

```

# Fear Greed Index Dataframe Info:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2644 entries, 0 to 2643
Data columns (total 4 columns):
#   Column      Non-Null Count  Dtype
---  -
0   timestamp    2644 non-null   int64
1   value        2644 non-null   int64
2   classification 2644 non-null   object
3   date         2644 non-null   object
dtypes: int64(2), object(2)
memory usage: 21.6+ MB
None

Historical Trader Data DataFrame:

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	Account	Coll	Execution Price	Size	Size USD	Time Tokens	Start Position	Direction	Closed PnL	Transaction Hash	Order ID	Crossed	Fee	T	
0	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8769	986.67	7872.16	BLV	02-12-2024 22:20	0.000000	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.345404	6.850
1	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8800	16.00	127.68	BLV	02-12-2024 22:20	986.524596	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.005900	4.430
2	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8855	144.09	1150.83	BLV	02-12-2024 22:20	1002.518996	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050431	6.800
3	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8874	142.88	1142.04	BLV	02-12-2024 22:20	-146.558954	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050043	1.080
4	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8894	8.73	69.75	BLV	02-12-2024 22:20	1289.488021	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.003005	1.050

Missing values in historical_data_df before handling:

Account	0
Coin	0
Execution Price	0
Size Tokens	0
Size USD	0
Side	0
Timestamp IST	0
Start Position	0
Direction	0
Closed PnL	0
Transaction Hash	0
Order ID	0
Crossed	0
Fee	0
Trade ID	0
Timestamp	0
date	0

dtype: int64

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Historical Trader Data DataFrame Info:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 211224 entries, 0 to 211223
Data columns (total 16 columns):
#   Column      Non-Null Count  Dtype
---  -
0   Account      211224 non-null   object
1   Coin         211224 non-null   object
2   Execution Price 211224 non-null   float64
3   Size Tokens   211224 non-null   float64
4   Size USD     211224 non-null   float64
5   Side         211224 non-null   object
6   Timestamp IST 211224 non-null   object
7   Start Position 211224 non-null   float64
8   Direction     211224 non-null   object
9   Closed PnL    211224 non-null   float64
10  Transaction Hash 211224 non-null   object
11  Order ID      211224 non-null   int64
12  Crossed       211224 non-null   bool
13  Fee           211224 non-null   float64
14  Trade ID     211224 non-null   float64
15  Timestamp     211224 non-null   float64
dtypes: bool(1), float64(8), int64(1), object(6)
memory usage: 24.4+ MB
None

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Data types of historical_data_df after converting 'Timestamp IST' column:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 211224 entries, 0 to 211223
Data columns (total 16 columns):
#   Column      Non-Null Count  Dtype
---  -
0   Account      211224 non-null   object
1   Coin         211224 non-null   object
2   Execution Price 211224 non-null   float64
3   Size Tokens   211224 non-null   float64
4   Size USD     211224 non-null   float64
5   Side         211224 non-null   object
6   Timestamp IST 211224 non-null   datetime64[ns]
7   Start Position 211224 non-null   float64
8   Direction     211224 non-null   object
9   Closed PnL    211224 non-null   float64
10  Transaction Hash 211224 non-null   object
11  Order ID      211224 non-null   int64
12  Crossed       211224 non-null   bool
13  Fee           211224 non-null   float64
14  Trade ID     211224 non-null   float64
15  Timestamp     211224 non-null   float64
dtypes: bool(1), datetime64[ns](1), float64(8), int64(1), object(5)
memory usage: 24.4+ MB
None

(h) historical_data_df['date'] = historical_data_df['Timestamp IST'].dt.date
display(historical_data_df.head())

```

	Account	Coll	Execution Price	Size	Size USD	Time Tokens	Start Position	Direction	Closed PnL	Transaction Hash	Order ID	Crossed	Fee	Trade ID	Time	
0	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8769	986.67	7872.16	BLV	2024-12-02 22:20:00	0.000000	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.345404	6.850000e+14	1.738000e+15
1	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8800	16.00	127.68	BLV	2024-12-02 22:20:00	986.524596	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.005900	4.430000e+14	1.738000e+15
2	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8855	144.09	1150.83	BLV	2024-12-02 22:20:00	1002.518996	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050431	6.800000e+14	1.738000e+15
3	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8874	142.88	1142.04	BLV	2024-12-02 22:20:00	-146.558954	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050043	1.080000e+15	1.738000e+15
4	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8894	8.73	69.75	BLV	2024-12-02 22:20:00	1289.488021	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.003005	1.050000e+15	1.738000e+15

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Descriptive statistics for relevant numerical columns in historical_data_df:

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	Execution Price	Size Tokens	Size USD	Closed PnL	Start Position	Fee
count	211224.000000	2.112240e+05	2.112240e+05	211224.000000	2.112240e+05	211224.000000
mean	11414.723350	4.623365e+03	5.639451e+03	48.749001	-2.994625e+04	1.163967
std	29447.654868	1.042729e+05	3.657514e+04	919.164828	6.738074e+05	6.758854
min	0.000005	8.740000e-07	0.000000e+00	-117990.104100	-1.433463e+07	-1.175712
25%	4.854700	2.940000e+00	1.937900e+02	0.000000	-3.782311e+02	0.016121
50%	18.280000	3.200000e+01	5.970450e+02	0.000000	-8.472793e+01	0.089578
75%	101.580000	1.879025e+02	2.058890e+03	5.792977	9.337278e+03	0.393811
max	109004.000000	1.582244e+07	3.921431e+06	135329.090100	3.050948e+07	837.471593

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Data types of historical_data_df after converting 'Timestamp IST' column:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 211224 entries, 0 to 211223
Data columns (total 17 columns):
#   Column      Non-Null Count  Dtype
---  -
0   Account      211224 non-null   object
1   Coin         211224 non-null   object
2   Execution Price 211224 non-null   float64
3   Size Tokens   211224 non-null   float64
4   Size USD     211224 non-null   float64
5   Side         211224 non-null   object
6   Timestamp IST 211224 non-null   datetime64[ns]
7   Start Position 211224 non-null   float64
8   Direction     211224 non-null   object
9   Closed PnL    211224 non-null   float64
10  Transaction Hash 211224 non-null   object
11  Order ID      211224 non-null   int64
12  Crossed       211224 non-null   bool
13  Fee           211224 non-null   float64
14  Trade ID     211224 non-null   float64
15  Timestamp     211224 non-null   datetime64[ns]
16  date         211224 non-null   datetime64[ns]
dtypes: bool(1), datetime64[ns](2), float64(8), int64(1), object(5)
memory usage: 26.0+ MB
None

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	Account	Coll	Execution Price	Size	Size USD	TimeToken	Start Position	Direction	Closed PnL	Transaction Hash	Order ID	Crossed	Fee	Trade ID	Time	
0	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8769	986.67	7872.16	BLV	2024-12-02 22:20:00	0.000000	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.345404	6.850000e+14	1.738000e+15
1	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8800	16.00	127.68	BLV	2024-12-02 22:20:00	986.524596	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.005900	4.430000e+14	1.738000e+15
2	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8855	144.09	1150.83	BLV	2024-12-02 22:20:00	1002.518996	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050431	6.800000e+14	1.738000e+15
3	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8874	142.88	1142.04	BLV	2024-12-02 22:20:00	-146.558954	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.050043	1.080000e+15	1.738000e+15
4	0xw5eac9f0b111b53034a6021b20a4e0b2d	#107	7.8894	8.73	69.75	BLV	2024-12-02 22:20:00	1289.488021	Buy	0.0	0xw09451986a1874ca3a80418412b0201500c9bacc...	52017706930	True	0.003005	1.050000e+15	1.738000e+15

	mean	median
classification		
Extreme Fear	34.537862	0.0
Extreme Greed	67.892861	0.0
Fear	54.290400	0.0
Greed	42.743559	0.0
Neutral	34.307718	0.0