RA2211003010979_KOTIPALLI_SRIKESH_PBLIComponent_PracticeExpe

September 21, 2024

[1]:
```
!pip install pandas numpy matplotlib seaborn
```

```
Requirement already satisfied: pandas in /usr/local/lib/python3.10/dist-packages
(2.1.4)
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages
(1.26.4)
Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-
packages (3.7.1)
Requirement already satisfied: seaborn in /usr/local/lib/python3.10/dist-
packages (0.13.1)
Requirement already satisfied: python-dateutil>=2.8.2 in
/usr/local/lib/python3.10/dist-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist-
packages (from pandas) (2024.2)
Requirement already satisfied: tzdata>=2022.1 in /usr/local/lib/python3.10/dist-
packages (from pandas) (2024.1)
Requirement already satisfied: contourpy>=1.0.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib) (1.3.0)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-
packages (from matplotlib) (0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in
/usr/local/lib/python3.10/dist-packages (from matplotlib) (4.53.1)
Requirement already satisfied: kiwisolver>=1.0.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib) (1.4.7)
Requirement already satisfied: packaging>=20.0 in
/usr/local/lib/python3.10/dist-packages (from matplotlib) (24.1)
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-
packages (from matplotlib) (10.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib) (3.1.4)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-
packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
```

[2]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

```
import seaborn as sns
```

[3]:
```
df=pd.read_csv('/content/Olympic_Medal_Tally_History.csv')
```

[4]:
```
df.head()
```

[4]:
```
                edition  edition_id  year        country country_noc  gold  \
0  1896 Summer Olympics           1  1896  United States         USA    11
1  1896 Summer Olympics           1  1896         Greece         GRE    10
2  1896 Summer Olympics           1  1896        Germany         GER     6
3  1896 Summer Olympics           1  1896         France         FRA     5
4  1896 Summer Olympics           1  1896  Great Britain         GBR     2

   silver  bronze  total
0       7       2     20
1      18      19     47
2       5       2     13
3       4       2     11
4       3       2      7
```

[6]:
```
df.tail()
```

[6]:
```
                edition  edition_id  year      country country_noc  gold  \
1802  1906 Intercalated           4  1906       Canada         CAN     1
1803  1906 Intercalated           4  1906       Norway         NOR     1
1804  1906 Intercalated           4  1906  Netherlands         NED     0
1805  1906 Intercalated           4  1906    Australia         AUS     0
1806  1906 Intercalated           4  1906      Bohemia         BOH     0

      silver  bronze  total
1802       1       0      2
1803       1       0      2
1804       1       2      3
1805       0       3      3
1806       0       2      2
```

[9]:
```
df.columns
```

[9]:
```
Index(['edition', 'edition_id', 'year', 'country', 'country_noc', 'gold',
       'silver', 'bronze', 'total'],
      dtype='object')
```

[10]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1807 entries, 0 to 1806
Data columns (total 9 columns):
 #   Column       Non-Null Count  Dtype
```

```
---  ------       --------------  -----
 0   edition      1807 non-null   object
 1   edition_id   1807 non-null   int64
 2   year         1807 non-null   int64
 3   country      1807 non-null   object
 4   country_noc  1807 non-null   object
 5   gold         1807 non-null   int64
 6   silver       1807 non-null   int64
 7   bronze       1807 non-null   int64
 8   total        1807 non-null   int64
dtypes: int64(6), object(3)
memory usage: 127.2+ KB
```

[11]:
```
df.describe()
```

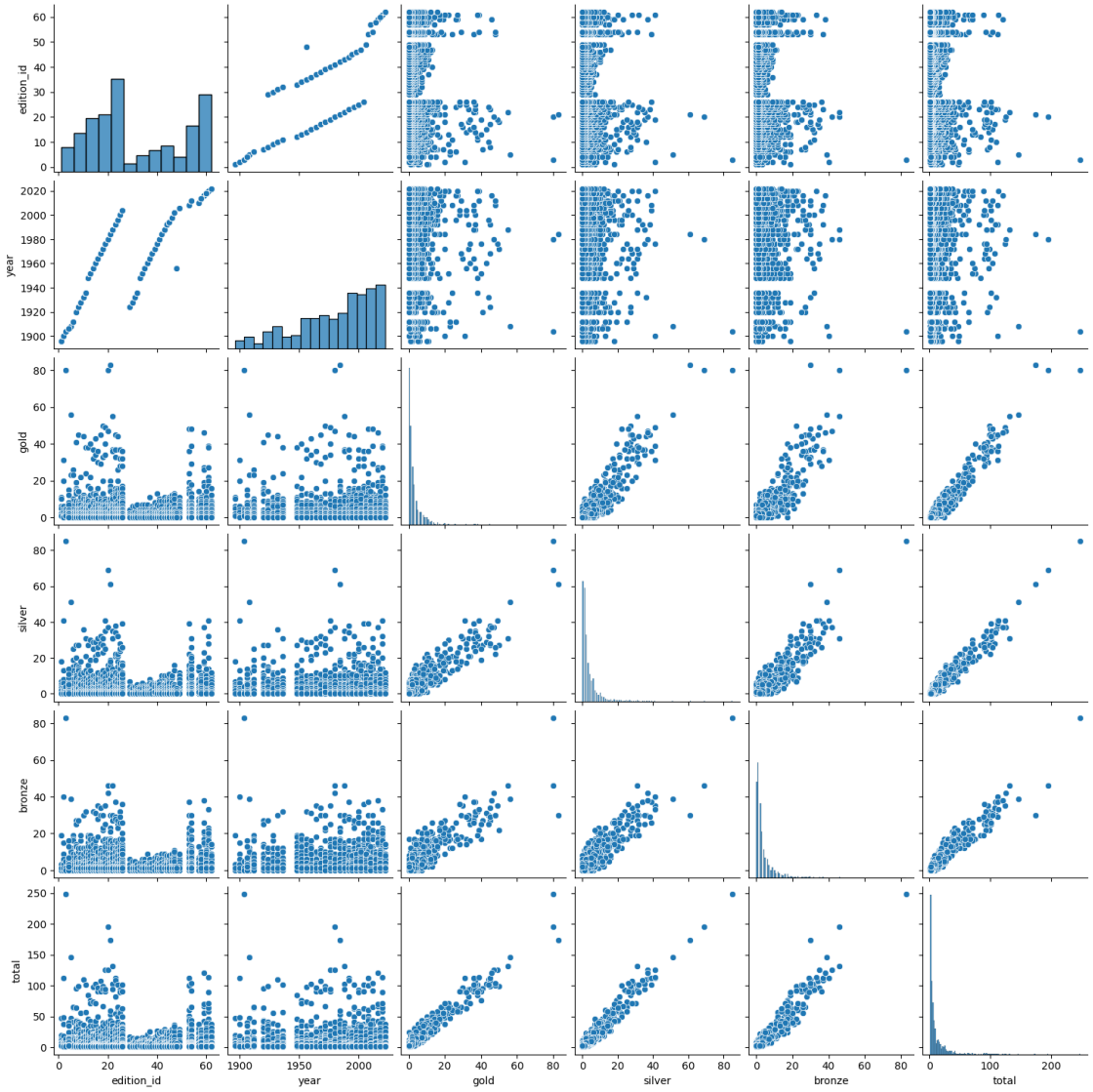
[11]:
```
         edition_id         year         gold       silver       bronze  \
count  1807.000000  1807.000000  1807.000000  1807.000000  1807.000000
mean     31.635307  1979.744328     3.737133     3.721638     3.971223
std      18.472012    32.726372     7.554092     6.411636     6.169554
min       1.000000  1896.000000     0.000000     0.000000     0.000000
25%      17.000000  1960.000000     0.000000     1.000000     1.000000
50%      25.000000  1988.000000     1.000000     2.000000     2.000000
75%      53.000000  2008.000000     4.000000     4.000000     5.000000
max      62.000000  2022.000000    83.000000    85.000000    83.000000

             total
count  1807.000000
mean     11.429994
std      19.423201
min       1.000000
25%       2.000000
50%       5.000000
75%      13.000000
max     248.000000
```

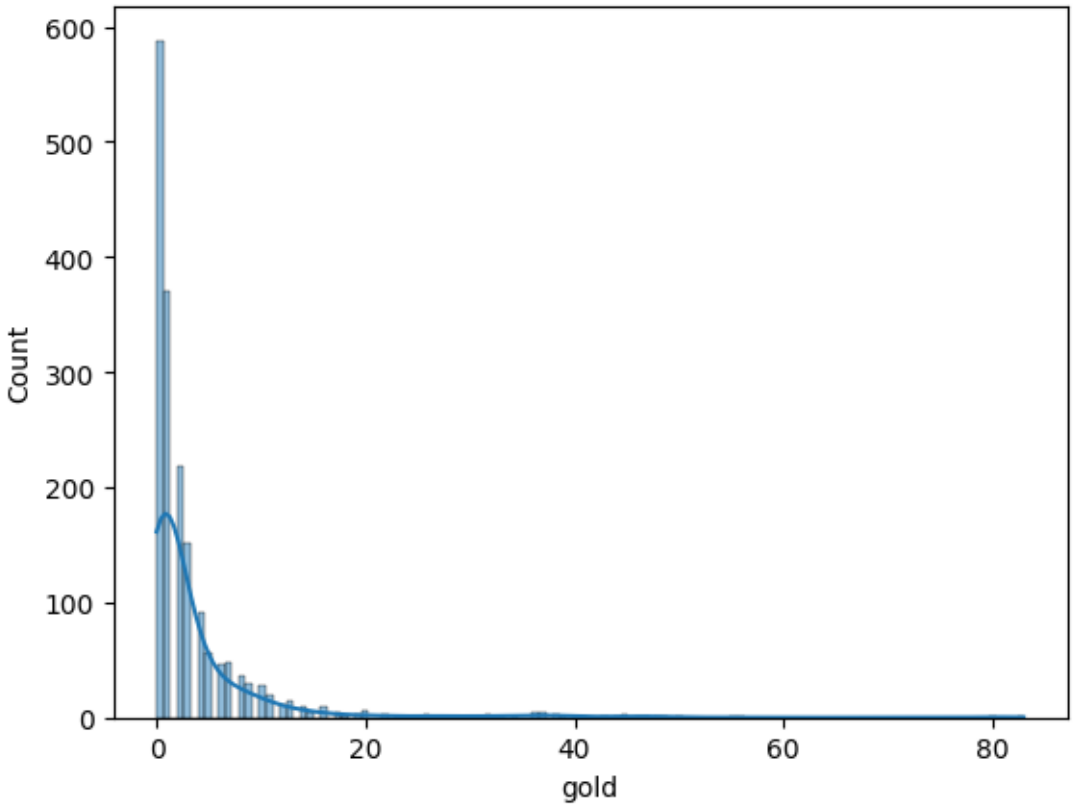
[12]:
```
df.isnull().sum()
```

[12]:
```
edition        0
edition_id     0
year           0
country        0
country_noc    0
gold           0
silver         0
bronze         0
total          0
dtype: int64
```

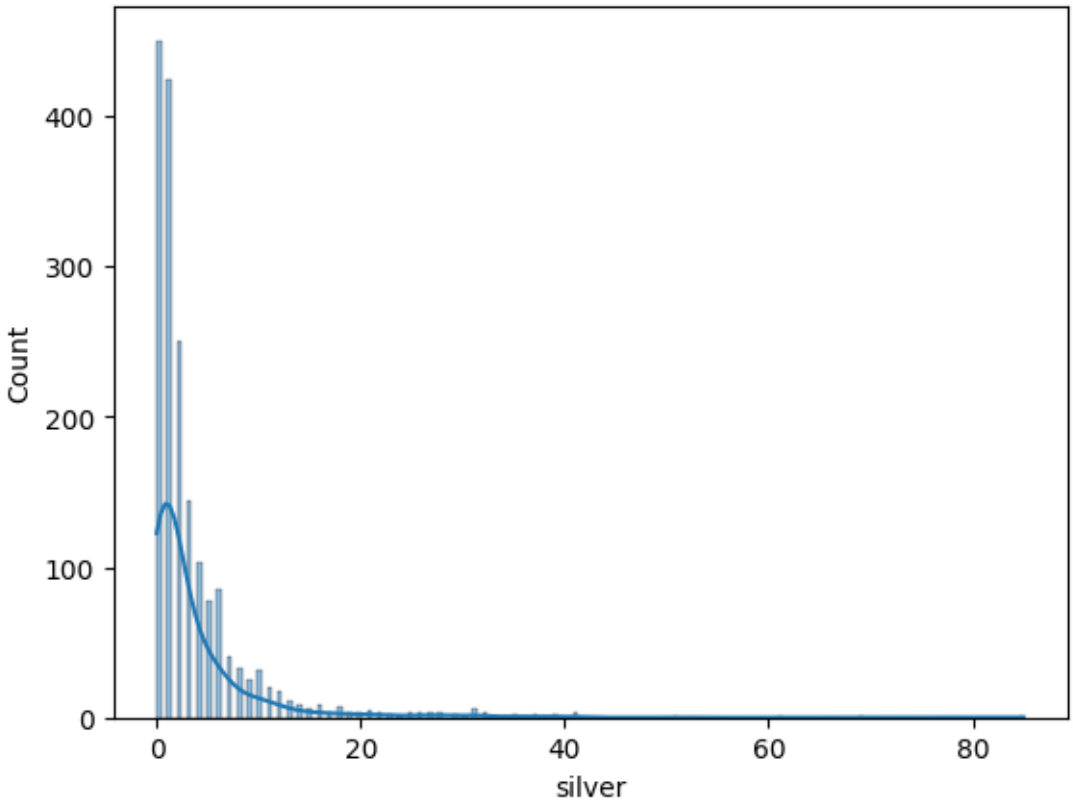
[23]:
```
sns.pairplot(df)
plt.show()
```



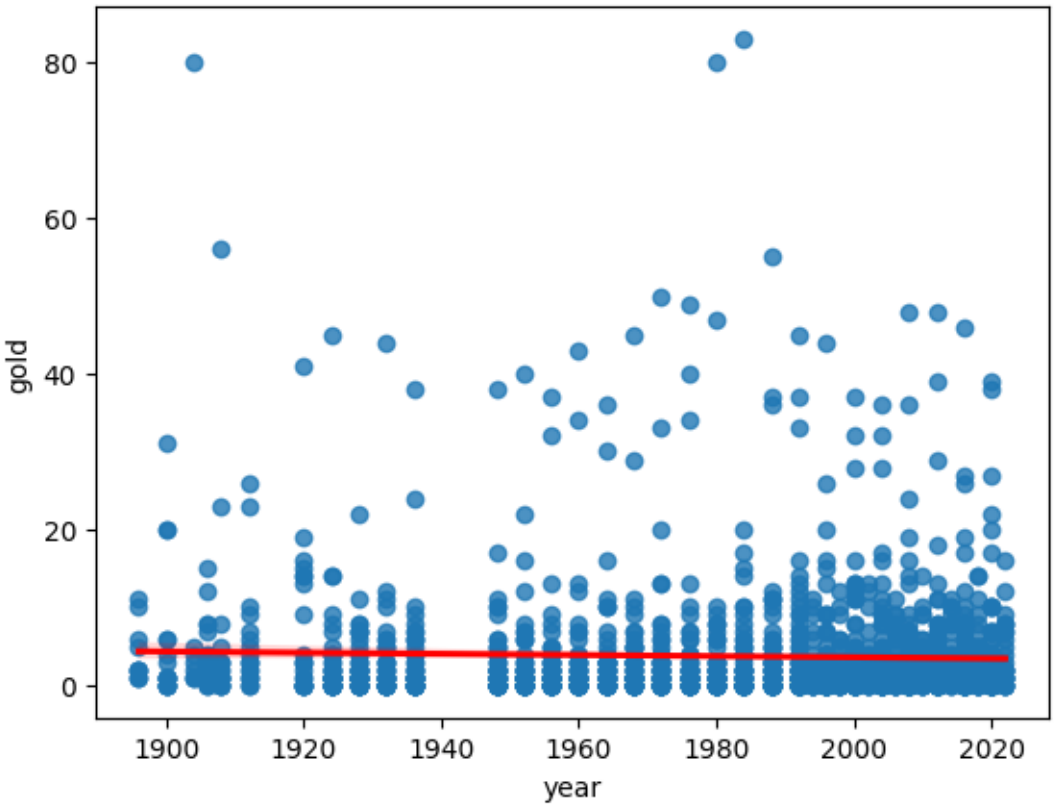
[30]:
```
sns.histplot(df, x="gold", kde=True)
plt.show()
```



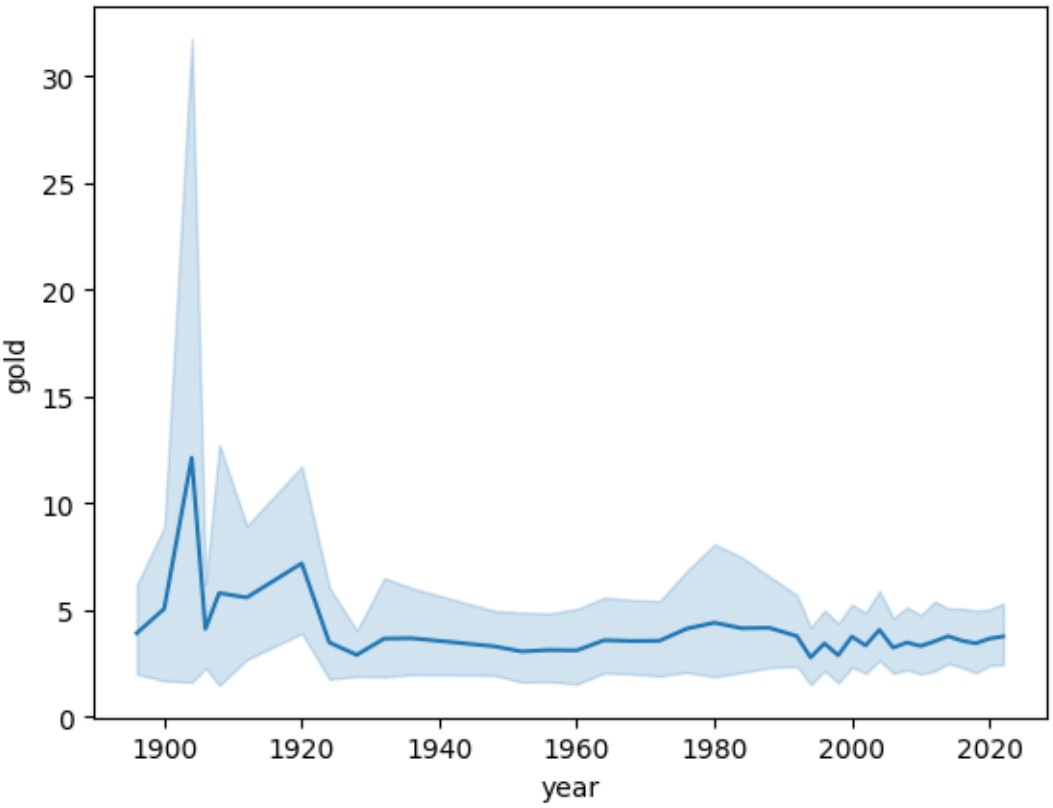
[31]:
```
sns.histplot(df, x="silver", kde=True)
plt.show()
```



[38]:
```
sns.regplot(x='year',y='gold',data=df,line_kws={"color": "red"})
plt.show()
```



[41]:
```
sns.lineplot(x='year',y='gold',data=df)
plt.show()
```


gold
year
0
5
10
15
20
25
30
1900
1920
1940
1960
1980
2000
2020

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```
!pip install pandas numpy matplotlib seaborn
```

```
Requirement already satisfied: pandas in /usr/local/lib/python3.10/dist-packages (2.1.4)
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (1.26.4)
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Requirement already satisfied: tzdata>=2022.1 in /usr/local/lib/python3.10/dist-packages (from pandas) (2024.1)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (1.3.0)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (0.12.1)
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Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (1.4.7)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (24.1)
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (10.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (3.1.4)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
```

```
[ ] import pandas as pd
    import numpy as np
    import matplotlib.pyplot as plt
    import seaborn as sns
```

```
[ ] df=pd.read_csv('/content/Olympic_Medal_Tally_History.csv')
```

```
[ ] df.head()
```

	edition	edition_id	year	country	country_noc	gold	silver	bronze	total

```
[ ] df=pd.read_csv('/content/Olympic_Medal_Tally_History.csv')
```

```
df.head()
```

	edition	edition_id	year	country	country_noc	gold	silver	bronze	total
0	1896 Summer Olympics	1	1896	United States	USA	11	7	2	20
1	1896 Summer Olympics	1	1896	Greece	GRE	10	18	19	47
2	1896 Summer Olympics	1	1896	Germany	GER	6	5	2	13
3	1896 Summer Olympics	1	1896	France	FRA	5	4	2	11
4	1896 Summer Olympics	1	1896	Great Britain	GBR	2	3	2	7

```
[ ] df.tail()
```

	edition	edition_id	year	country	country_noc	gold	silver	bronze	total
1802	1906 Intercalated	4	1906	Canada	CAN	1	1	0	2
1803	1906 Intercalated	4	1906	Norway	NOR	1	1	0	2
1804	1906 Intercalated	4	1906	Netherlands	NED	0	1	2	3
1805	1906 Intercalated	4	1906	Australia	AUS	0	0	3	3
1806	1906 Intercalated	4	1906	Bohemia	BOH	0	0	2	2

```
[ ] df.columns
```

```
Index(['edition', 'edition_id', 'year', 'country', 'country_noc', 'gold',
       'silver', 'bronze', 'total'],
      dtype='object')
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1807 entries, 0 to 1806
Data columns (total 9 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   edition      1807 non-null   object
 1   edition_id   1807 non-null   int64
 2   year         1807 non-null   int64
 3   country      1807 non-null   object
 4   country_noc  1807 non-null   object
 5   gold         1807 non-null   int64
 6   silver       1807 non-null   int64
 7   bronze       1807 non-null   int64
 8   total        1807 non-null   int64
dtypes: int64(6), object(3)
memory usage: 127.2+ KB
```

```
[ ] df.describe()
```

	edition_id	year	gold	silver	bronze	total
count	1807.000000	1807.000000	1807.000000	1807.000000	1807.000000	1807.000000
mean	31.635307	1979.744328	3.737133	3.721638	3.971223	11.429994

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max	62.000000	2022.000000	83.000000	85.000000	83.000000	248.000000

```
df.isnull().sum()
```

	0
edition	0
edition_id	0
year	0
country	0
country_noc	0
gold	0
silver	0
bronze	0
total	0

dtype: int64

```
[ ] sns.pairplot(df)
    plt.show()
```

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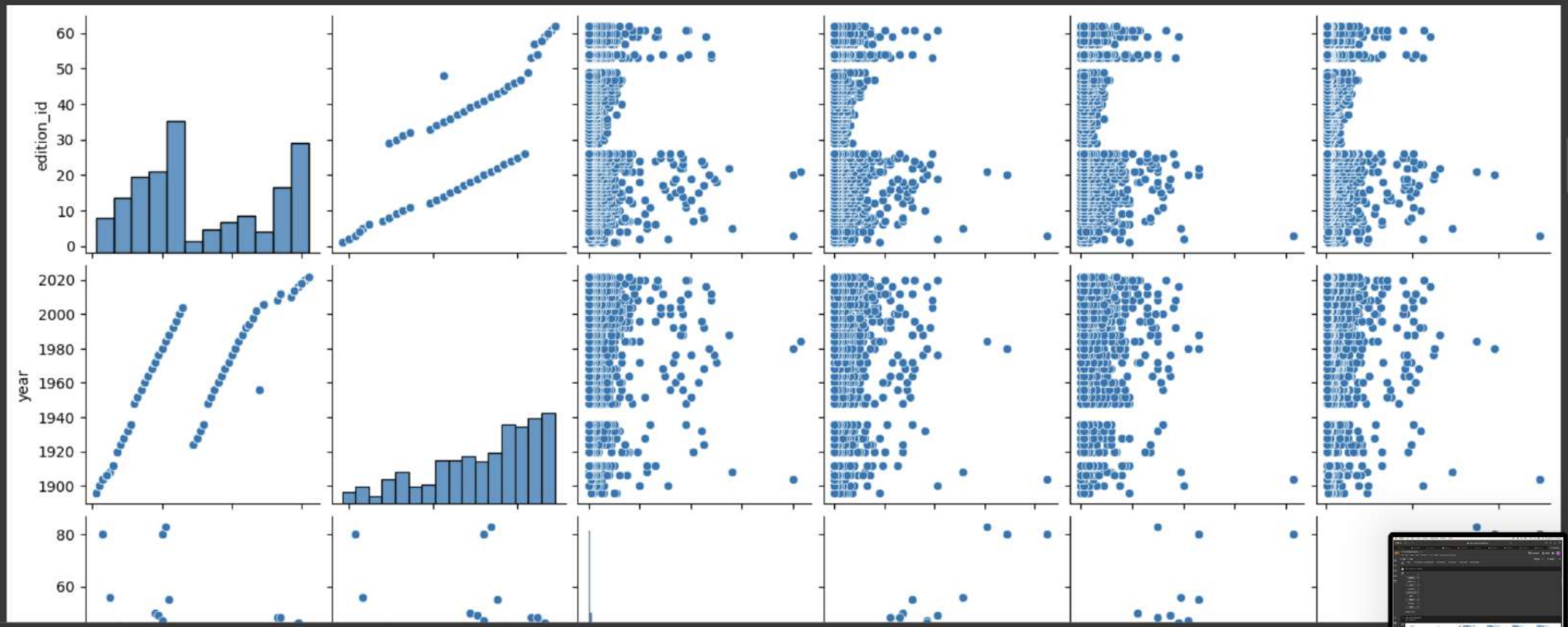
```
sns.pairplot(df)
plt.show()
```



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```
sns.distplot(df['year'])
```

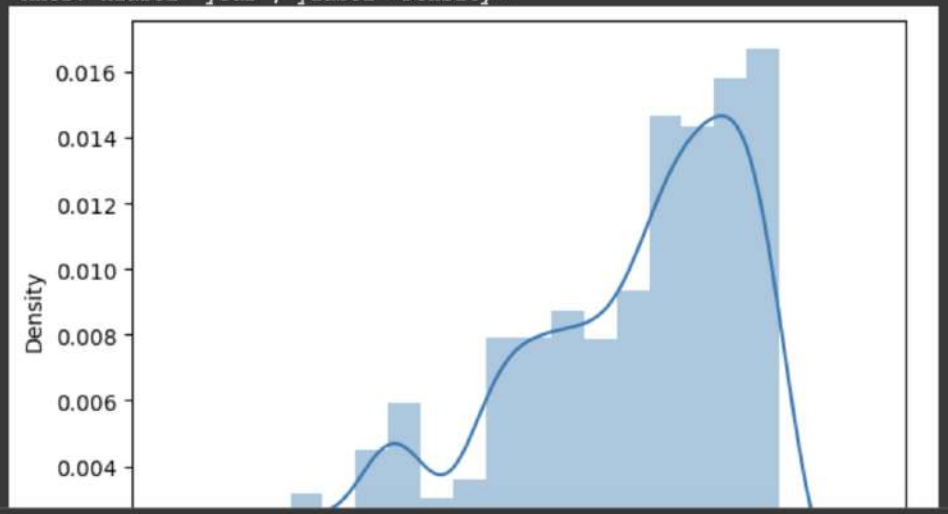
```
<ipython-input-16-ea1a7bf6e32c>:1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df['year'])
<Axes: xlabel='year', ylabel='Density'>
```



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```
sns.distplot(df['gold'])
```

```
<ipython-input-26-6678dfa23346>:1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
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  sns.distplot(df['gold'])
<Axes: xlabel='gold', ylabel='Density'>
```

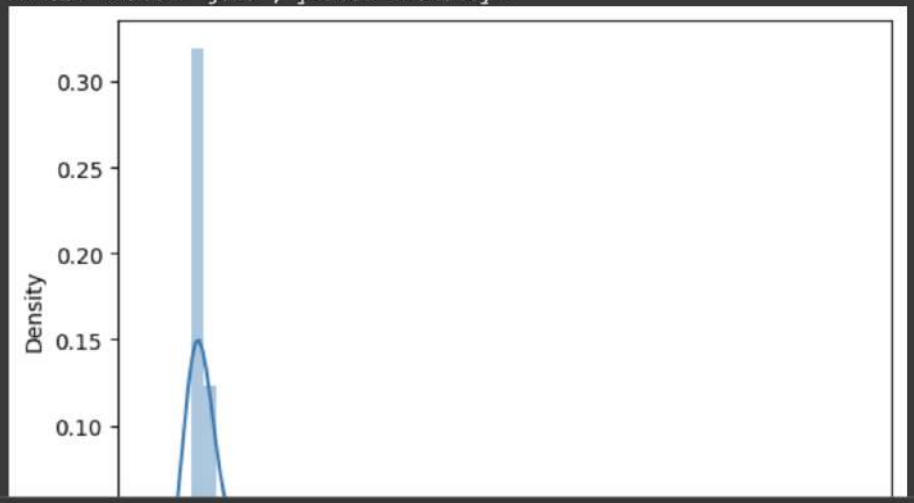

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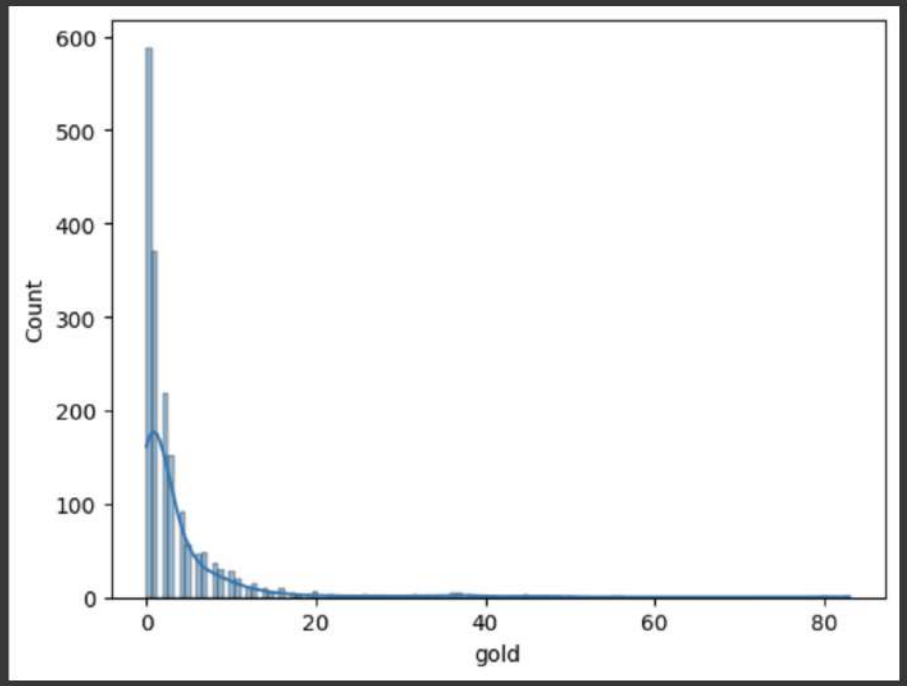
```
sns.histplot(df, x="gold", kde=True)
plt.show()
```




```
[ ] sns.histplot(df, x="silver", kde=True)
```

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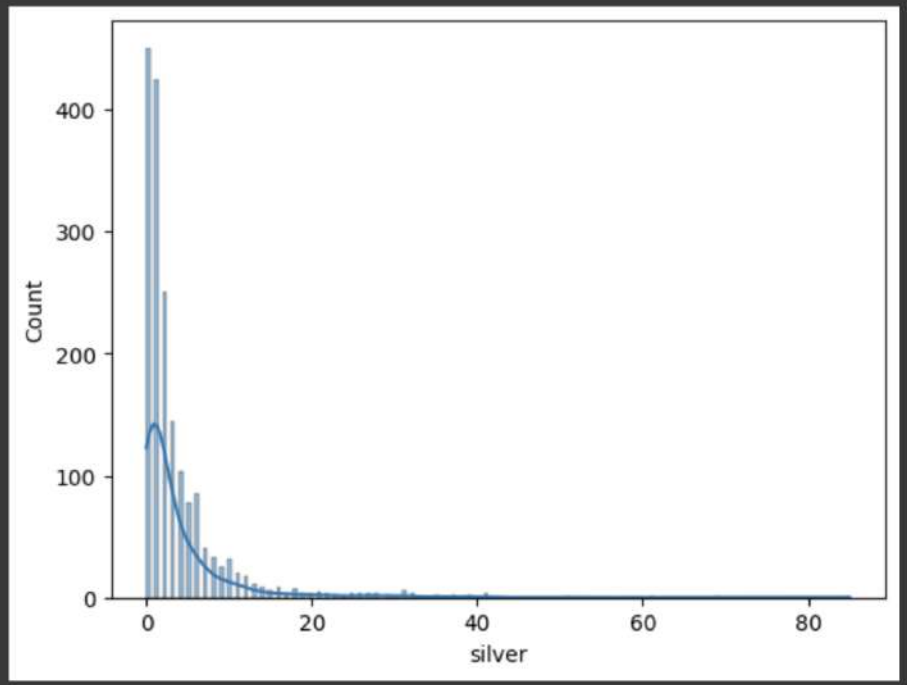
```
sns.histplot(df, x="silver", kde=True)
plt.show()
```




```
[ ] sns.regplot(x='year',y='gold',data=df,line_kws={"color": "red"})
    plt.show()
```

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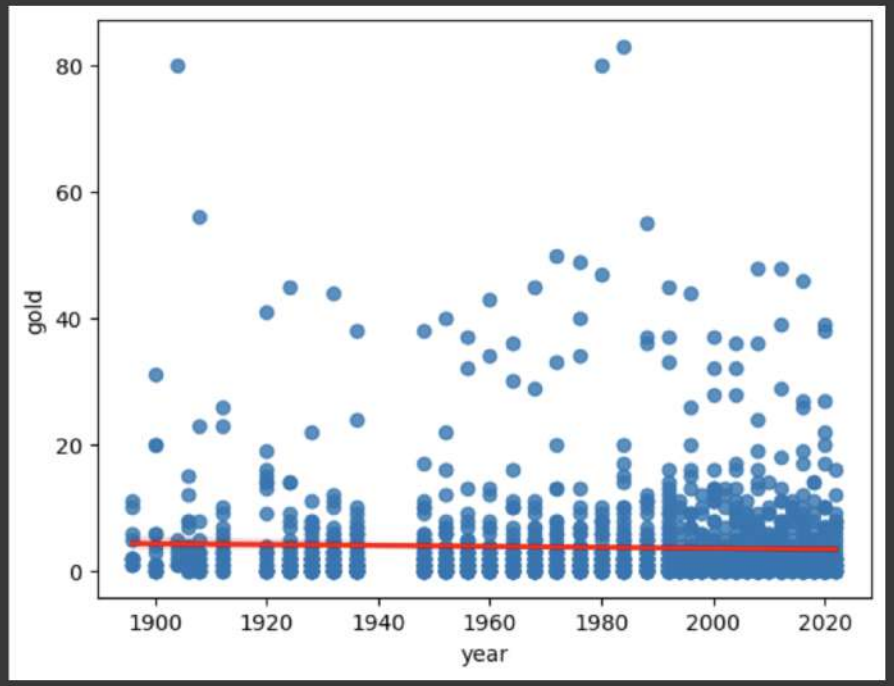
```
sns.regplot(x='year',y='gold',data=df,line_kws={"color": "red"})
plt.show()
```




```
[ ] sns.lineplot(x='year',y='gold',data=df)
```

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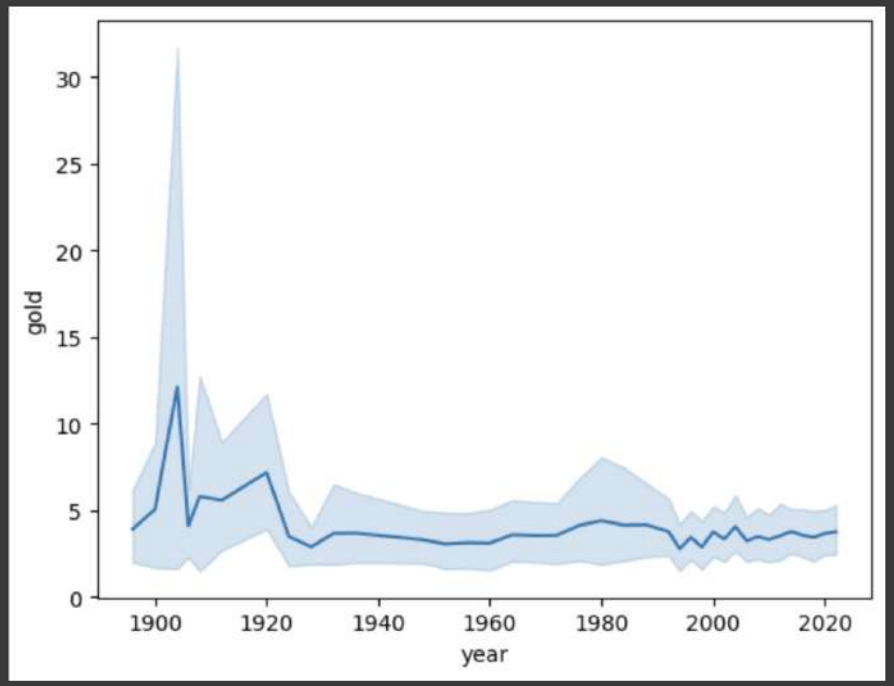
```
sns.lineplot(x='year',y='gold',data=df)
plt.show()
```



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