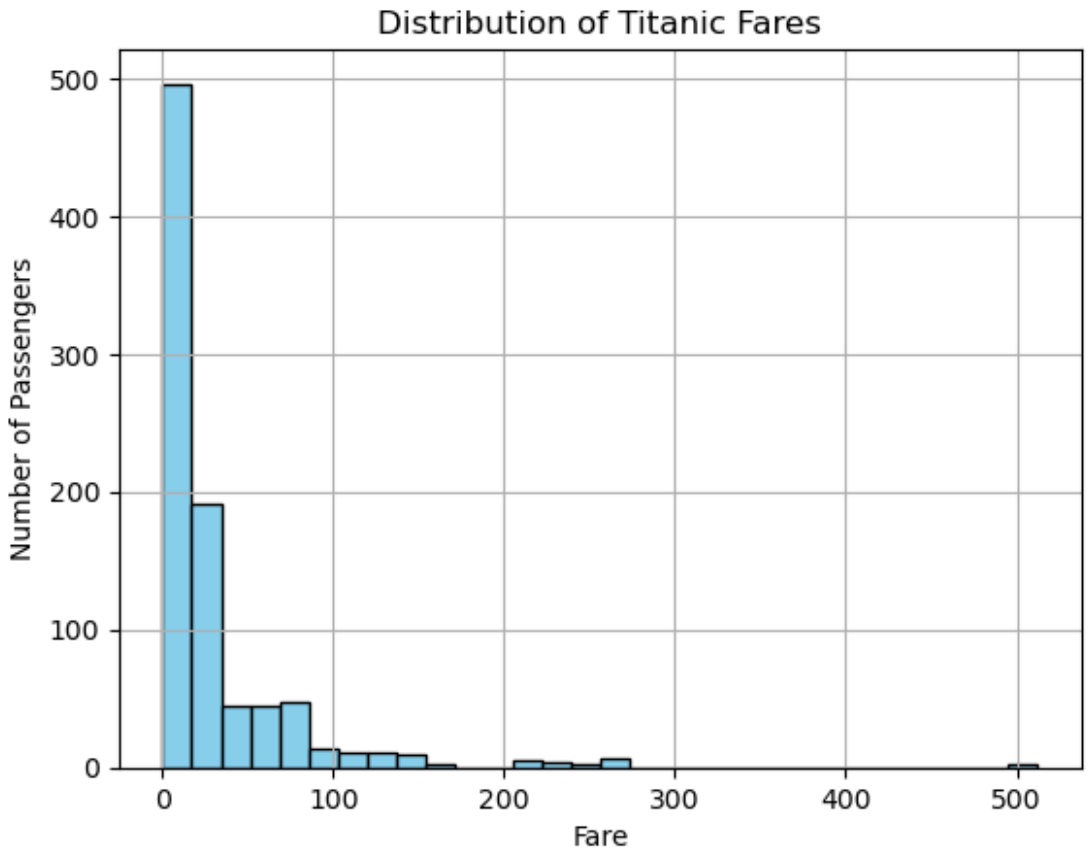
```
#Data Visualization I

import pandas as pd
import numpy as np

import matplotlib.pyplot as plt
import seaborn as sns

df = sn.load_dataset('titanic')

df.head()
```

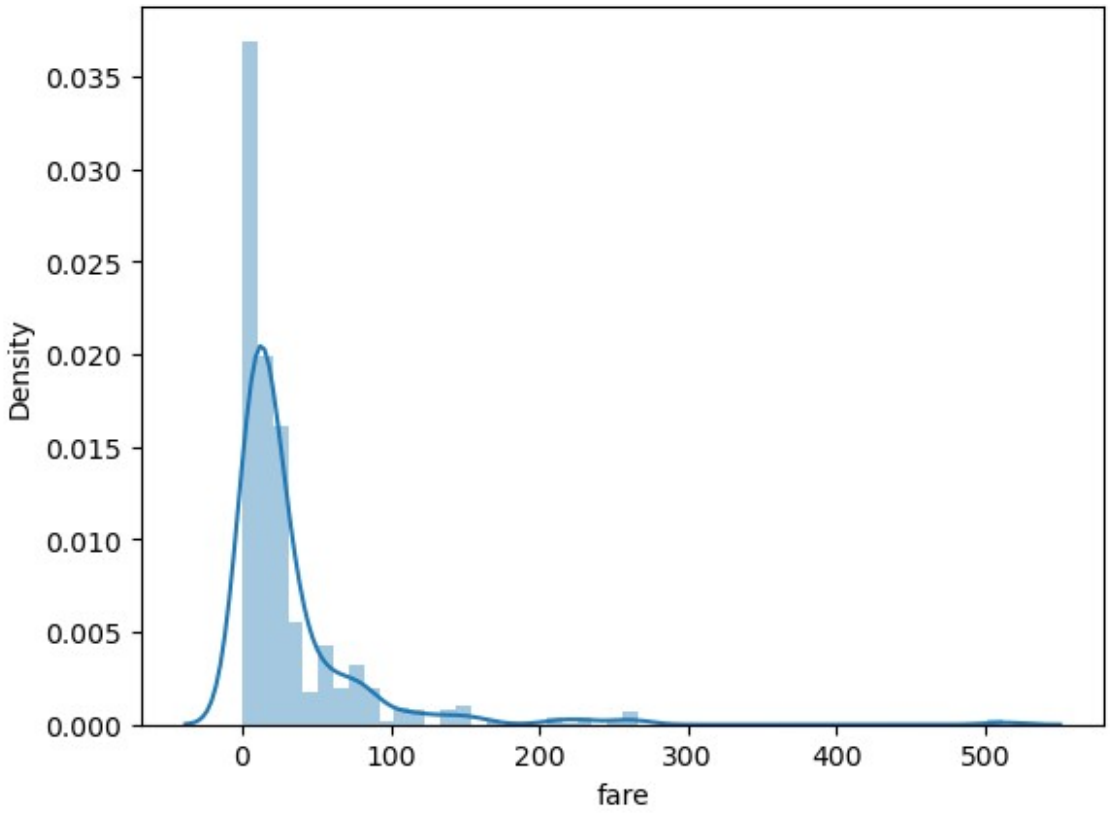
```
   survived  pclass     sex   age  sibsp  parch     fare embarked
class  \
0         0       3    male  22.0      1      0   7.2500        S
Third
1         1       1  female  38.0      1      0  71.2833        C
First
2         1       3  female  26.0      0      0   7.9250        S
Third
3         1       1  female  35.0      1      0  53.1000        S
First
4         0       3    male  35.0      0      0   8.0500        S
Third

     who  adult_male deck  embark_town alive  alone
0    man        True  NaN  Southampton    no  False
1  woman       False    C    Cherbourg   yes  False
2  woman       False  NaN  Southampton   yes   True
3  woman       False    C  Southampton   yes  False
4    man        True  NaN  Southampton    no   True
```

```
plt.hist(df['fare'].dropna(), bins=30, color='skyblue',
edgecolor='black')
plt.title('Distribution of Titanic Fares')
plt.xlabel('Fare')
plt.ylabel('Number of Passengers')
plt.grid(True)
plt.show()
```



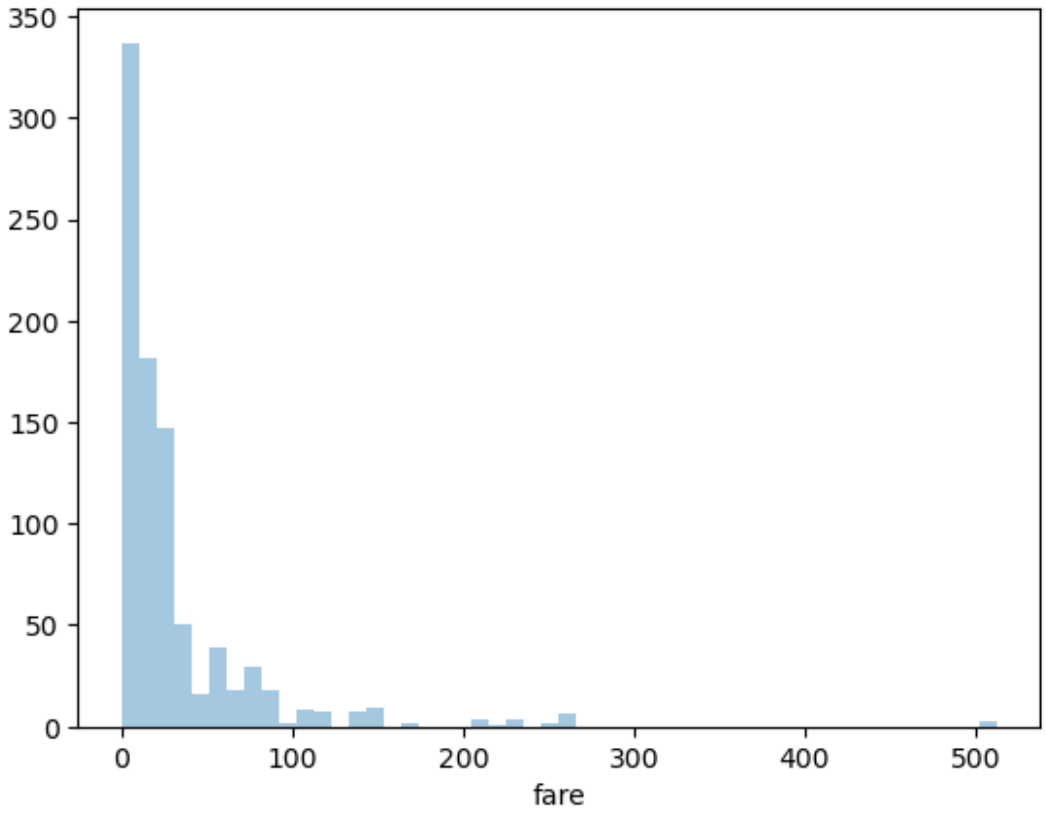

```
# how the price of the ticket for each passenger is distributed using
distplot()
sns.distplot(df['fare'])
```

```
C:\Users\Jayditya\AppData\Local\Temp\ipykernel_4884\1552772409.py:2:
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['fare'])

<Axes: xlabel='fare', ylabel='Density'>
```



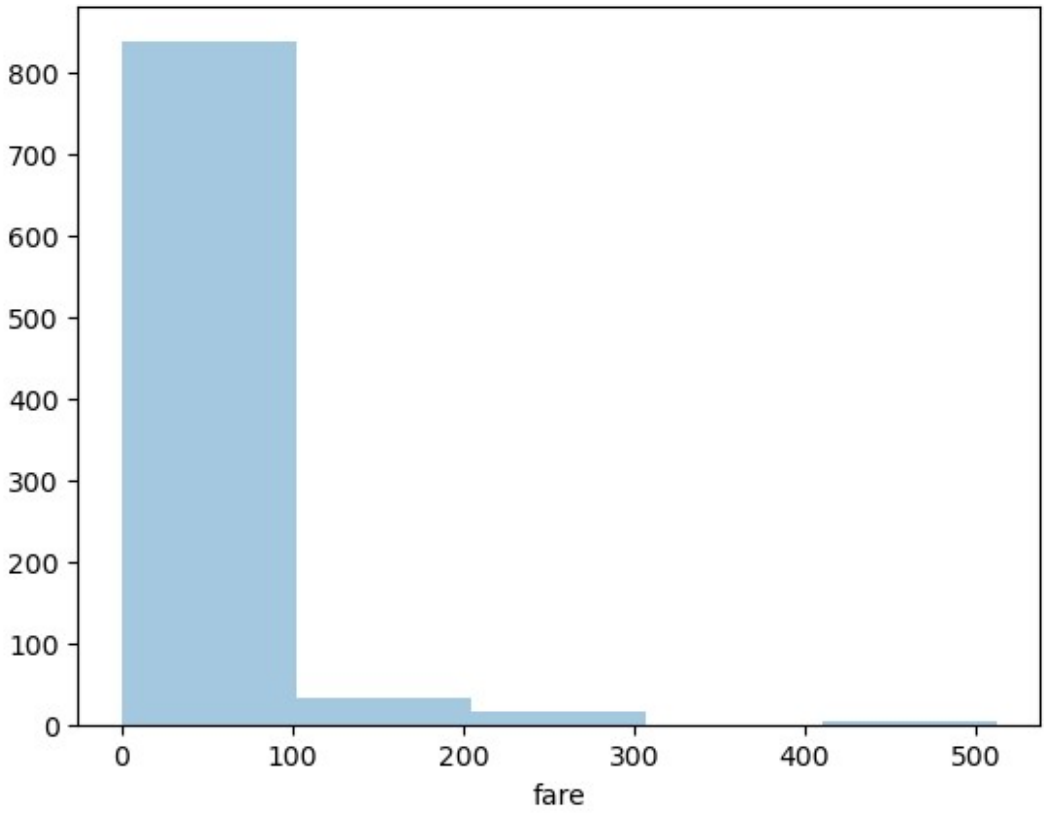

```
sns.distplot(df['fare'], kde=False)
```

```
C:\Users\Jayditya\AppData\Local\Temp\ipykernel_4884\1720592217.py: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['fare'], kde=False)

<Axes: xlabel='fare'>
```



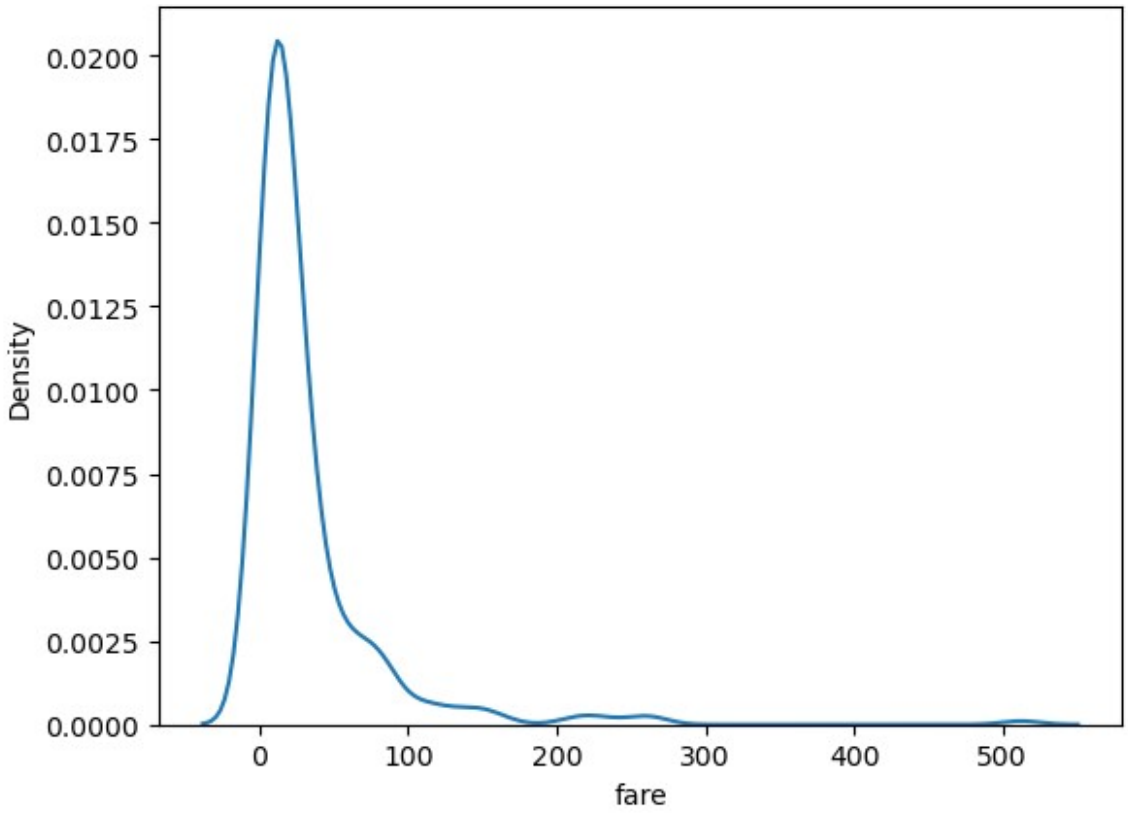

```
sns.distplot(df['fare'], kde=False, bins=5)
```

```
C:\Users\Jayditya\AppData\Local\Temp\ipykernel_4884\3426745918.py: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['fare'], kde=False, bins=5)

<Axes: xlabel='fare'>
```



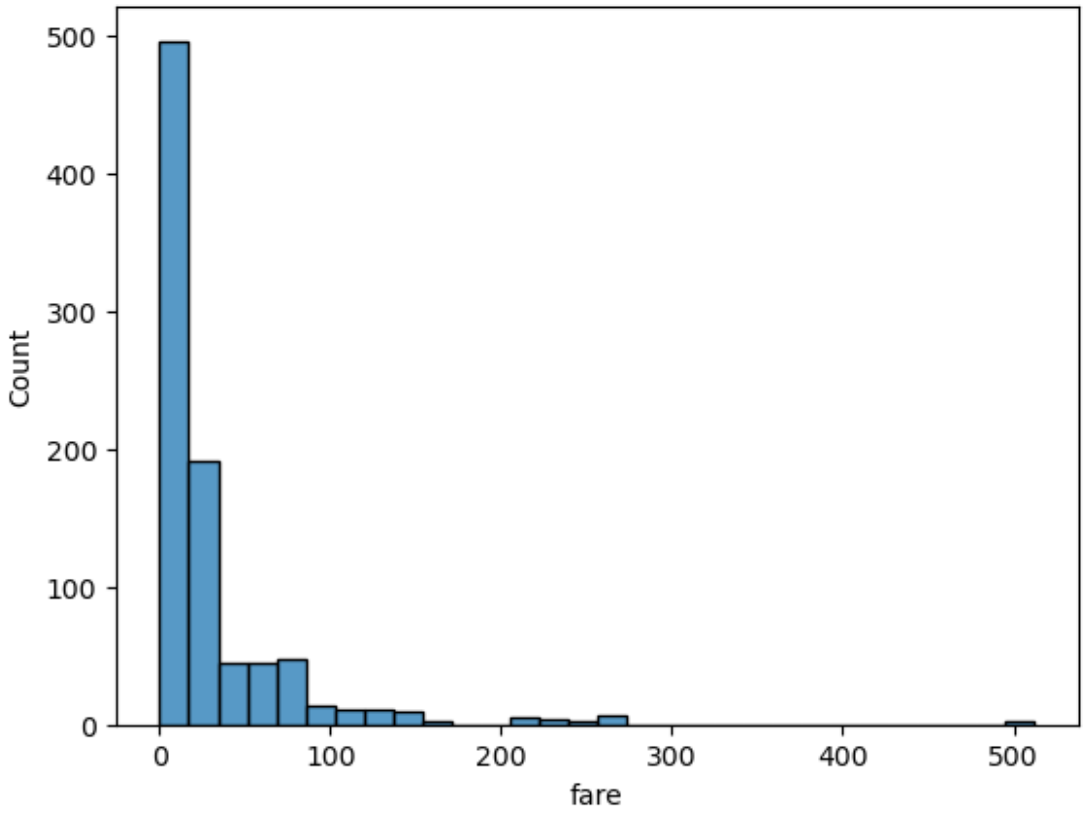

```
sns.distplot(df['fare'], hist=False)
```

```
C:\Users\Jayditya\AppData\Local\Temp\ipykernel_4884\3251686212.py: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 `kdeplot` (an axes-level function for kernel
density plots).

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

  sns.distplot(df['fare'], hist=False)

<Axes: xlabel='fare', ylabel='Density'>
```



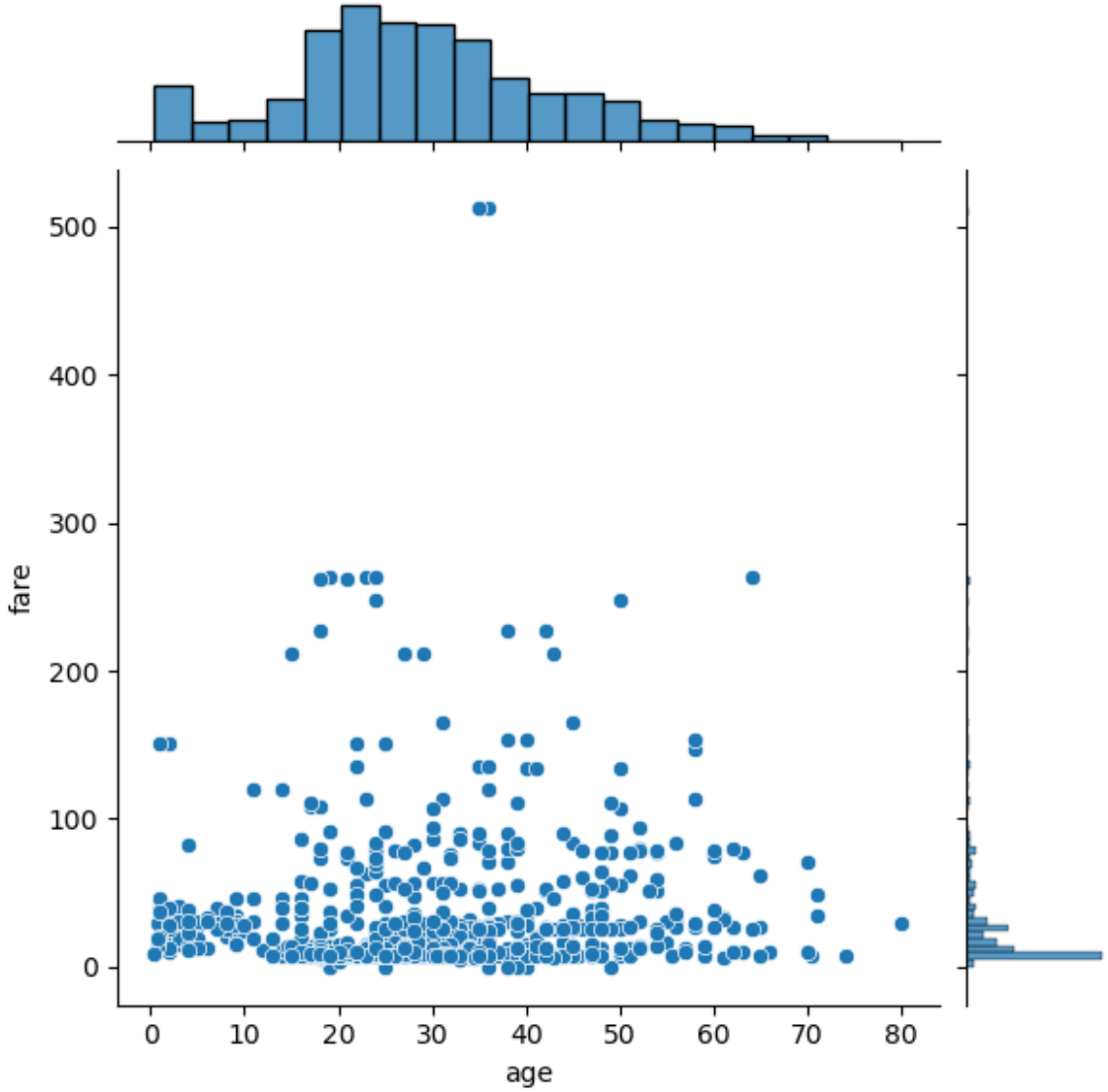

```
sns.histplot(df['fare'],bins=30)
```

```
<Axes: xlabel='fare', ylabel='Count'>
```



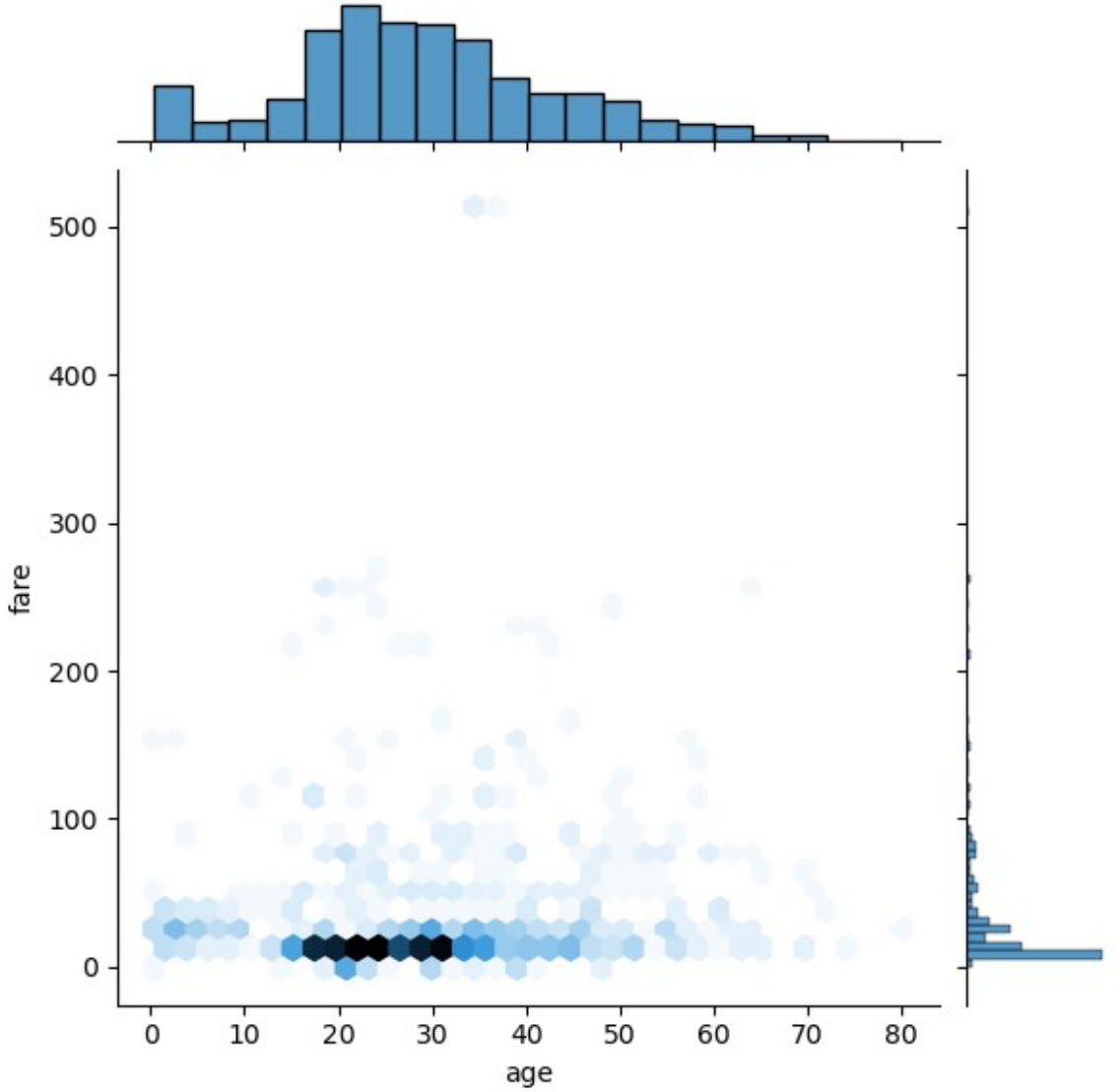

```
# 1.
sns.jointplot(x='age', y='fare', data=df)
```

```
<seaborn.axisgrid.JointGrid at 0x21f3371e270>
```




```
sns.jointplot(x='age', y='fare', data=df, kind='hex')
```

```
<seaborn.axisgrid.JointGrid at 0x21f2df7bf50>
```



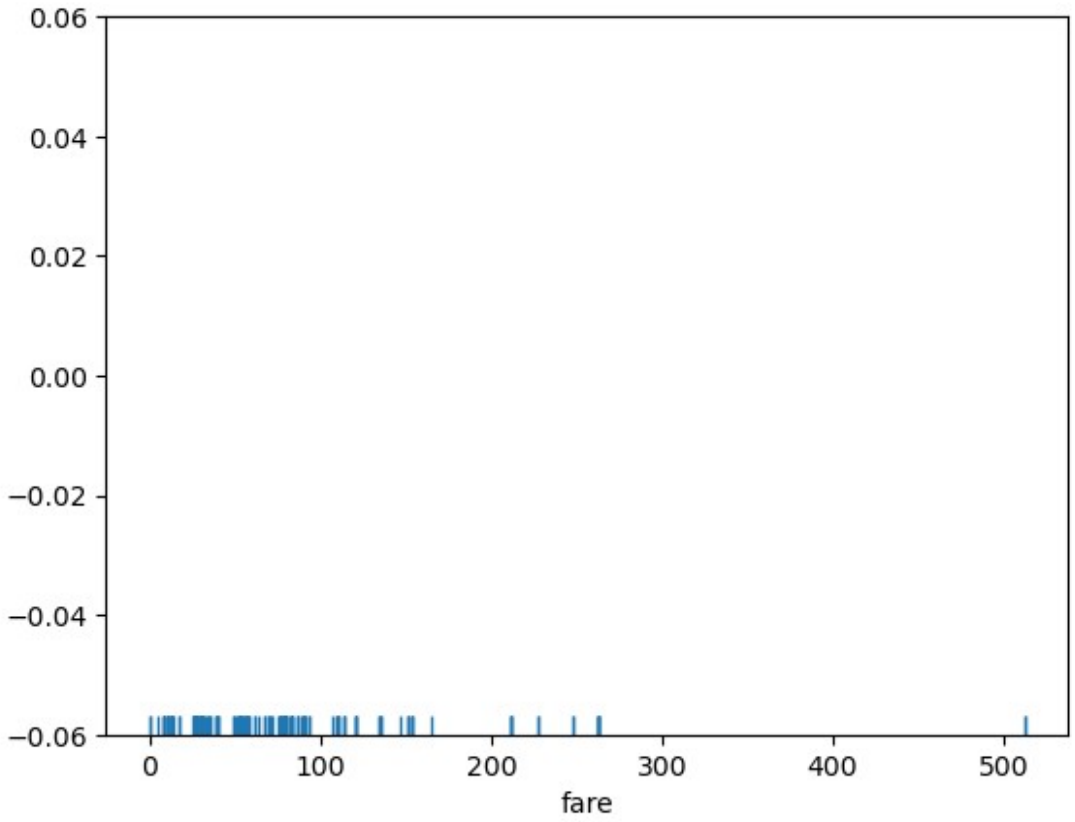

```
df = df.dropna()
print(df)
```

```
     survived  pclass     sex   age  sibsp  parch     fare embarked
class  \
1           1       1  female  38.0      1      0  71.2833        C
First
3           1       1  female  35.0      1      0  53.1000        S
First
6           0       1    male  54.0      0      0  51.8625        S
First
10          1       3  female   4.0      1      1  16.7000        S
Third
11          1       1  female  58.0      0      0  26.5500        S
First
```

```
..        ...     ...     ...   ...    ...    ...      ...       ...
...
871         1       1  female  47.0      1      1  52.5542         S
First
872         0       1    male  33.0      0      0   5.0000         S
First
879         1       1  female  56.0      0      1  83.1583         C
First
887         1       1  female  19.0      0      0  30.0000         S
First
889         1       1    male  26.0      0      0  30.0000         C
First

       who  adult_male deck  embark_town alive  alone
1    woman       False    C    Cherbourg   yes  False
3    woman       False    C  Southampton   yes  False
6      man        True    E  Southampton    no   True
10   child       False    G  Southampton   yes  False
11   woman       False    C  Southampton   yes   True
..     ...         ...  ...          ...   ...    ...
871  woman       False    D  Southampton   yes  False
872    man        True    B  Southampton    no   True
879  woman       False    C    Cherbourg   yes  False
887  woman       False    B  Southampton   yes   True
889    man        True    C    Cherbourg   yes   True

[182 rows x 15 columns]
```

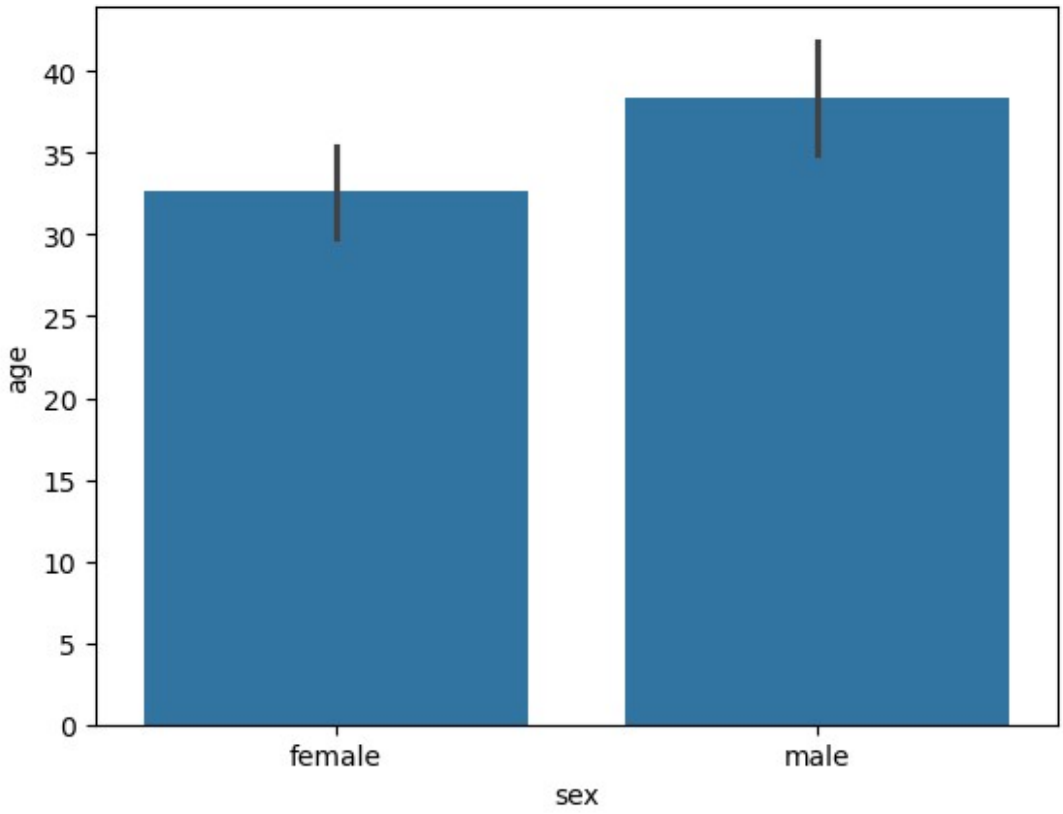
```
sns.rugplot(df['fare'])
```

```
<Axes: xlabel='fare'>
```




```
#Categorical Plots
sns.barplot(x='sex', y='age', data=df)
```

```
<Axes: xlabel='sex', ylabel='age'>
```


40
35
30
25
20
15
10
5
0
age
female
male
sex