In [1]:

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [2]:

```
df=pd.read_csv('AirQualityodisha.csv')
```

In [3]:

```
df
```

Out[3]:

	Stn Code	Sampling Date	State	City	Location of Monitoring Station	Agency	Type of Location	SO2	NO2	RSPM/P
0	68	02-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	11	24	
1	68	06-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	10	23	
2	68	09-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	8	25	
3	68	13-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	10	25	
4	68	16-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	9	26	
...	...	...	...	...	...	...	...	...	...	...
2387	819	15-12-15	Odisha	Kalinga Nagar	Roof of RO OFFICE BUILDING	Odisha State Pollution Control Board	Industrial Area	2	10	
2388	819	17-12-15	Odisha	Kalinga Nagar	Roof of RO OFFICE BUILDING	Odisha State Pollution Control Board	Industrial Area	2	10	
2389	819	22-12-15	Odisha	Kalinga Nagar	Roof of RO OFFICE BUILDING	Odisha State Pollution Control Board	Industrial Area	2	10	
2390	819	26-12-15	Odisha	Kalinga Nagar	Roof of RO OFFICE BUILDING	Odisha State Pollution Control Board	Industrial Area	2	10	
2391	819	29-12-15	Odisha	Kalinga Nagar	Roof of RO OFFICE BUILDING	Odisha State Pollution Control Board	Industrial Area	2	10	

2392 rows × 11 columns

In [4]:

```
df.head(5)
```

Out[4]:

	Stn Code	Sampling Date	State	City	Location of Monitoring Station	Agency	Type of Location	SO2	NO2	RSPM/PM1
0	68	02-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	11	24	14
1	68	06-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	10	23	13
2	68	09-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	8	25	12
3	68	13-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	10	25	13
4	68	16-01-15	Odisha	Talcher	T.T.P.S.Colony, Talcher	Odisha State Pollution Control Board	Industrial Area	9	26	18

In [5]:

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2392 entries, 0 to 2391
Data columns (total 11 columns):
 #   Column                          Non-Null Count  Dtype  
---  ------                          --------------  -----  
 0   Stn Code                        2392 non-null   int64  
 1   Sampling Date                   2392 non-null   object 
 2   State                           2392 non-null   object 
 3   City                            2392 non-null   object 
 4   Location of Monitoring Station  2392 non-null   object 
 5   Agency                          2392 non-null   object 
 6   Type of Location                2392 non-null   object 
 7   SO2                             2392 non-null   int64  
 8   NO2                             2392 non-null   int64  
 9   RSPM/PM10                       2392 non-null   int64  
 10  PM 2.5                          2060 non-null   float64
dtypes: float64(1), int64(4), object(6)
memory usage: 205.7+ KB
```

In [7]:

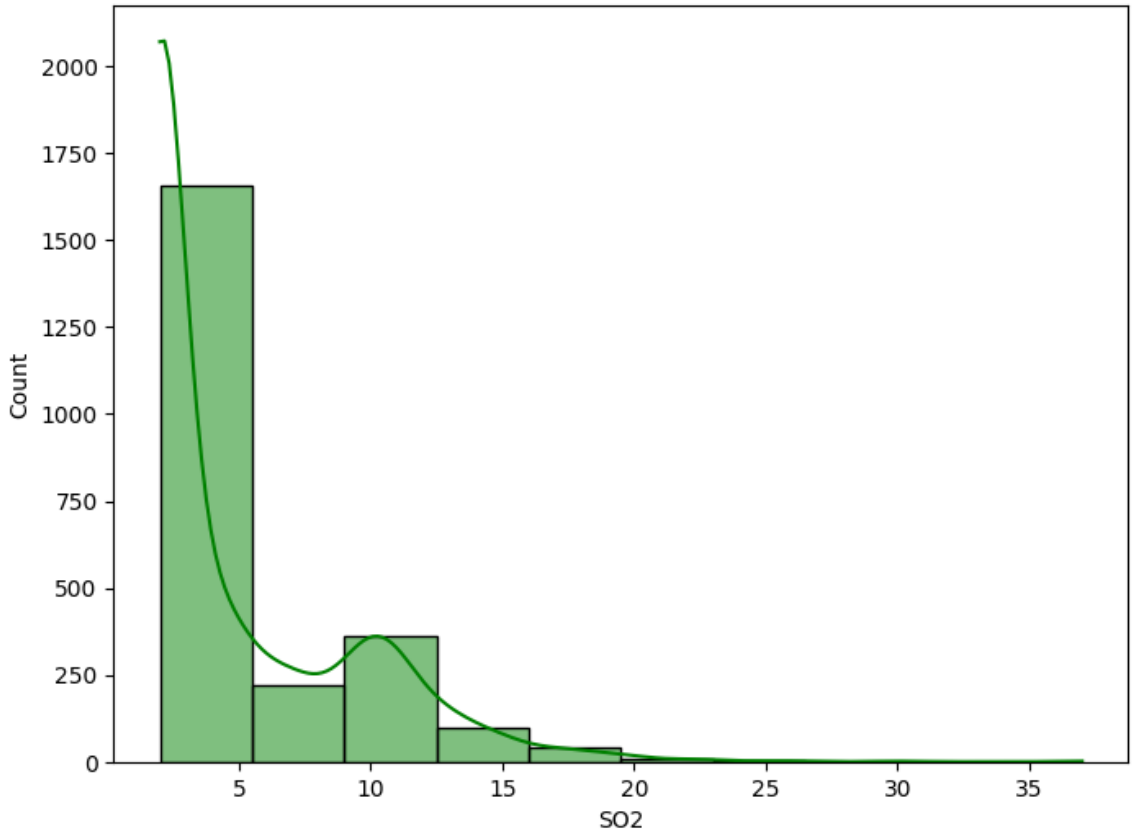
```
df.shape
```

Out[7]:

```
(2392, 11)
```

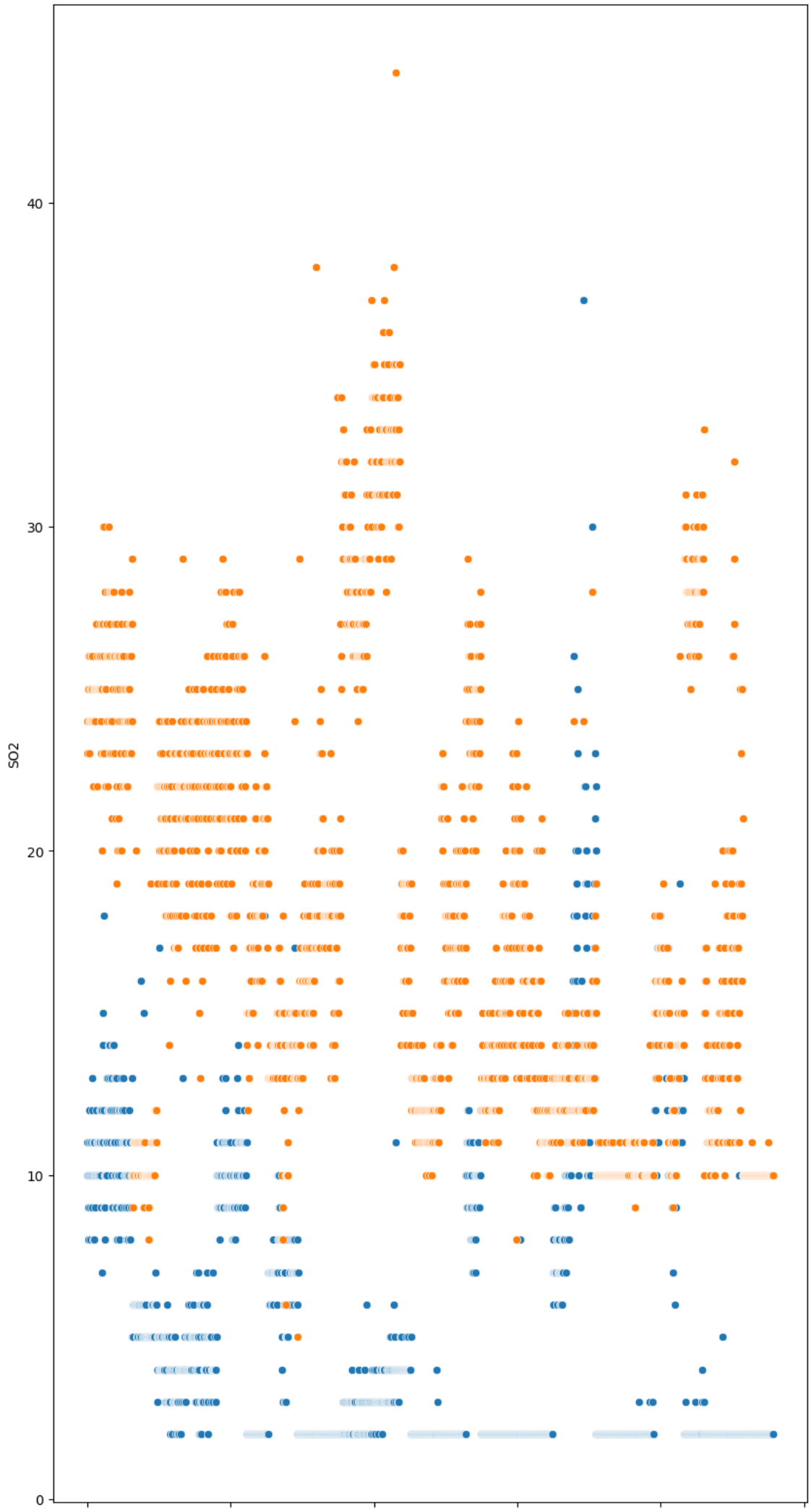
In [9]:

```
#histogram
plt.figure(figsize=(8,6))
sns.histplot(df['SO2'],bins=10,kde=True,color='green')
plt.show()
```



In [13]:

```
#scatterplot
plt.figure(figsize=(10,20))
sns.scatterplot(df['SO2'])
sns.scatterplot(df['NO2'])
plt.show()
```


40
30
20
10
0
SO2

In [16]:

```
#barplot
plt.figure(figsize=(10,10))
sns.barplot(x='RSPM/PM10',y='PM 2.5',data=df)
```

```
C:\Users\Madhuri Wavhal\AppData\Roaming\Python\Python311\site-packages\sea
born\algorithms.py:98: RuntimeWarning: Mean of empty slice
  boot_dist.append(f(*sample, **func_kwargs))
C:\Users\Madhuri Wavhal\AppData\Roaming\Python\Python311\site-packages\sea
born\algorithms.py:98: RuntimeWarning: Mean of empty slice
  boot_dist.append(f(*sample, **func_kwargs))
C:\Users\Madhuri Wavhal\AppData\Roaming\Python\Python311\site-packages\sea
born\algorithms.py:98: RuntimeWarning: Mean of empty slice
  boot_dist.append(f(*sample, **func_kwargs))
C:\Users\Madhuri Wavhal\AppData\Roaming\Python\Python311\site-packages\sea
born\algorithms.py:98: RuntimeWarning: Mean of empty slice
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C:\Users\Madhuri Wavhal\AppData\Roaming\Python\Python311\site-packages\sea
born\algorithms.py:98: RuntimeWarning: Mean of empty slice
  boot_dist.append(f(*sample, **func_kwargs))
```
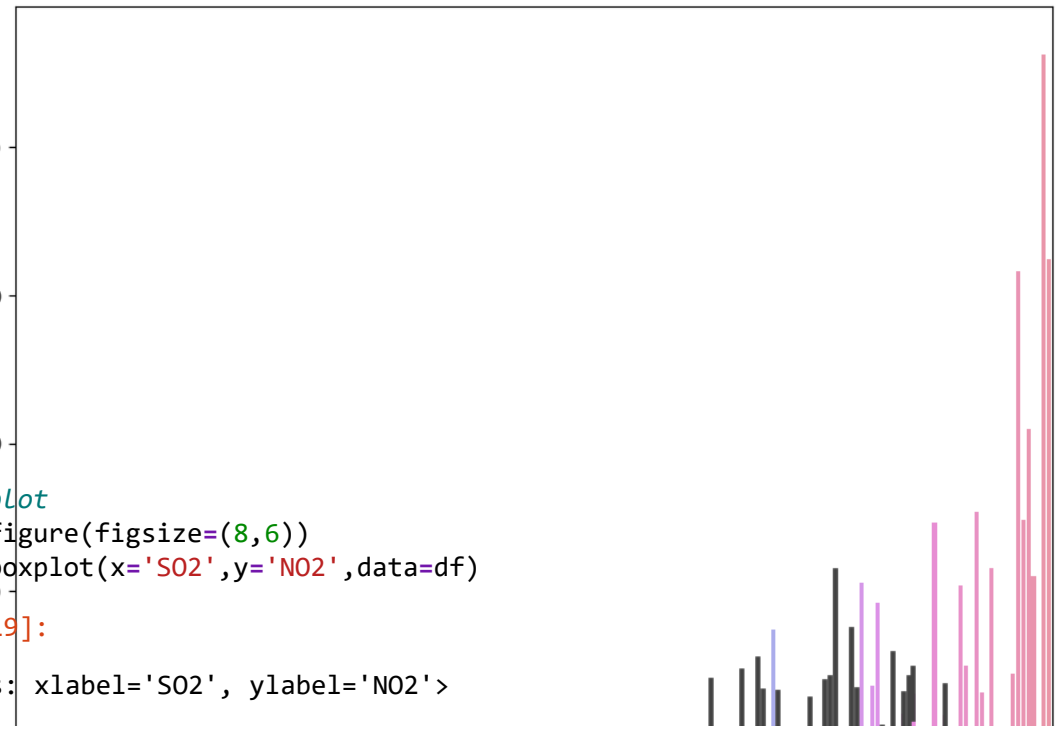

Out[16]:

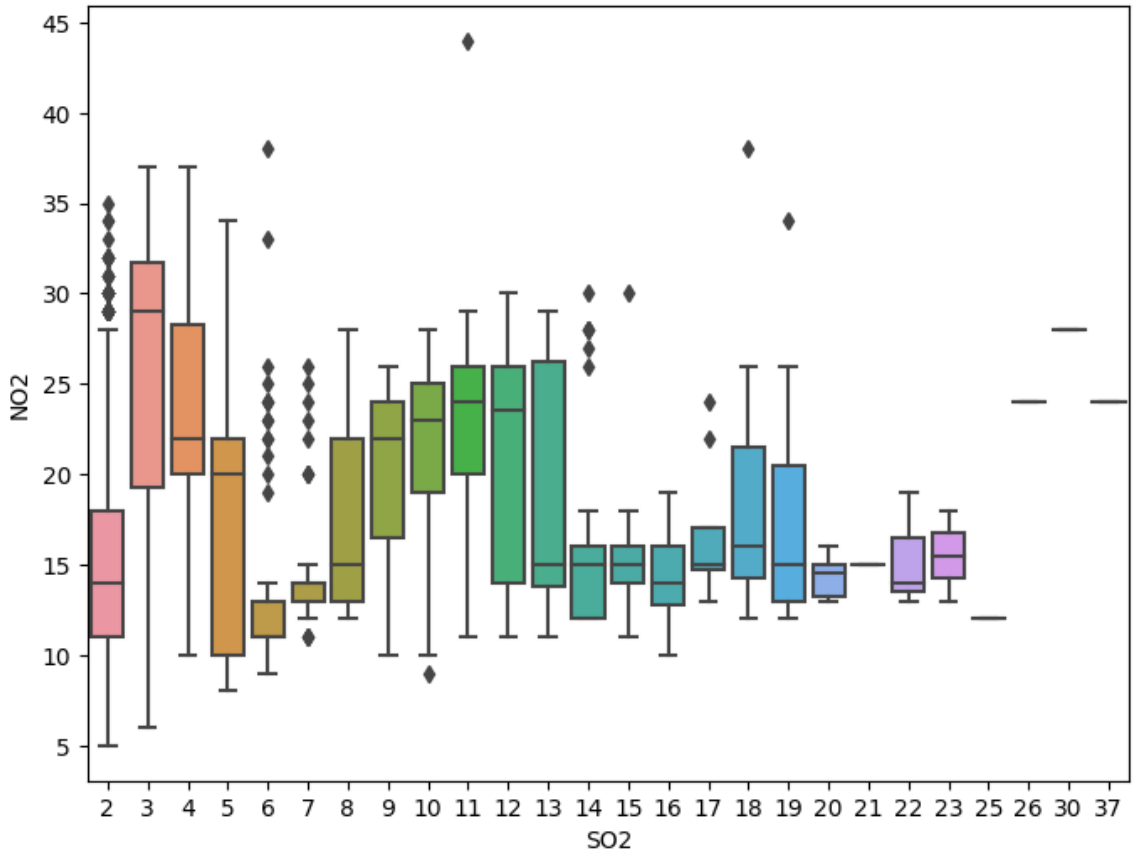
```
<Axes: xlabel='RSPM/PM10', ylabel='PM 2.5'>
```




```
#boxplot
plt.figure(figsize=(8,6))
sns.boxplot(x='SO2',y='NO2',data=df)
```

Out[19]:

```
<Axes: xlabel='SO2', ylabel='NO2'>
```

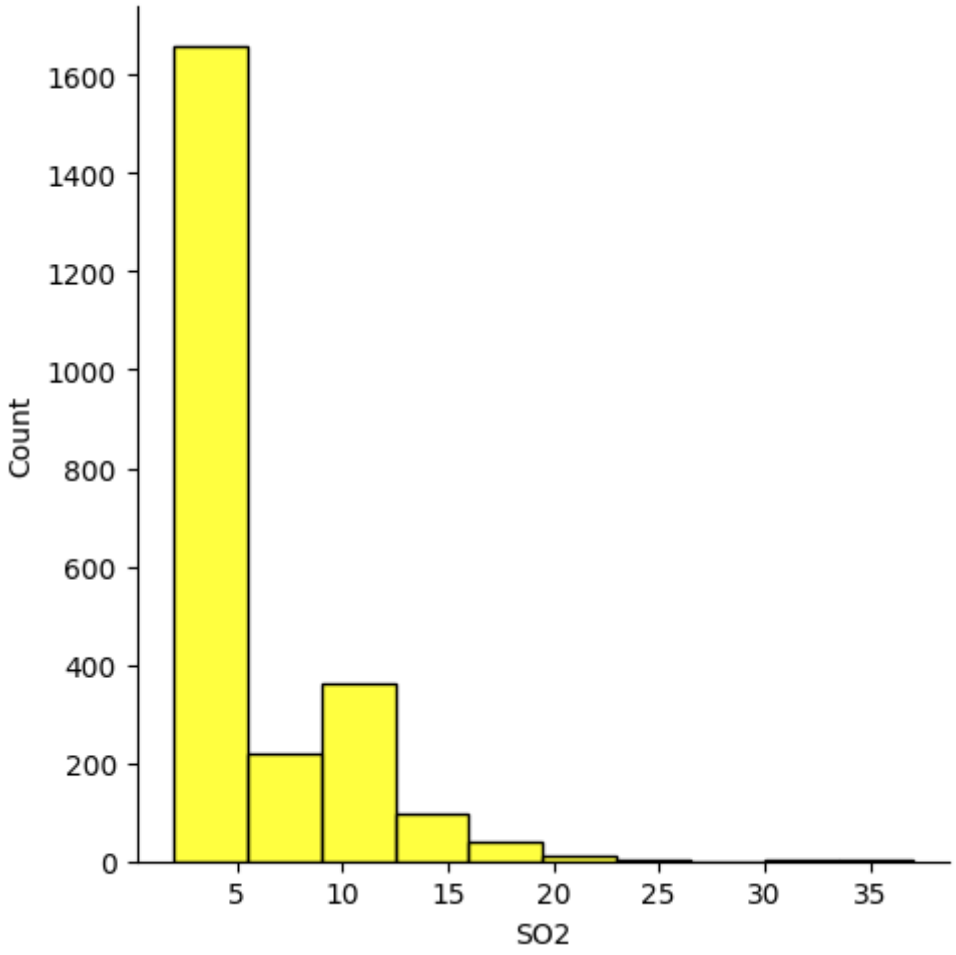


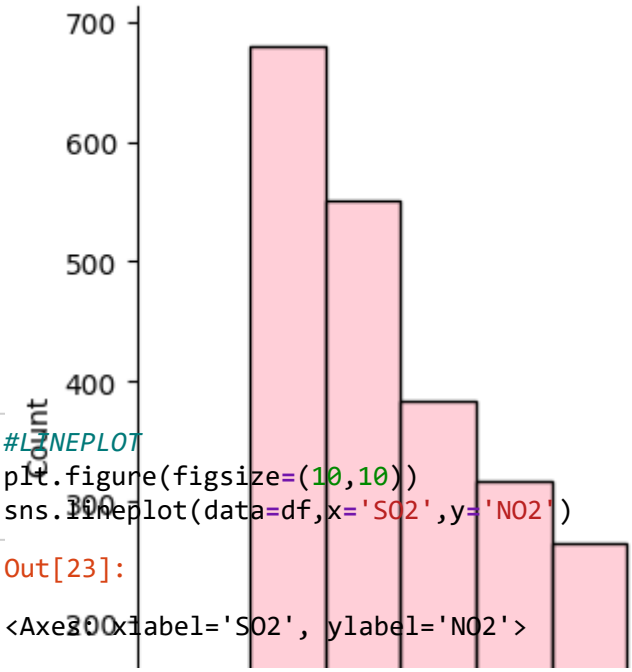
In [22]:

```
#distplot
plt.figure(figsize=(8,6))
sns.displot(df['SO2'],bins=10,kde=False,color='yellow')
sns.displot(df['NO2'],bins=10,kde=False,color='PINK')
```

Out[22]:

```
<seaborn.axisgrid.FacetGrid at 0x17e0c4388d0>

<Figure size 800x600 with 0 Axes>
```

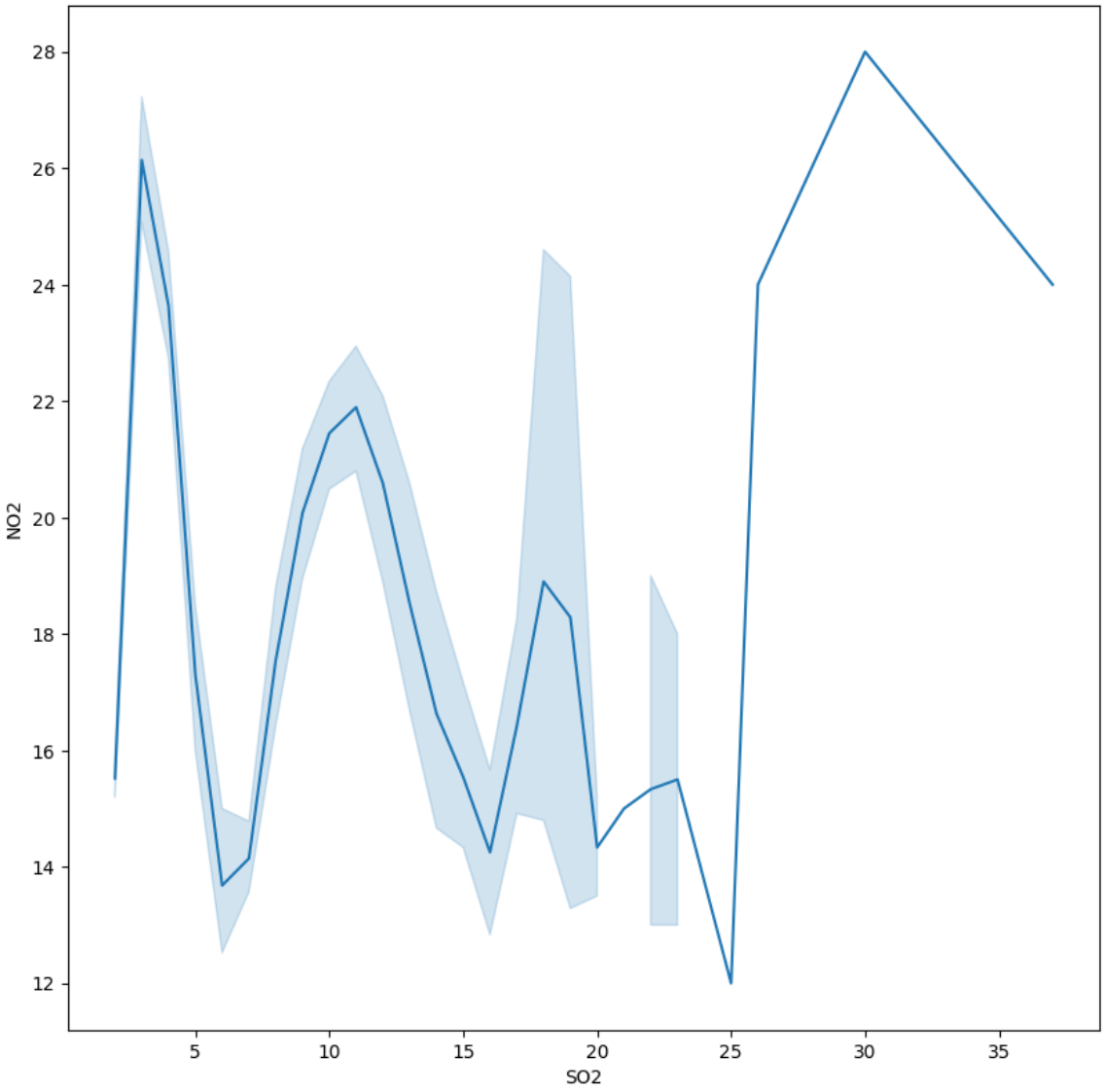





```
#LINEPLOT
plt.figure(figsize=(10,10))
sns.lineplot(data=df,x='SO2',y='NO2')
```

Out[23]:

```
<Axes: xlabel='SO2', ylabel='NO2'>
```



In [ ]: