


```
In [ ]: Assignment No: 8
        Contents for Theory:
        1. Seaborn Library Basics
        2. Know your Data
        3. Finding patterns of data.
        4. Checking how the price of the ticket (column name: 'fare')
           for each passenger is distributed by plotting a histogram.
```

```
In [1]: import pandas as pd
        import numpy as np
        import matplotlib.pyplot as plt
        import seaborn as sns
```

```
In [2]: dataset = sns.load_dataset('titanic')
        dataset.head()
```

```
Out[2]:
```

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male	d
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	I
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	I
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	
4	0	3	male	35.0	0	0	8.0500	S	Third	man	True	I

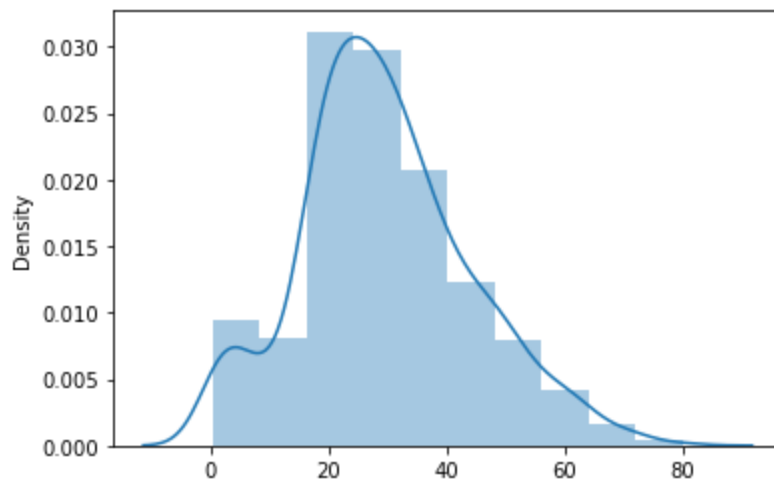


```
In [3]: import seaborn as sns
sns.distplot(x = dataset['age'], bins = 10)
```

C:\Users\SSOS09\anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).

```
warnings.warn(msg, FutureWarning)
```

Out[3]: <AxesSubplot:ylabel='Density'>

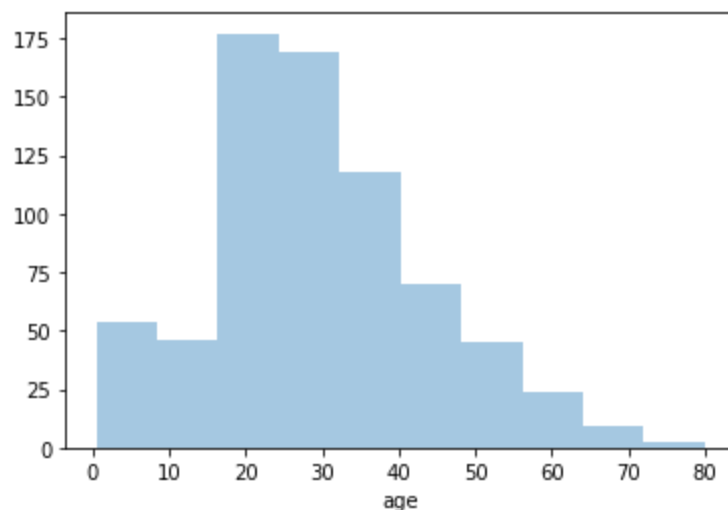


```
In [4]: sns.distplot(dataset['age'], bins = 10, kde=False)
```

C:\Users\SSOS09\anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).

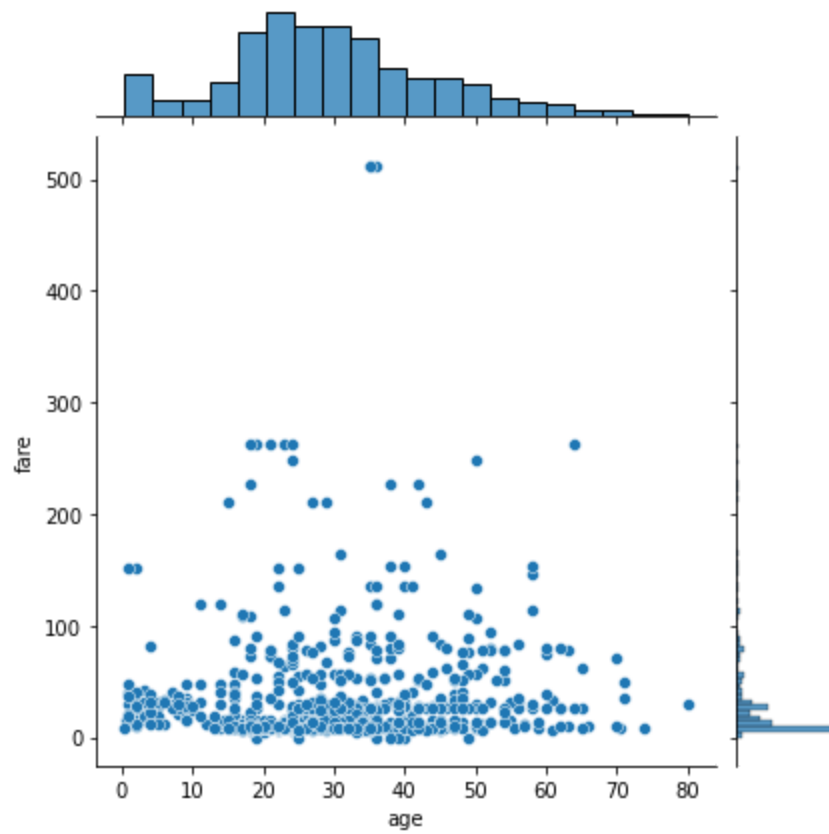
```
warnings.warn(msg, FutureWarning)
```

Out[4]: <AxesSubplot:xlabel='age'>



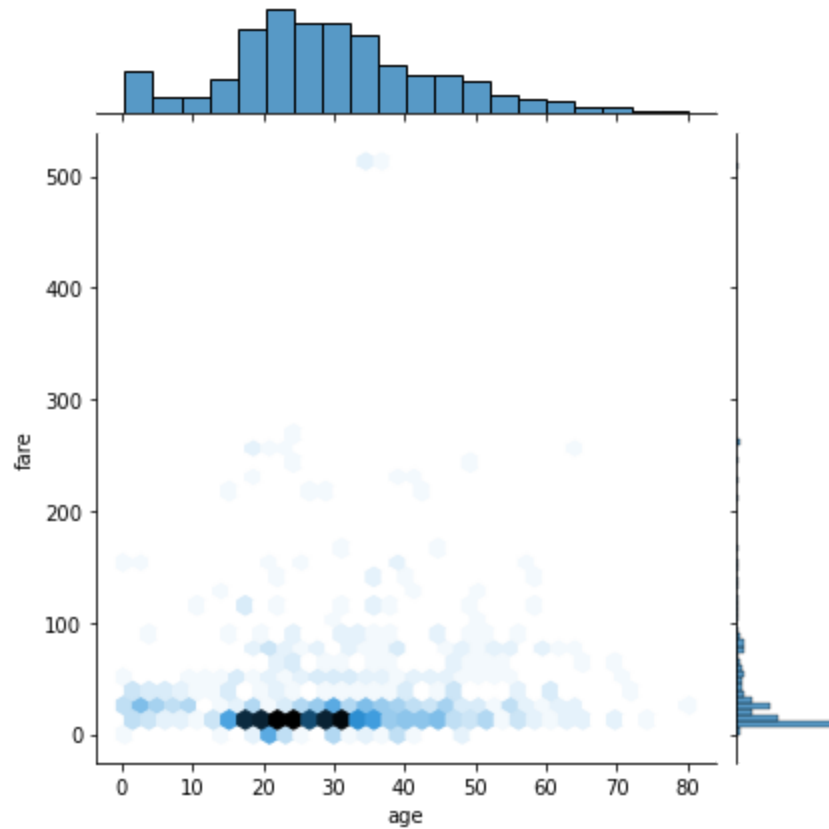
```
In [5]: import seaborn as sns
# For Plot 1
sns.jointplot(x = dataset['age'], y = dataset['fare'], kind = 'scatter')
```

Out[5]: <seaborn.axisgrid.JointGrid at 0x2b1fd0ba8e0>



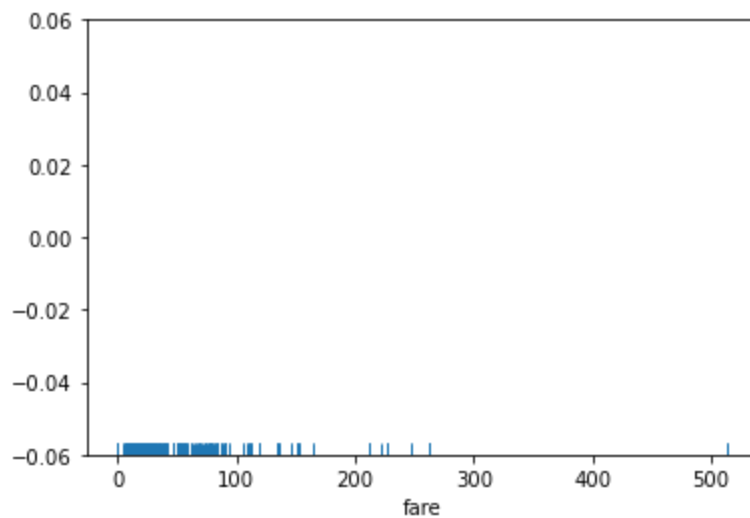
```
In [6]: # For Plot 2
sns.jointplot(x = dataset['age'], y = dataset['fare'], kind = 'hex')
```

```
Out[6]: <seaborn.axisgrid.JointGrid at 0x2b1fd30bf70>
```



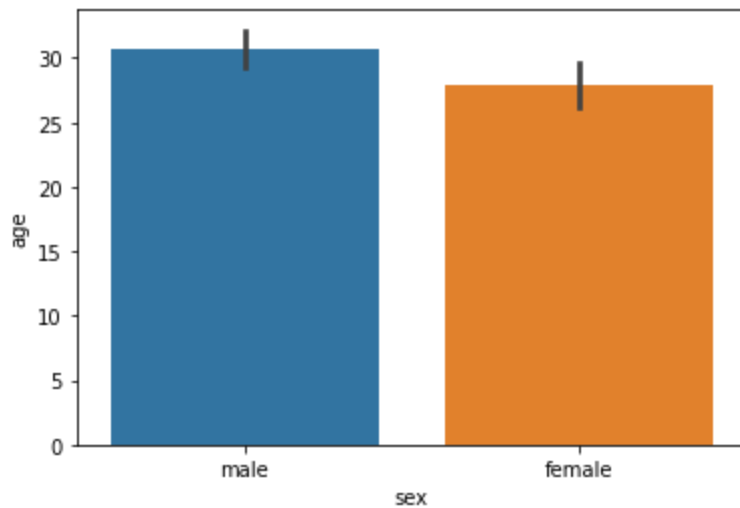
```
In [7]: sns.rugplot(dataset['fare'])
```

```
Out[7]: <AxesSubplot:xlabel='fare'>
```



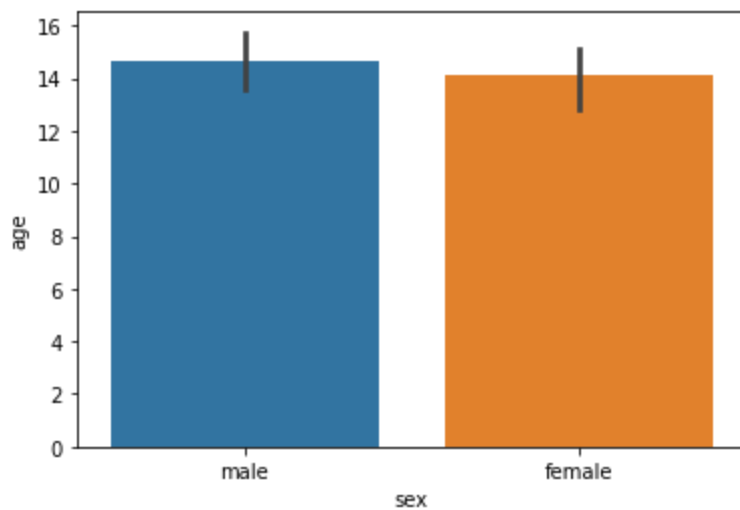
```
In [8]: sns.barplot(x='sex', y='age', data=dataset)
```

```
Out[8]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



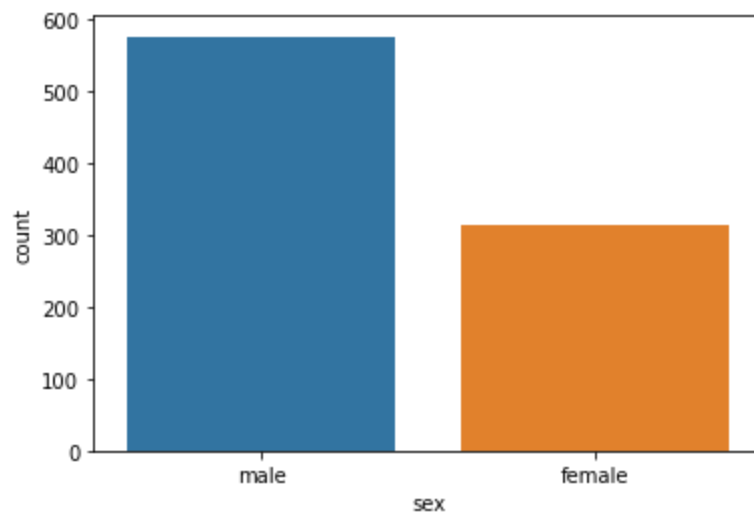
```
In [9]: import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
sns.barplot(x='sex', y='age', data=dataset, estimator=np.std)
```

```
Out[9]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



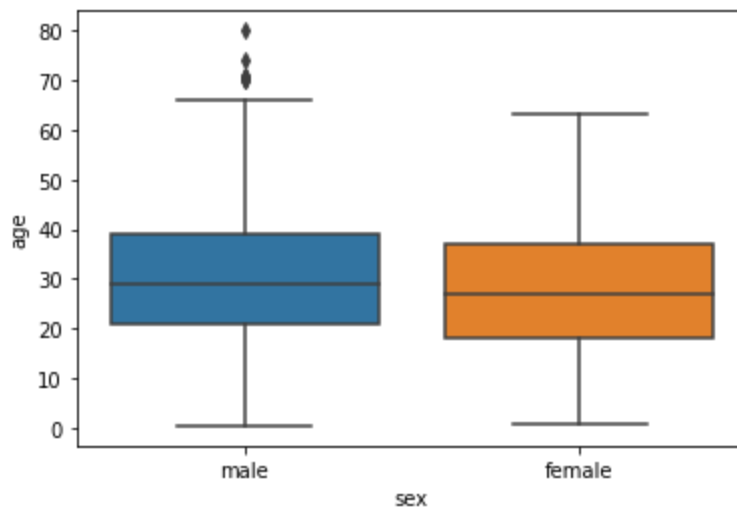
```
In [10]: sns.countplot(x='sex', data=dataset)
```

```
Out[10]: <AxesSubplot:xlabel='sex', ylabel='count'>
```



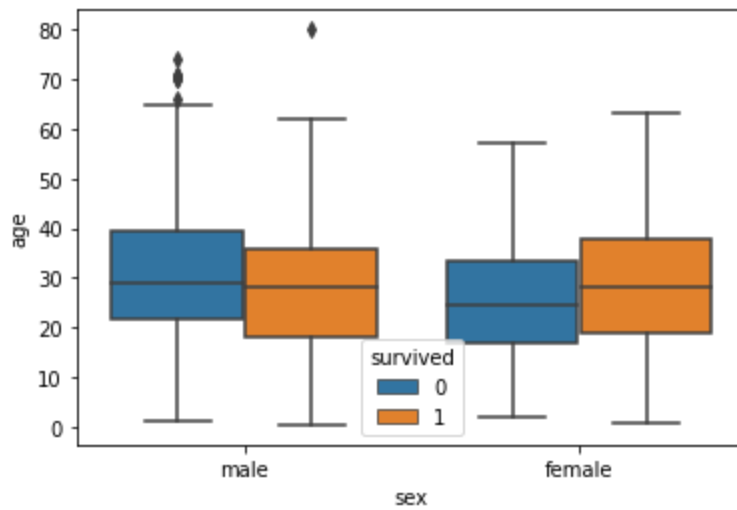
```
In [11]: sns.boxplot(x='sex', y='age', data=dataset)
```

```
Out[11]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



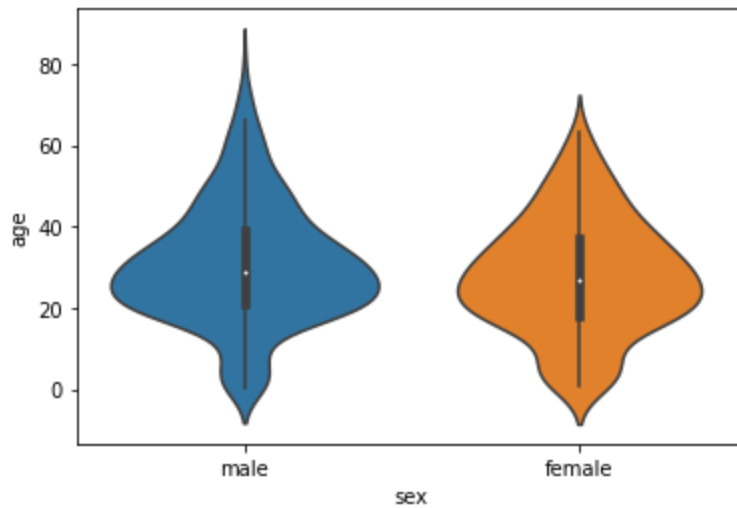
```
In [12]: sns.boxplot(x='sex', y='age', data=dataset, hue="survived")
```

```
Out[12]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



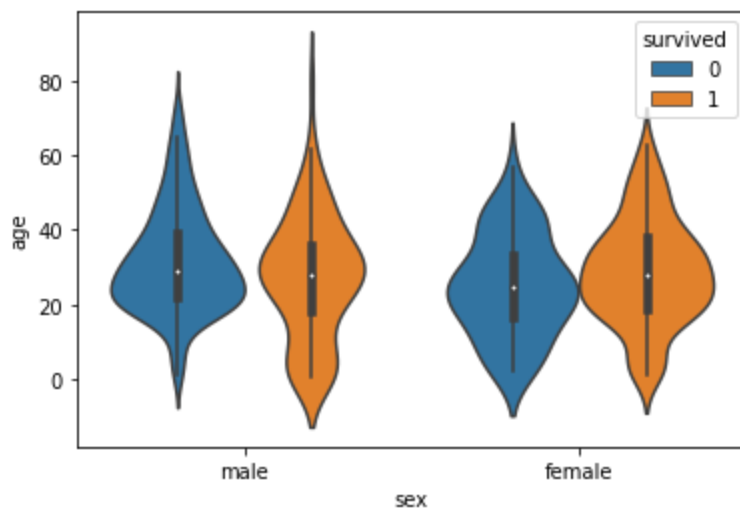
```
In [13]: sns.violinplot(x='sex', y='age', data=dataset)
```

```
Out[13]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



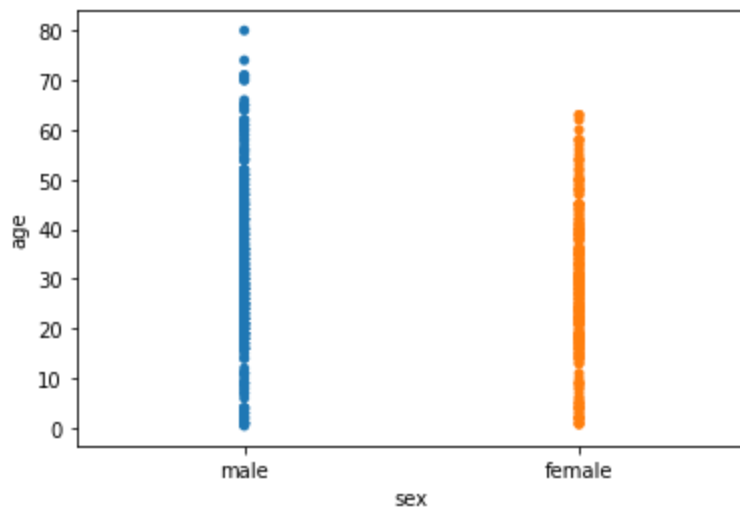
```
In [14]: sns.violinplot(x='sex', y='age', data=dataset, hue='survived')
```

```
Out[14]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



```
In [15]: sns.stripplot(x='sex', y='age', data=dataset, jitter=False)
```

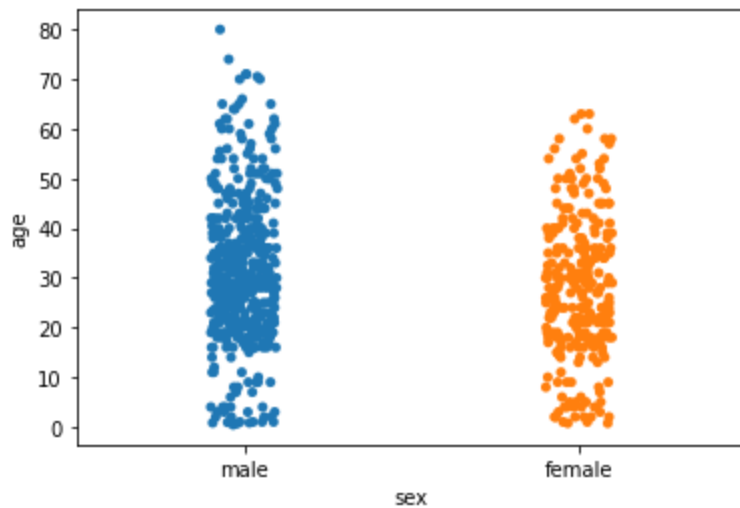
```
Out[15]: <AxesSubplot:xlabel='sex', ylabel='age'>
```





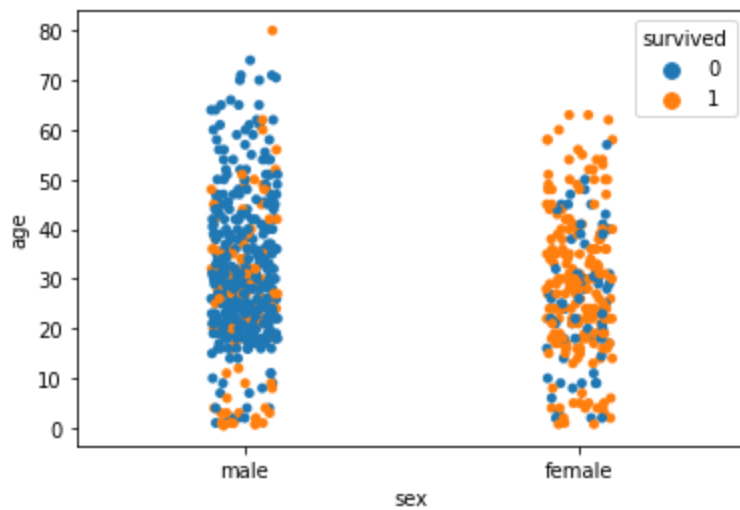
```
In [16]: sns.stripplot(x='sex', y='age', data=dataset, jitter=True)
```

```
Out[16]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



```
In [17]: sns.stripplot(x='sex', y='age', data=dataset, jitter=True, hue='survived')
```

```
Out[17]: <AxesSubplot:xlabel='sex', ylabel='age'>
```

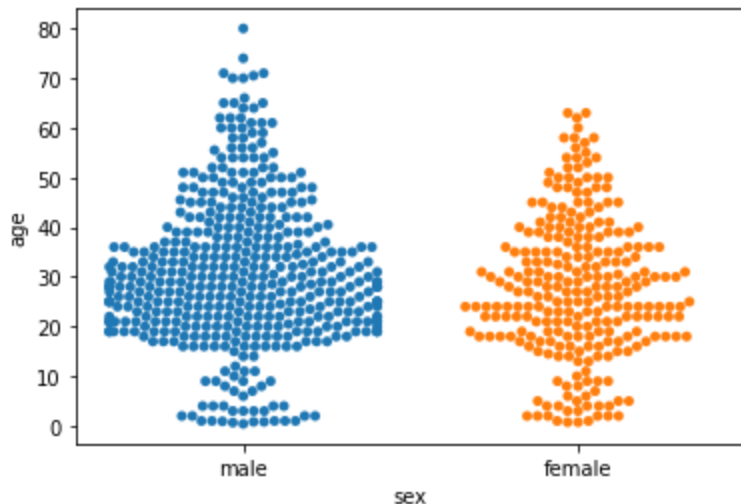


```
In [18]: sns.swarmplot(x='sex', y='age', data=dataset)
```

C:\Users\SS0S09\anaconda3\lib\site-packages\seaborn\categorical.py:1296: UserWarning: 5.9% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.

warnings.warn(msg, UserWarning)

```
Out[18]: <AxesSubplot:xlabel='sex', ylabel='age'>
```

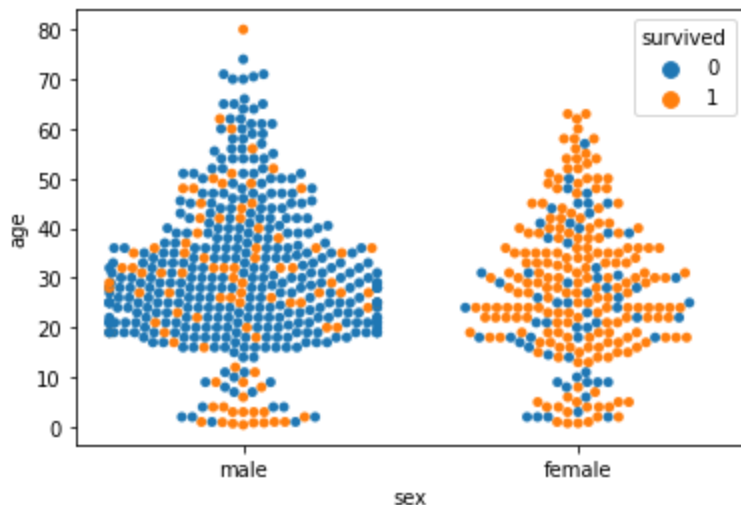


```
In [19]: sns.swarmplot(x='sex', y='age', data=dataset, hue='survived')
```

C:\Users\SS0S09\anaconda3\lib\site-packages\seaborn\categorical.py:1296: UserWarning: 5.9% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.

warnings.warn(msg, UserWarning)

```
Out[19]: <AxesSubplot:xlabel='sex', ylabel='age'>
```



```
In [20]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
dataset = sns.load_dataset('titanic')
dataset.head()
```

```
Out[20]:
```

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male	d
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	I
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	I
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	
4	0	3	male	35.0	0	0	8.0500	S	Third	man	True	I

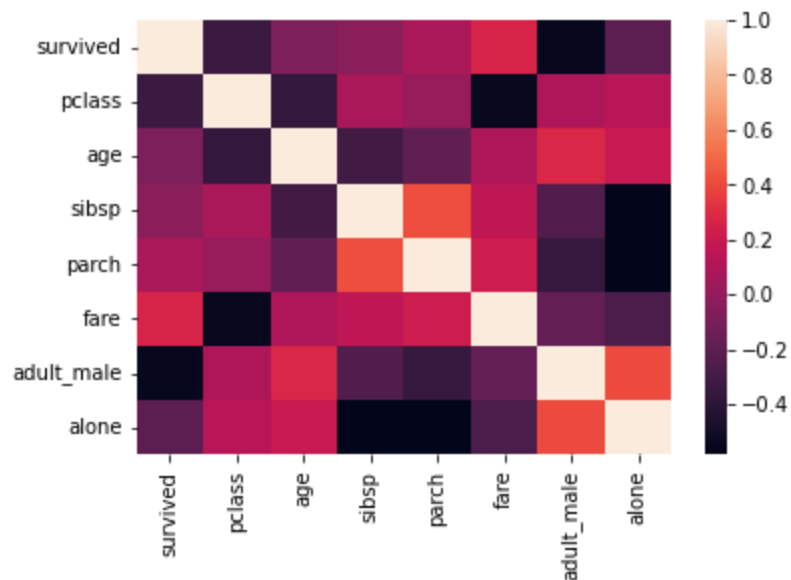
```
In [21]: dataset.corr()
```

```
Out[21]:
```

	survived	pclass	age	sibsp	parch	fare	adult_male	alone
<b>survived</b>	1.000000	-0.338481	-0.077221	-0.035322	0.081629	0.257307	-0.557080	-0.203367
<b>pclass</b>	-0.338481	1.000000	-0.369226	0.083081	0.018443	-0.549500	0.094035	0.135207
<b>age</b>	-0.077221	-0.369226	1.000000	-0.308247	-0.189119	0.096067	0.280328	0.198270
<b>sibsp</b>	-0.035322	0.083081	-0.308247	1.000000	0.414838	0.159651	-0.253586	-0.584471
<b>parch</b>	0.081629	0.018443	-0.189119	0.414838	1.000000	0.216225	-0.349943	-0.583398
<b>fare</b>	0.257307	-0.549500	0.096067	0.159651	0.216225	1.000000	-0.182024	-0.271832
<b>adult_male</b>	-0.557080	0.094035	0.280328	-0.253586	-0.349943	-0.182024	1.000000	0.404744
<b>alone</b>	-0.203367	0.135207	0.198270	-0.584471	-0.583398	-0.271832	0.404744	1.000000

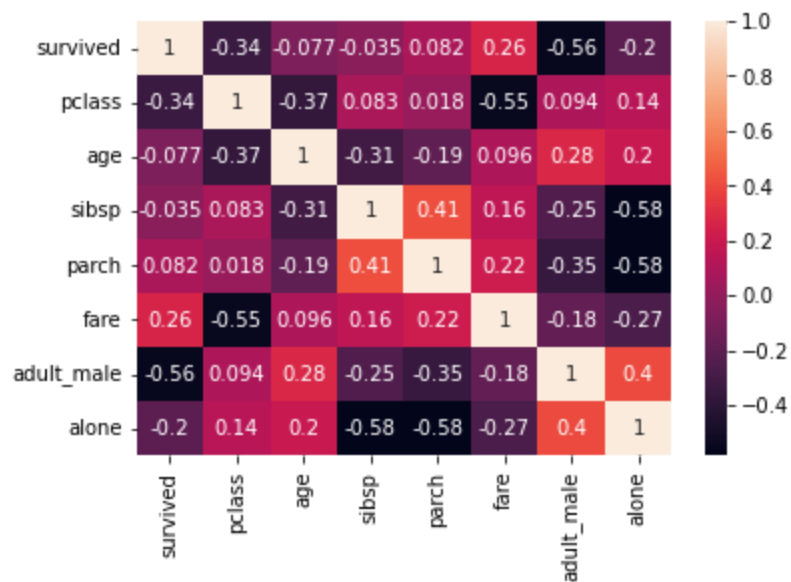
```
In [22]: corr = dataset.corr()  
sns.heatmap(corr)
```

Out[22]: <AxesSubplot:>



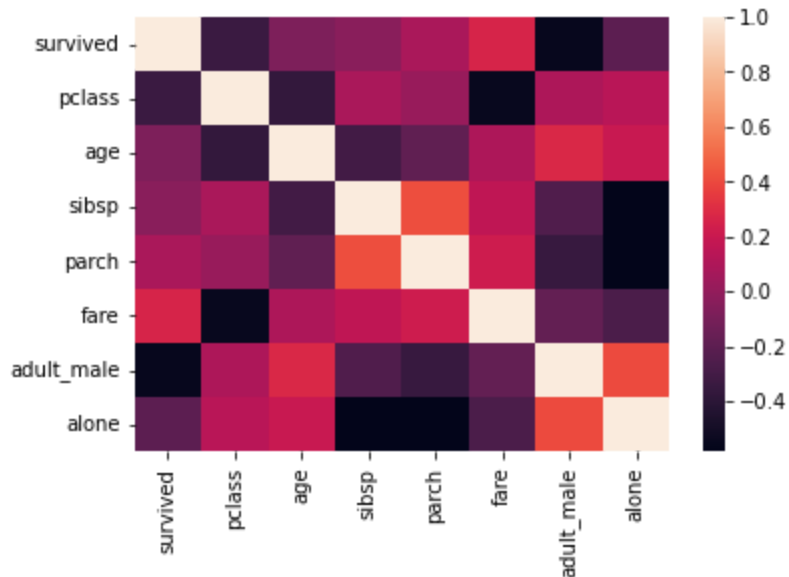
```
In [23]: corr = dataset.corr()  
sns.heatmap(corr, annot=True)
```

Out[23]: <AxesSubplot:>



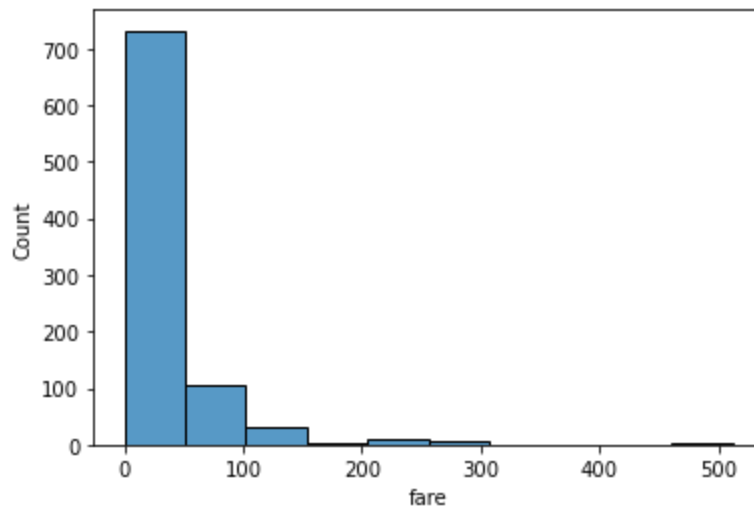
```
In [24]: corr = dataset.corr()  
sns.heatmap(corr)
```

Out[24]: <AxesSubplot:>



```
In [25]: import seaborn as sns  
dataset = sns.load_dataset('titanic')  
sns.histplot(dataset['fare'], kde=False, bins=10)
```

Out[25]: <AxesSubplot:xlabel='fare', ylabel='Count'>



```
In [ ]: Name - Karan More  
Roll No - 13234
```

