In [3]:
```
import pandas as pd
df=pd.read_csv('cybersecurity_attacks.csv')
df.head()
```

Out[3]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	Payloa Dat
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Qui natu odi asperiore nam. Opti nobis ius.
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	Aperiar quos moc officii veritati rem Omni.
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Perferendi sapient vita soluta. Hi delectu.
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	Totar maxim beata expedit explicab porro l.
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Od nesciur dolorer nisi ist iusto. Anim v.

5 rows × 25 columns

In [7]:
```
df.shape
```

Out[7]:
```
(40000, 25)
```

In [8]:
```
df.isnull().sum()
```

Out[8]:
```
Timestamp                    0
Source IP Address            0
Destination IP Address       0
Source Port                  0
Destination Port             0
Protocol                     0
Packet Length                0
Packet Type                  0
Traffic Type                 0
Payload Data                 0
Malware Indicators       20000
Anomaly Scores               0
Alerts/Warnings          20067
Attack Type                  0
Attack Signature             0
Action Taken                 0
Severity Level               0
User Information             0
Device Information           0
Network Segment              0
Geo-location Data            0
Proxy Information        19851
Firewall Logs            19961
IDS/IPS Alerts           20050
Log Source                   0
dtype: int64
```

In [9]:
```
df.isnull().sum().sum()
```

Out[9]:
```
99929
```

In [10]:
```
##filling the null values
```

In [12]:
```
df2=df.fillna(value=0)
df2
```

Out[12]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [13]:
```
df2.isnull().sum().sum()
```

Out[13]:
```
0
```

In [14]:
```
#filling the null values with previous value

df3=df.fillna(method='pad')
df3
```

Out[14]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [15]:
```
#filling null values with next value

df4=df.fillna(method='bfill')
df4
```

Out[15]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [17]:
```
#filling null values with backward values

df5=df.fillna(method='pad',axis=1)
df5
```

Out[17]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [18]:
```
#filling null values with forward values

df7=df.fillna(method='bfill',axis=1)
df7
```

Out[18]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [21]:
```
#filling different values in null in different columns

df8=df.fillna({'Proxy Information':'234.5.895.456',
               'Firewall Logs':'log data'})
df8
```

Out[21]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

dropna()

In [29]:
```
df10=df.dropna()
df10
```

Out[29]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	P
7	2023-02-12 07:13:17	11.48.99.245	178.157.14.116	34489	20396	ICMP	1022	Data	DNS	q
46	2023-05-16 13:01:56	170.211.138.30	172.97.181.148	25022	6593	TCP	554	Control	DNS	cupid
97	2021-10-25 04:23:15	129.189.216.143	197.202.27.160	19199	27928	ICMP	1178	Data	HTTP	Ea ad vo
105	2022-10-30 05:51:47	62.75.113.77	216.196.28.158	42864	48696	ICMP	765	Control	DNS	Dolor maior
...	...	...	...	...	...	...	...	...	...	
39832	2023-01-15 00:16:35	192.68.130.174	47.59.96.194	34978	62423	ICMP	1003	Data	HTTP	
39887	2022-01-31 14:01:44	185.115.82.22	184.58.72.27	7461	13910	TCP	361	Data	DNS	
39896	2020-09-23 07:09:09	85.96.253.113	78.219.210.210	22124	61792	UDP	665	Data	DNS	Atq
39905	2020-12-30 20:32:48	91.16.73.36	172.76.179.79	26461	2781	ICMP	143	Data	HTTP	reic
39956	2022-06-17 02:41:11	205.9.232.102	57.3.168.6	8642	32255	TCP	714	Control	HTTP	Qu

1237 rows × 25 columns

In [31]:
```
df11=df.dropna(how='any')
df11
```

Out[31]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	P
7	2023-02-12 07:13:17	11.48.99.245	178.157.14.116	34489	20396	ICMP	1022	Data	DNS	q
46	2023-05-16 13:01:56	170.211.138.30	172.97.181.148	25022	6593	TCP	554	Control	DNS	cupid
97	2021-10-25 04:23:15	129.189.216.143	197.202.27.160	19199	27928	ICMP	1178	Data	HTTP	Ea ad vo
105	2022-10-30 05:51:47	62.75.113.77	216.196.28.158	42864	48696	ICMP	765	Control	DNS	Dolor maior
...	...	...	...	...	...	...	...	...	...	
39832	2023-01-15 00:16:35	192.68.130.174	47.59.96.194	34978	62423	ICMP	1003	Data	HTTP	
39887	2022-01-31 14:01:44	185.115.82.22	184.58.72.27	7461	13910	TCP	361	Data	DNS	
39896	2020-09-23 07:09:09	85.96.253.113	78.219.210.210	22124	61792	UDP	665	Data	DNS	Atq
39905	2020-12-30 20:32:48	91.16.73.36	172.76.179.79	26461	2781	ICMP	143	Data	HTTP	reic
39956	2022-06-17 02:41:11	205.9.232.102	57.3.168.6	8642	32255	TCP	714	Control	HTTP	Qu

1237 rows × 25 columns

In [32]:
```
df12=df.dropna(axis=1)
df12
```

Out[32]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 20 columns

replace()

In [33]:
```
import numpy as np
df13=df.replace(to_replace=np.nan,value=20)
df13
```

Out[33]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nat no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [36]:
```
df14=df.replace(to_replace=17616,value=27616)
df14
```

Out[36]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	27616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolc is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

e()

In [39]:
```
df['Proxy Information']=df['Proxy Information'].interpolate(method='linear')
df
```

Out[39]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [40]:
```
df['Proxy Information']=df['Proxy Information'].interpolate(method='linear',limit_direct
df
```

Out[40]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolc is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [2]:
```
import pandas as pd
sv('cybersecurity_attacks.csv')
```

```
df
```

Out[2]:

	Timestamp	Source IP Address	Destination IP Address	Source Port	Destination Port	Protocol	Packet Length	Packet Type	Traffic Type	I
0	2023-05-30 06:33:58	103.216.15.12	84.9.164.252	31225	17616	ICMP	503	Data	HTTP	Q as nar no
1	2020-08-26 07:08:30	78.199.217.198	66.191.137.154	17245	48166	ICMP	1174	Data	HTTP	qu verita
2	2022-11-13 08:23:25	63.79.210.48	198.219.82.17	16811	53600	UDP	306	Control	HTTP	Per vita Hic c
3	2023-07-02 10:38:46	163.42.196.10	101.228.192.255	20018	32534	UDP	385	Data	HTTP	e
4	2023-07-16 13:11:07	71.166.185.76	189.243.174.238	6131	26646	TCP	1462	Data	DNS	Odit dolo is A
...	...	...	...	...	...	...	...	...	...	
39995	2023-05-26 14:08:42	26.36.109.26	121.100.75.240	31005	6764	UDP	1428	Control	HTTP	Qui cons conse
39996	2023-03-27 00:38:27	17.21.163.81	196.108.134.78	2553	28091	UDP	1184	Control	HTTP	neq c
39997	2022-03-31 01:45:49	162.35.217.57	98.107.0.15	22505	25152	UDP	1043	Data	DNS	as illum nu
39998	2023-09-22 18:32:38	208.72.233.205	173.79.112.252	20013	2703	UDP	483	Data	FTP	dolo p ear
39999	2023-10-10 11:59:52	14.102.21.108	109.198.45.7	50137	55575	ICMP	1175	Control	HTTP	v volu

40000 rows × 25 columns

In [ ]:

In [ ]: