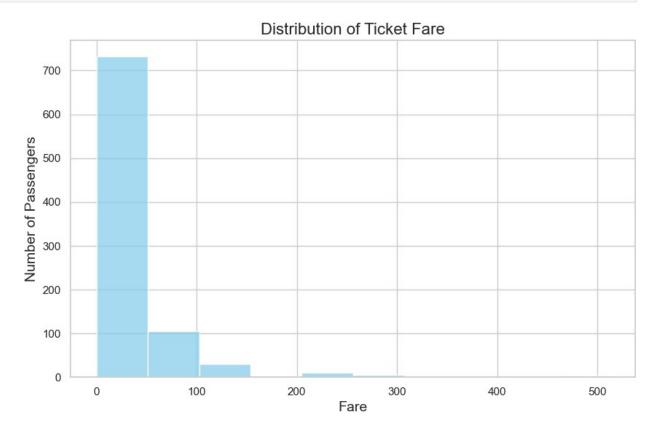
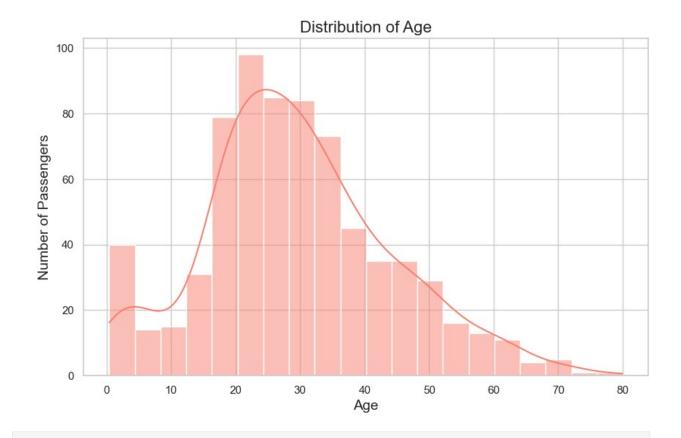
```
!pip install seaborn
Defaulting to user installation because normal site-packages is not
writeable
Requirement already satisfied: seaborn in c:\users\kedar\appdata\
roaming\python\python312\site-packages (0.13.2)
Requirement already satisfied: numpy!=1.24.0,>=1.20 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from seaborn) (2.1.2)
Requirement already satisfied: pandas>=1.2 in c:\users\kedar\appdata\
roaming\python\python312\site-packages (from seaborn) (2.2.3)
Requirement already satisfied: matplotlib!=3.6.1,>=3.4 in c:\users\
kedar\appdata\roaming\python\python312\site-packages (from seaborn)
(3.10.0)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1, >=3.4->seaborn) (1.3.1)
Requirement already satisfied: cycler>=0.10 in c:\users\kedar\appdata\
roaming\python\python312\site-packages (from matplotlib!=3.6.1,>=3.4-
>seaborn) (0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1,>=3.4->seaborn) (4.55.7)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1, >=3.4 -> seaborn) (1.4.8)
Requirement already satisfied: packaging>=20.0 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1,>=3.4->seaborn) (24.2)
Requirement already satisfied: pillow>=8 in c:\users\kedar\appdata\
roaming\python\python312\site-packages (from matplotlib!=3.6.1,>=3.4-
>seaborn) (11.0.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1, >=3.4 -> seaborn) (3.2.1)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from matplotlib!
=3.6.1,>=3.4->seaborn) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\kedar\appdata\
roaming\python\python312\site-packages (from pandas>=1.2->seaborn)
(2024.2)
Requirement already satisfied: tzdata>=2022.7 in c:\users\kedar\
appdata\roaming\python\python312\site-packages (from pandas>=1.2-
>seaborn) (2025.1)
Requirement already satisfied: six>=1.5 in c:\users\kedar\appdata\
roaming\python\python312\site-packages (from python-dateutil>=2.7-
>matplotlib!=3.6.1,>=3.4->seaborn) (1.17.0)
plt.figure(figsize=(10, 6))
sns.histplot(dataset['fare'], kde=False, bins=10, color='skyblue')
```

```
plt.title('Distribution of Ticket Fare', fontsize=16)
plt.xlabel('Fare', fontsize=14)
plt.ylabel('Number of Passengers', fontsize=14)
plt.show()
```



```
plt.figure(figsize=(10, 6))
sns.histplot(dataset['age'], kde=True, bins=20, color='salmon')
plt.title('Distribution of Age', fontsize=16)
plt.xlabel('Age', fontsize=14)
plt.ylabel('Number of Passengers', fontsize=14)
plt.show()
```



C:\Users\kedar\AppData\Local\Temp\ipykernel_19376\362036069.py:1:
UserWarning:

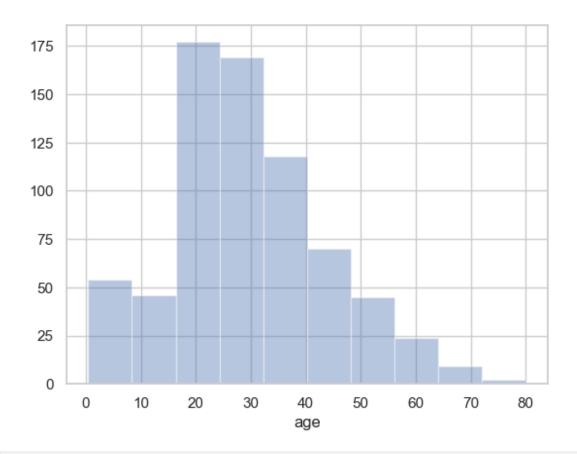
`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

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

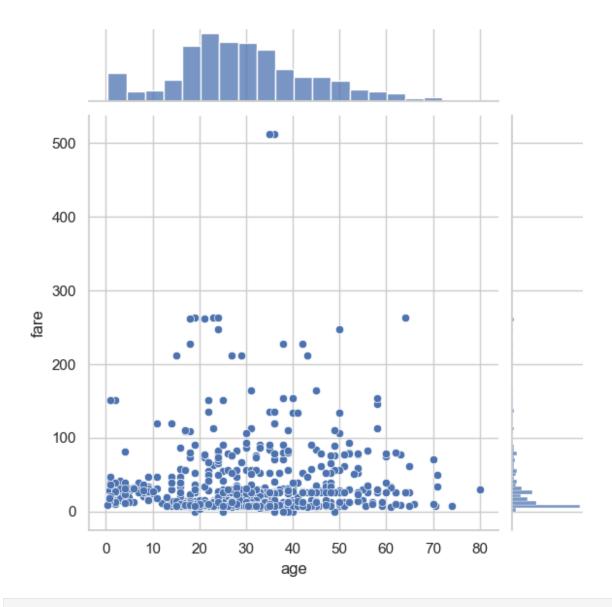
For a guide to updating your code to use the new functions, please see https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

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

<Axes: xlabel='age'>



sns.jointplot(x='age', y='fare', data=dataset, kind='scatter')
<seaborn.axisgrid.JointGrid at 0x1793f165010>



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

C:\Users\kedar\AppData\Local\Temp\ipykernel_19376\362036069.py:1:
UserWarning:

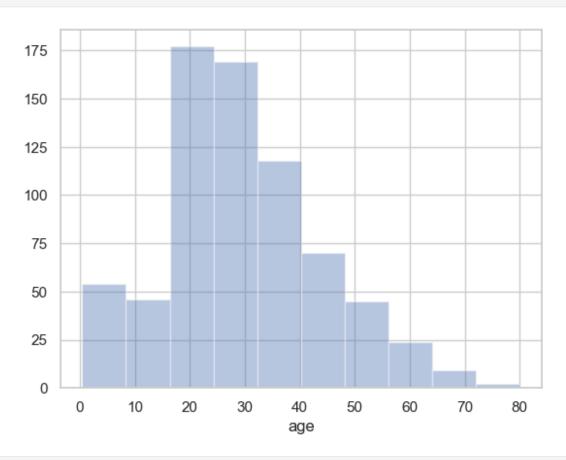
`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

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

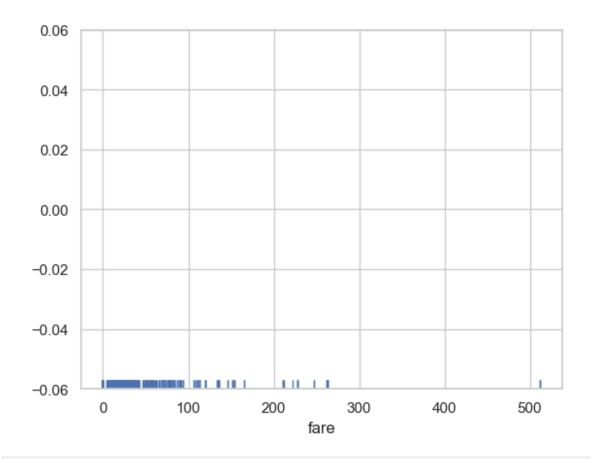
sns.distplot(dataset['age'], bins=10, kde=False)

<Axes: xlabel='age'>



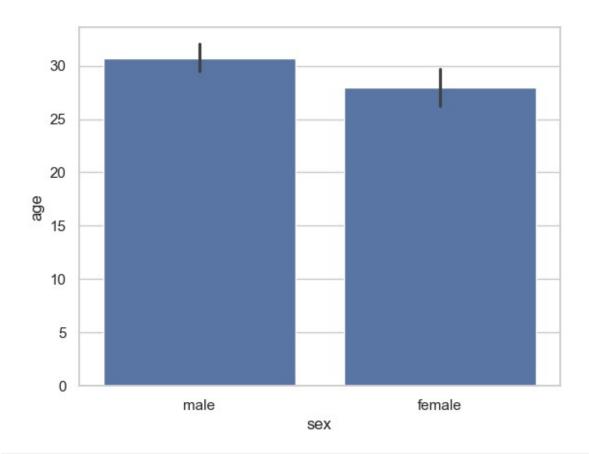
sns.rugplot(dataset['fare'])

<Axes: xlabel='fare'>



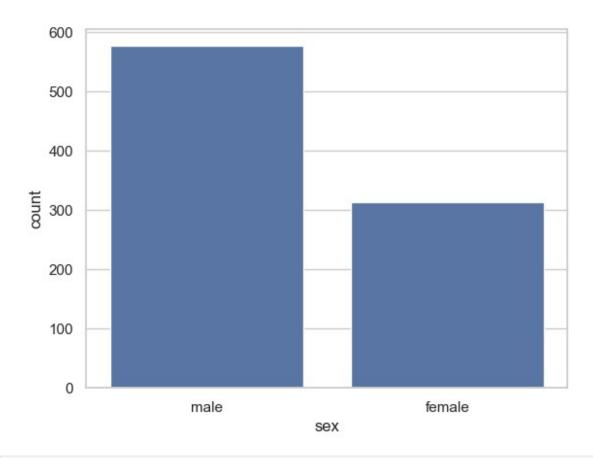
sns.barplot(x='sex', y='age', data=dataset)

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



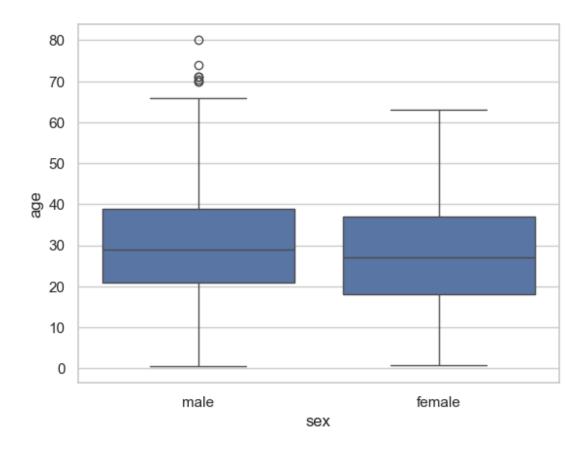
sns.countplot(x='sex', data=dataset)

<Axes: xlabel='sex', ylabel='count'>

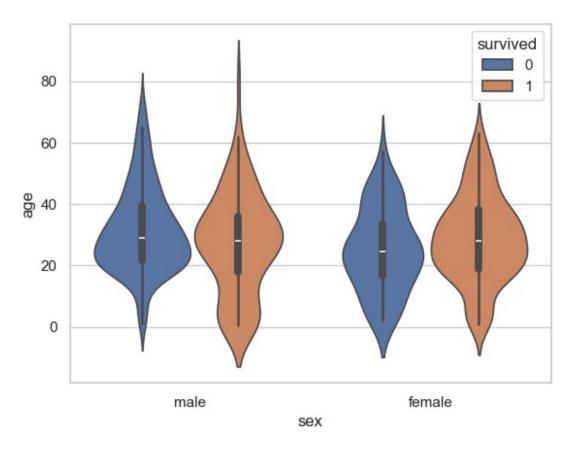


sns.boxplot(x='sex', y='age', data=dataset)

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

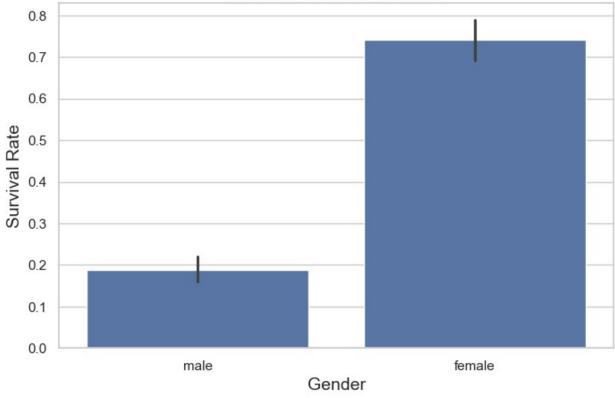


sns.violinplot(x='sex', y='age', data=dataset, hue='survived')
<Axes: xlabel='sex', ylabel='age'>



```
plt.figure(figsize=(8, 5))
sns.barplot(x='sex', y='survived', data=dataset)
plt.title('Survival Rate by Gender', fontsize=16)
plt.xlabel('Gender', fontsize=14)
plt.ylabel('Survival Rate', fontsize=14)
plt.show()
```

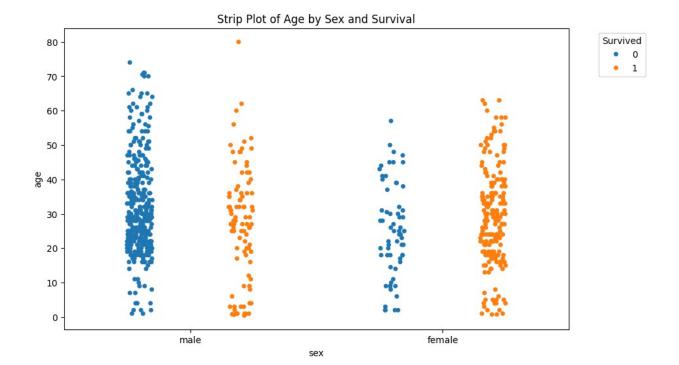




```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt

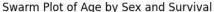
dataset = sns.load_dataset('titanic')

plt.figure(figsize=(10, 6))
sns.stripplot(x='sex', y='age', data=dataset, jitter=True,
hue='survived', dodge=True)
plt.title('Strip Plot of Age by Sex and Survival')
plt.legend(title='Survived', bbox_to_anchor=(1.05, 1), loc='upper
left')
plt.show()
```

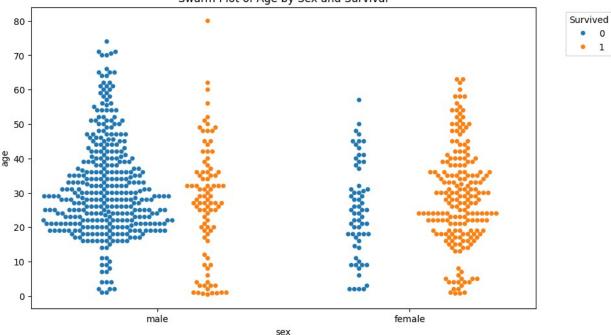


```
dataset = sns.load_dataset('titanic')

# Swarm Plot
plt.figure(figsize=(10, 6))
sns.swarmplot(x='sex', y='age', data=dataset, hue='survived',
dodge=True)
plt.title('Swarm Plot of Age by Sex and Survival')
plt.legend(title='Survived', bbox_to_anchor=(1.05, 1), loc='upper
left')
plt.show()
```



1



pip install --upgrade seaborn matplotlib

Defaulting to user installation because normal site-packages is not writeable

Requirement already satisfied: seaborn in c:\users\kedar\appdata\ roaming\python\python313\site-packages (0.13.2)

Requirement already satisfied: matplotlib in c:\users\kedar\appdata\ roaming\python\python313\site-packages (3.10.0)

Requirement already satisfied: numpy!=1.24.0,>=1.20 in c:\users\kedar\ appdata\roaming\python\python313\site-packages (from seaborn) (2.2.2) Reguirement already satisfied: pandas>=1.2 in c:\users\kedar\appdata\ roaming\python\python313\site-packages (from seaborn) (2.2.3) Requirement already satisfied: contourpy>=1.0.1 in c:\users\kedar\ appdata\roaming\python\python313\site-packages (from matplotlib) (1.3.1)

Requirement already satisfied: cycler>=0.10 in c:\users\kedar\appdata\ roaming\python\python313\site-packages (from matplotlib) (0.12.1) Requirement already satisfied: fonttools>=4.22.0 in c:\users\kedar\ appdata\roaming\python\python313\site-packages (from matplotlib) (4.56.0)

Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\kedar\ appdata\roaming\python\python313\site-packages (from matplotlib) (1.4.8)

Requirement already satisfied: packaging>=20.0 in c:\users\kedar\ appdata\roaming\python\python313\site-packages (from matplotlib) (24.2)

Requirement already satisfied: pillow>=8 in c:\users\kedar\appdata\ roaming\python\python313\site-packages (from matplotlib) (11.1.0)

```
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\kedar\
appdata\roaming\python\python313\site-packages (from matplotlib)
(3.2.1)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\kedar\
appdata\roaming\python\python313\site-packages (from matplotlib)
(2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\kedar\appdata\
roaming\python\python313\site-packages (from pandas>=1.2->seaborn)
Requirement already satisfied: tzdata>=2022.7 in c:\users\kedar\
appdata\roaming\python\python313\site-packages (from pandas>=1.2-
>seaborn) (2025.1)
Requirement already satisfied: six>=1.5 in c:\users\kedar\appdata\
roaming\python\python313\site-packages (from python-dateutil>=2.7-
>matplotlib) (1.17.0)
Note: you may need to restart the kernel to use updated packages.
[notice] A new release of pip is available: 24.2 -> 25.0.1
[notice] To update, run: python.exe -m pip install --upgrade pip
dataset = sns.load dataset('titanic')
# Convert categorical columns to numeric using one-hot encoding
dataset numeric = pd.get dummies(dataset, drop first=True) # Convert
categorical data
# Compute correlation matrix
plt.figure(figsize=(10, 8))
corr = dataset numeric.corr() # Use the transformed dataset
sns.heatmap(corr, annot=True, cmap='coolwarm')
# Add title
plt.title('Correlation Heatmap of Titanic Dataset', fontsize=16)
plt.show()
```

Correlation Heatmap of Titanic Dataset - 1.00 1 0.34.0707085082.260.560.20.0.0030.106090.320.50.510.180.110.150.16.058000.60030.16.1 pclass -0.34 1-0.307.080301 0.50.094.140.130.242.0842.19.99.094.140.370.442.240.240.01056.242.0842.34 age -0.070.37 1 0.3-0.192096.280.20.093.0420330.040.30.280.10.094.120.140.142.04340-70704220433077 - 0.75 sibsp -0.095883.3 1 0.40.160.25.50.40.0260701.056099.25047.085029.0-0800000000004.0260701.035 parch 0.08201-8.19.41 1 0.220.350.5-0.25.08.1968007081-6.35.15.0560301.0-0900702240702.08.10689082 fare 0.260.50.096.160.22 1 0.180.270.180.120.170.120.470.180.190.390.36.09000504.083025.120.170.26 -0.500.50<mark>.09**4.28**0.2**5**0.3**5**0.18<mark>1 0.4</mark>0.90.07<mark>7.10</mark>.06<mark>7.11 1-0.8</mark>0.09604205904105408307<mark>7.11</mark>0.56</mark> -0.2<mark>0.140.2</mark>0.580.5<mark>-0.270.4 1 0.30.08602050339130.4</mark>0.20.06**5**.43.08340280-060830860250.2 0.50<mark>.10.098</mark>.140.250.10<mark>.91</mark>0.3<mark>11</mark>0.0704140.0605140.910.90.10.0459070994709829931070415</mark>0.5 sex_male embarked_Q0.0037220.0220206080.12.00708060741 -0.50.18.20.070.10.070.05.06.93.8994.02 1 -0.00037 - 0.25 embarked_S -0.16608020830701069.170.100.025.130.5 1 0.409.00905140.140.040570501030903040420.5 1 0.16 dass_Second 0.090.109097.056097.342.0670399065.18.19 1-0.50.067.060.120.144.04010339142.034.10.19.093 class_Third -0.3(0.920.30(0.9301-0.4-0.110.130.140.20400.9557 1 0.140.1-0.260.30.2-20.48.040.060.20400.9532 - 0.00 who_man 0.50.094.280.250.350.18 1 0.40.90.0707.10.0607.11 1-0.80.0960402059040105408030707.11 0.50 who_woman 0.540.18.10.040.150.150.80.240.90.1-0.10.060.170.81110.10.0790.006900094290.1-0.10.51 deck_B 0.180.307.0904.0385056.39.0406065.10.0703.142.142.05.090612_1_0.0603040604290-06073.122.18 -0.25 deck_C 0.110.412.112.0229030.30.30.0412.103.059.905.0607.1140.30.0422.709.06 110.0520-5010.302018.905.0607.11 deck_D 0.150.28.140.0408009099904590804079.06.0501040.202.059.40.040605.110.048602040143.96.050115 deck_E 0.150.28.142.037007054.0401028047088039039.18.0401069.046050103 110.0230403088039.15 -0.50deck_F 0.05380401.0384001.70224.0330454001.6040822034.0348.142.04010534093242290-3320-23402<mark>31.</mark>040822034.0334058 deck_G 0.016056697.7001.4702.025048304830491021042.034060104830239.0-060-080-03901.3004.110.0210422016 embark_town_Queenstown 0.003722, 0.220226080.12.0070860711 - 0.50.13.240.070.40.073.05.96.93.8984.0211 - 0.50.037 -0.75embark_town_Southampton -0.16608220830701069.170.110.025.130.5 1 0.4020095110.120.142.06705103903040420.5 1 0.16 1 0.34.0-070 850 82.260.560.20.0.0037.1660 90.320.50.510.180.110.150.16.0580 0.60 037.16 adult_male alone sex_male embarked_Q embarked_S embark_town_Southampton dass_Second class Third embark town Queenstown who_mar who_womar

```
corr = dataset.corr(numeric_only=True)
# Cluster Map
sns.clustermap(corr, annot=True, cmap='viridis')
plt.show()
```

