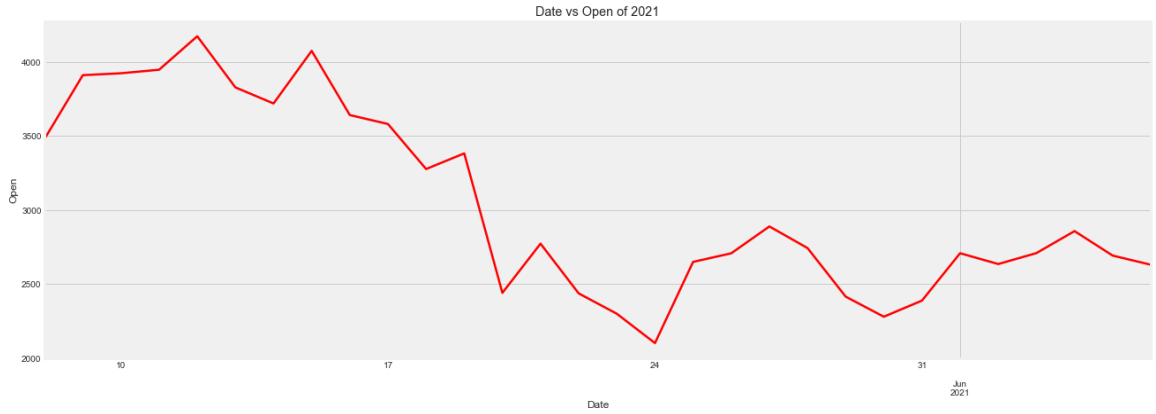
the opening status of the Ethereum in the year 2021

In [136]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Open'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Open')
plt.title("Date vs Open of 2021")
```

Out[136]:

```
Text(0.5, 1.0, 'Date vs Open of 2021')
```



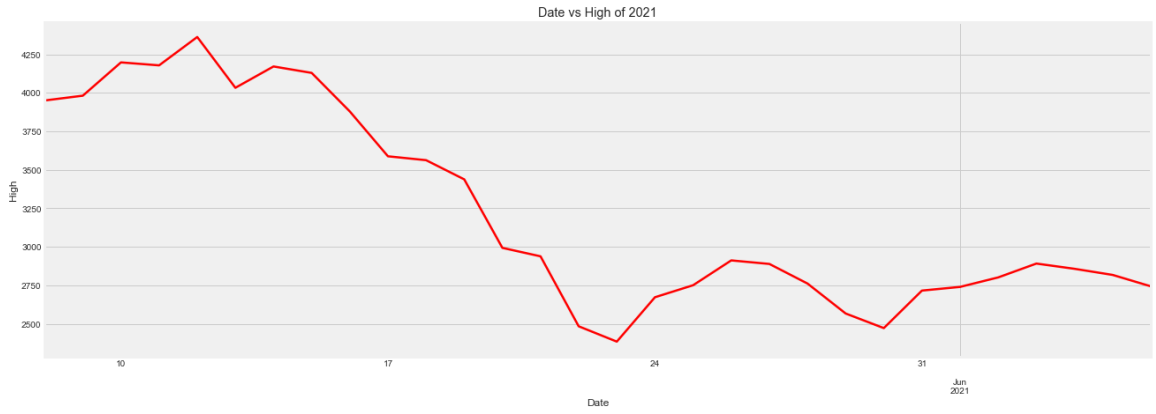
the highest bids of the Ethereum

In [137]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['High'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('High')
plt.title("Date vs High of 2021")
```

Out[137]:

```
Text(0.5, 1.0, 'Date vs High of 2021')
```



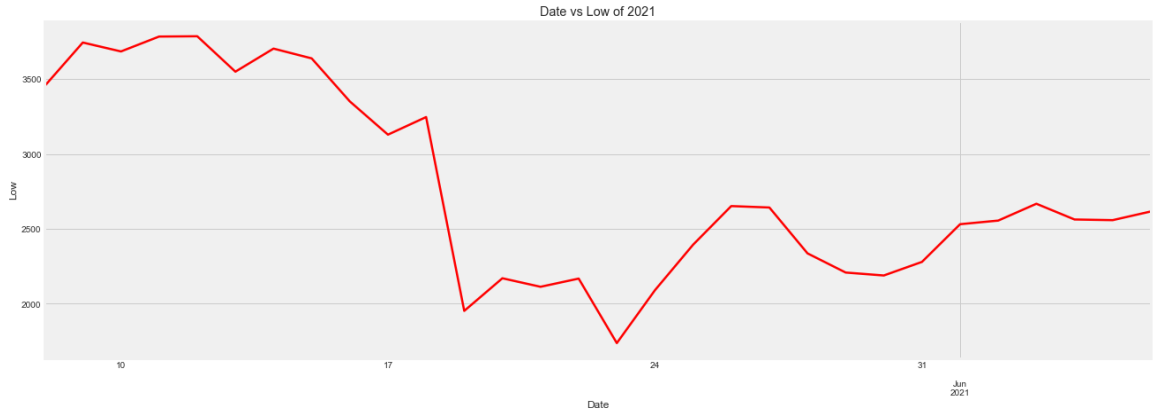
the lowest bids for the Ethereum

In [138]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Low'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Low')
plt.title("Date vs Low of 2021")
```

Out[138]:

```
Text(0.5, 1.0, 'Date vs Low of 2021')
```



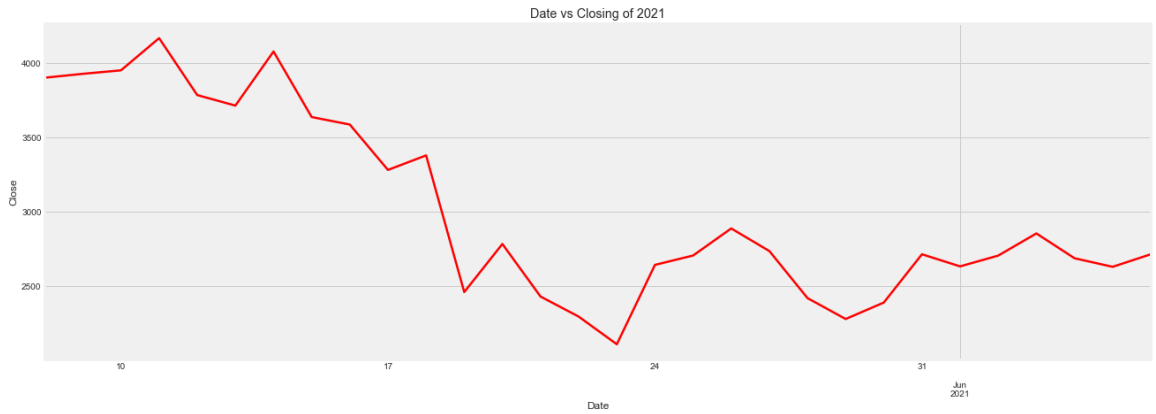
closing status of the Ethereum

In [139]:

```
plt.figure(figsize=(20,7))
df1.groupby('Date')['Close'].mean().plot(linewidth = 2.5, color = 'r')
plt.xlabel('Date')
plt.ylabel('Close')
plt.title("Date vs Closing of 2021")
```

Out[139]:

```
Text(0.5, 1.0, 'Date vs Closing of 2021')
```



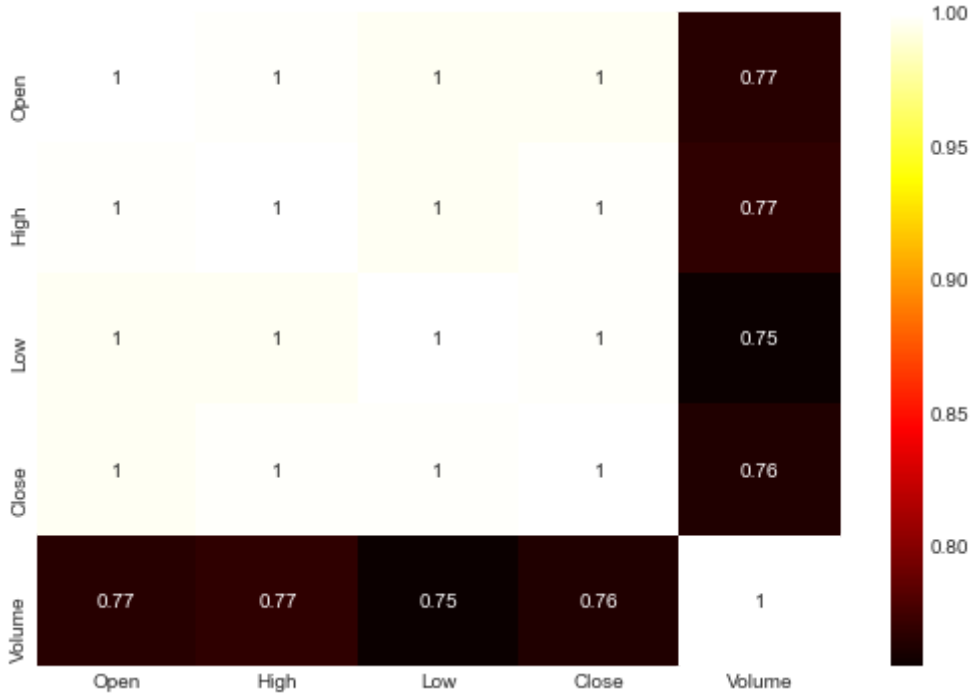
Now for the correlation between all the attributes from the beginning of Ethereum creation

In [140]:

```
plt.figure(figsize = (8,6))
sns.heatmap(new_df.corr() , cmap = 'hot', annot = True)
```

Out[140]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246ad82ca90>
```



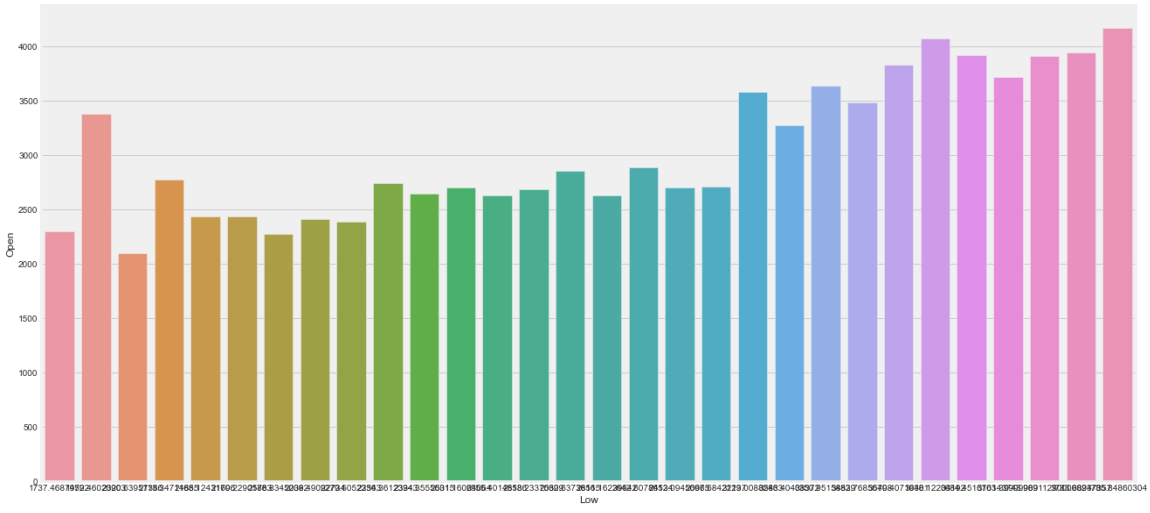
By the present date, you see that the value of the opening is almost reach the maximum state

In [141]:

```
plt.figure(figsize = (20,10))
sns.barplot(x = 'Low',  y ='Open', data = df1)
```

Out[141]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x246ad8987f0>
```



In [ ]:

```

```

In [ ]:

```

```

In [ ]:

```

```