In [21]:
```
import pandas as pd
import matplotlib.pyplot as plt

%matplotlib inline
```

In [22]:
```
#Import the CSV file

df = pd.read_csv("OpenBCI.csv")
df.head()
```

Out[22]:

	sequence	channel_1	channel_2	channel_3	channel_4	channel_5	channel_6	channel_7	chan
0	1	9305.95	-11284.14	-44654.13	-25342.99	-7965.54	-51180.17	-11820.97	-208
1	2	10282.90	-10282.85	-44095.50	-24926.49	-8072.51	-51185.27	-11671.32	-205
2	3	9841.61	-10652.42	-44369.60	-25201.52	-8009.26	-51365.45	-11783.82	-206
3	4	8889.02	-11628.25	-44910.78	-25598.54	-7909.92	-51352.86	-11923.83	-209
4	5	9145.48	-11442.73	-44758.94	-25411.00	-7962.32	-51199.60	-11851.03	-208

In [23]:
```
#Change the timestampe into datetime format

df.Timestamp = pd.to_datetime(df.Timestamp )
```

In [24]:
```
df
```

Out[24]:

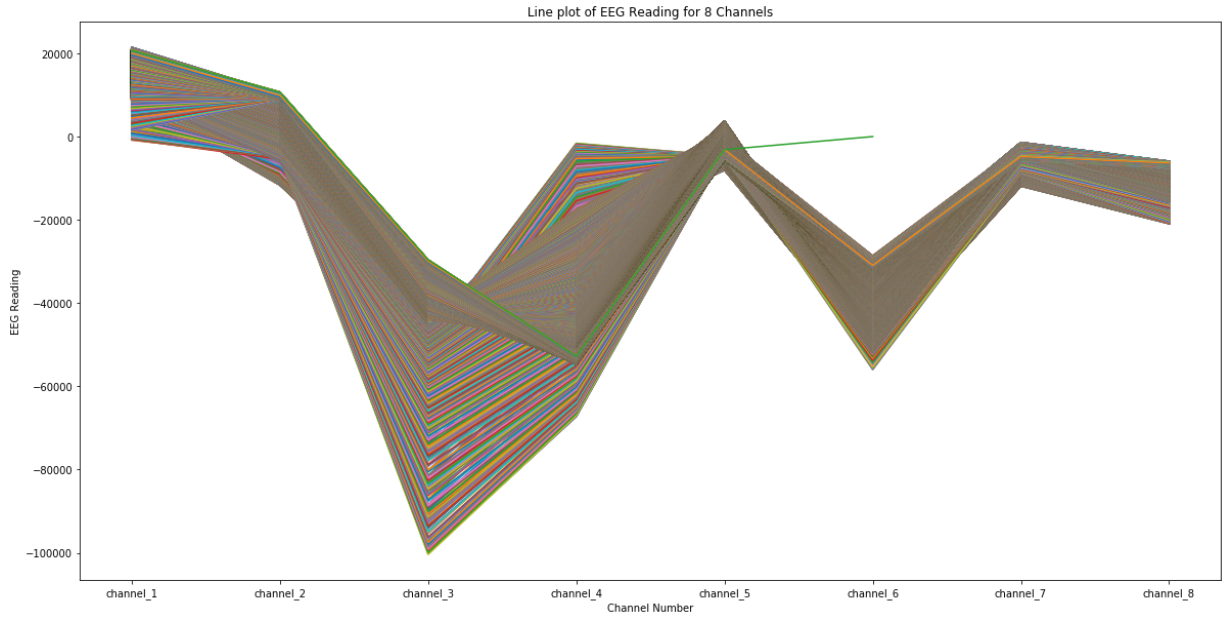
	sequence	channel_1	channel_2	channel_3	channel_4	channel_5	channel_6	channel_7
0	1	9305.95	-11284.14	-44654.13	-25342.99	-7965.54	-51180.17	-11820.97
1	2	10282.90	-10282.85	-44095.50	-24926.49	-8072.51	-51185.27	-11671.32
2	3	9841.61	-10652.42	-44369.60	-25201.52	-8009.26	-51365.45	-11783.82
3	4	8889.02	-11628.25	-44910.78	-25598.54	-7909.92	-51352.86	-11923.83
4	5	9145.48	-11442.73	-44758.94	-25411.00	-7962.32	-51199.60	-11851.03
5	6	10186.09	-10391.86	-44156.34	-24941.84	-8089.05	-51167.52	-11674.36
6	7	10067.29	-10428.25	-44235.24	-25071.44	-8068.78	-51354.16	-11727.38

In [25]:
```
#Get some stats about the data

df.describe()
```

Out[25]:

	sequence	channel_1	channel_2	channel_3	channel_4	channel_5	
count	31503.000000	31503.000000	31503.000000	31503.000000	31503.000000	31503.000000	31
mean	127.443101	16111.093013	2398.759095	-42215.286421	-41793.275299	-2875.556079	-41
std	73.929888	3466.460556	6519.925245	5632.906123	16042.460976	2992.984251	7
min	0.000000	-871.180000	-11692.510000	-100399.920000	-67272.630000	-8089.050000	-56
25%	63.000000	13435.335000	-1246.530000	-44538.830000	-53973.200000	-5287.830000	-49
50%	127.000000	16847.830000	4446.630000	-42710.200000	-50867.540000	-3684.260000	-40
75%	191.000000	19200.930000	7661.050000	-39449.275000	-27631.580000	-792.540000	-34
max	255.000000	21427.920000	10683.780000	-29602.560000	-1612.100000	3718.010000	

In [46]:
```
#Plot a line graph

fig = plt.figure(figsize=(20,10))
ax=fig.add_subplot(111)
ax.plot(df.iloc[0:,1:9].transpose())
plt.xlabel("Channel Number")
plt.ylabel("EEG Reading")
plt.title(" Line plot of EEG Reading for 8 Channels ")
plt.show()
```



In [38]:
```
df_channel=df.iloc[0:,1:9].transpose()
```

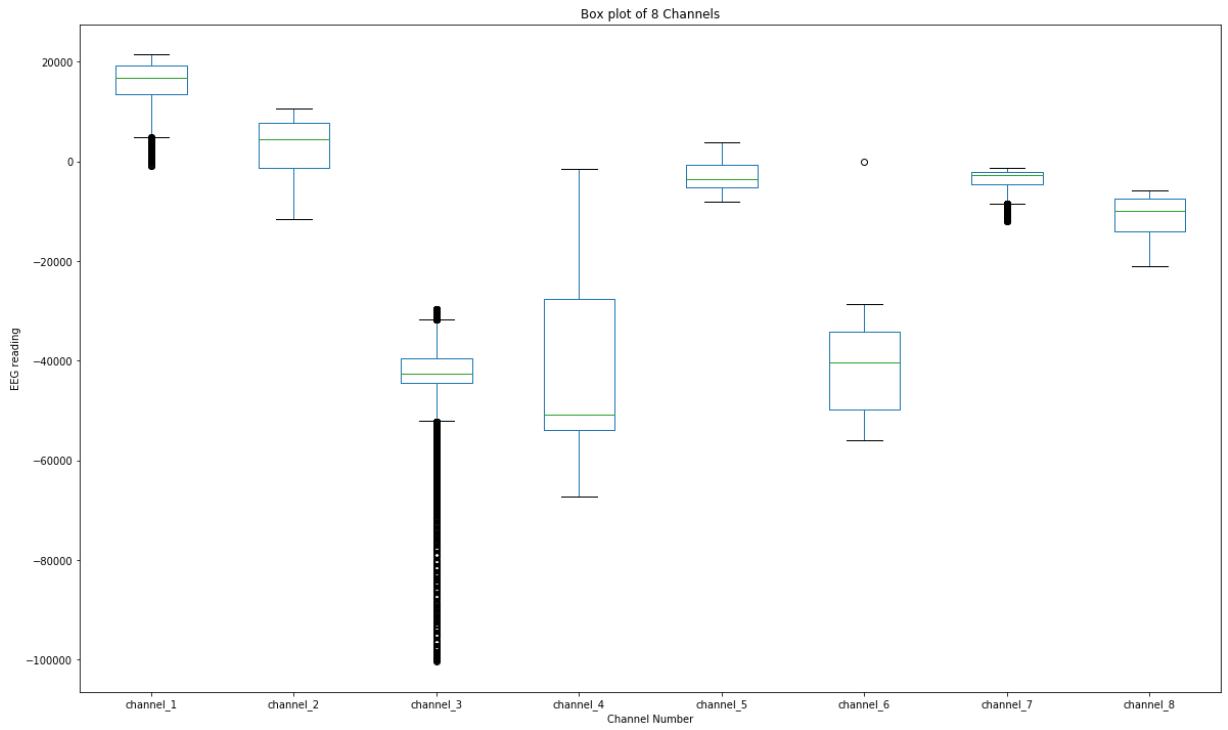
In [39]:
```
df_channel
```

Out[39]:

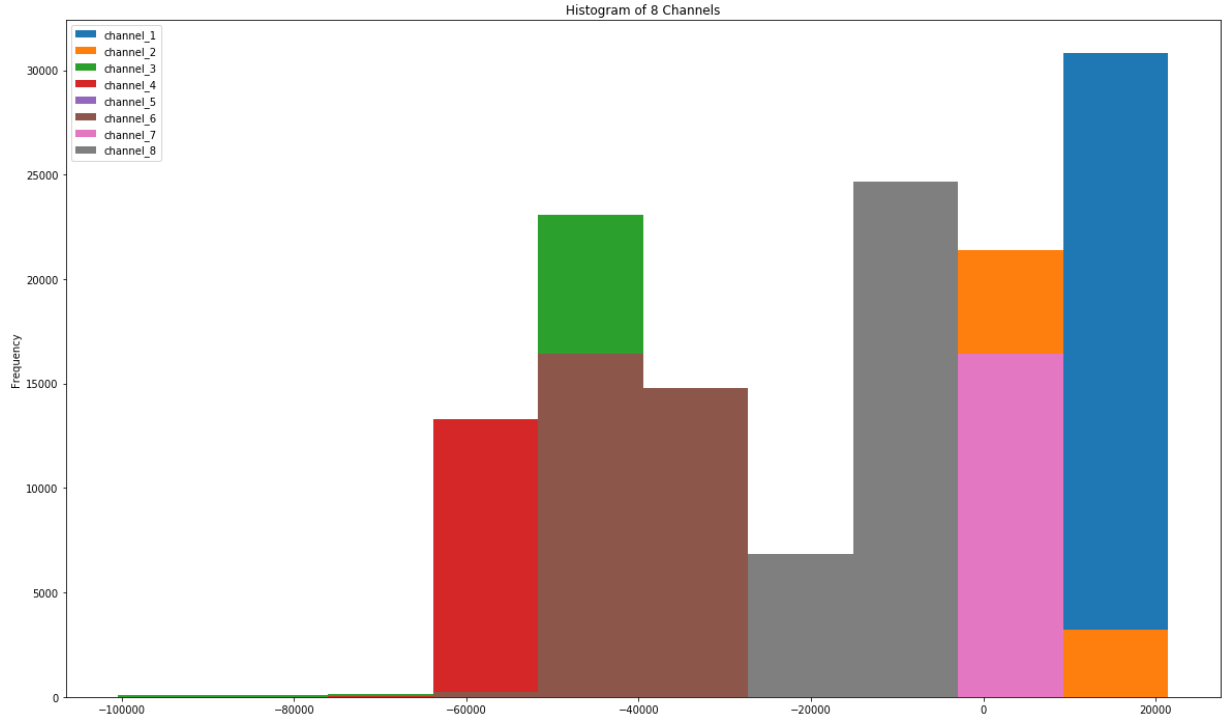
	0	1	2	3	4	5	6	7
channel_1	9305.95	10282.90	9841.61	8889.02	9145.48	10186.09	10067.29	9001.70
channel_2	-11284.14	-10282.85	-10652.42	-11628.25	-11442.73	-10391.86	-10428.25	-11505.54
channel_3	-44654.13	-44095.50	-44369.60	-44910.78	-44758.94	-44156.34	-44235.24	-44862.32
channel_4	-25342.99	-24926.49	-25201.52	-25598.54	-25411.00	-24941.84	-25071.44	-25556.67
channel_5	-7965.54	-8072.51	-8009.26	-7909.92	-7962.32	-8089.05	-8068.78	-7932.95
channel_6	-51180.17	-51185.27	-51365.45	-51352.86	-51199.60	-51167.52	-51354.16	-51381.72
channel_7	-11820.97	-11671.32	-11783.82	-11923.83	-11851.03	-11674.36	-11727.38	-11908.25
channel_8	-20801.38	-20540.52	-20688.53	-20934.75	-20851.47	-20557.41	-20604.71	-20907.57

8 rows × 31503 columns

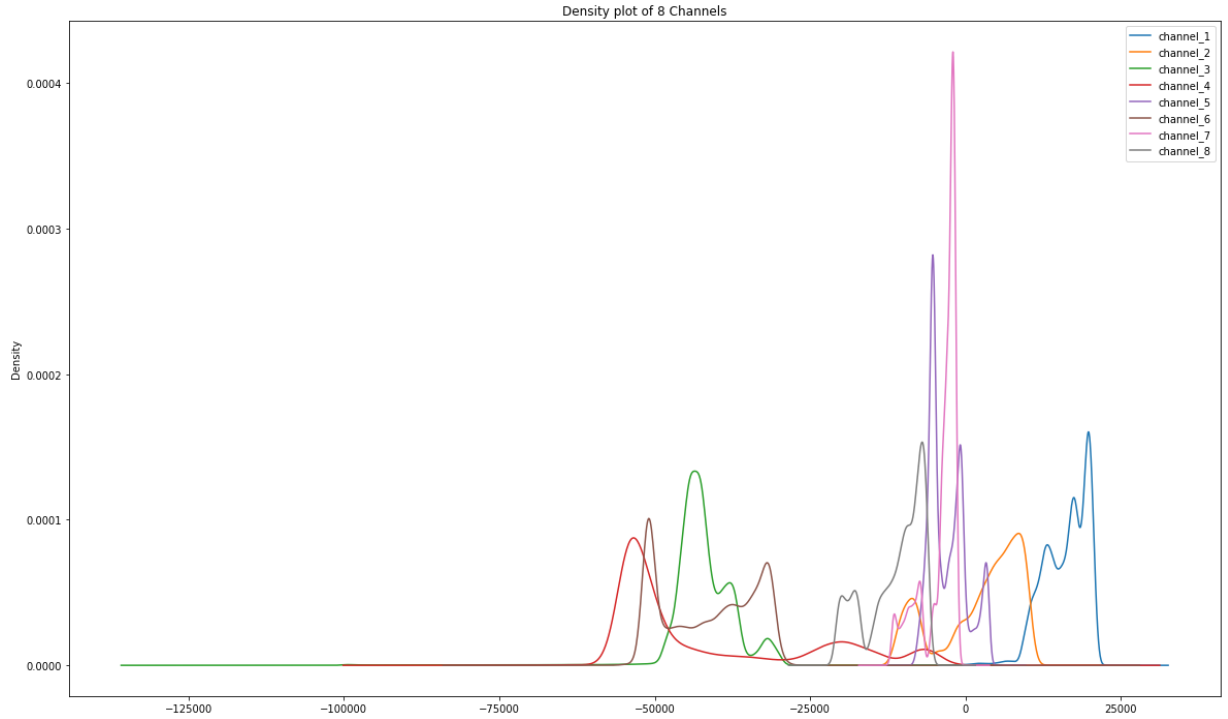
In [45]:
```
df.iloc[0:,1:9].plot(kind='box', figsize=(20,12))
plt.xlabel("Channel Number")
plt.ylabel("EEG reading")
plt.title("Box plot of 8 Channels")
plt.show()
```



In [49]:
```
df.iloc[0:,1:9].plot(kind='hist', figsize=(20,12))

plt.title("Histogram of 8 Channels")
plt.show()
```



In [50]:
```
df.iloc[0:,1:9].plot(kind='kde', figsize=(20,12))

plt.title("Density plot of 8 Channels")
plt.show()
```



In [ ]:
```

```

In [ ]: