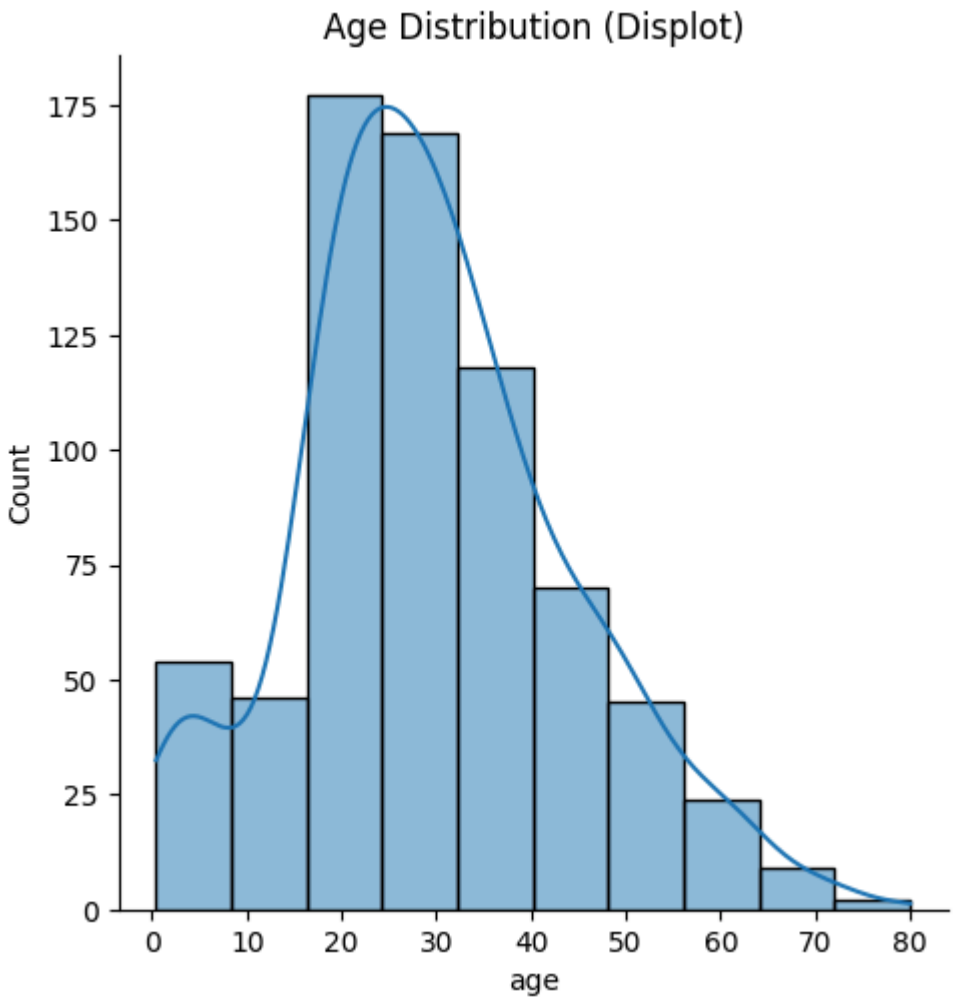
In [19]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [20]:
```
dataset = sns.load_dataset('titanic')
print(dataset.head())
```

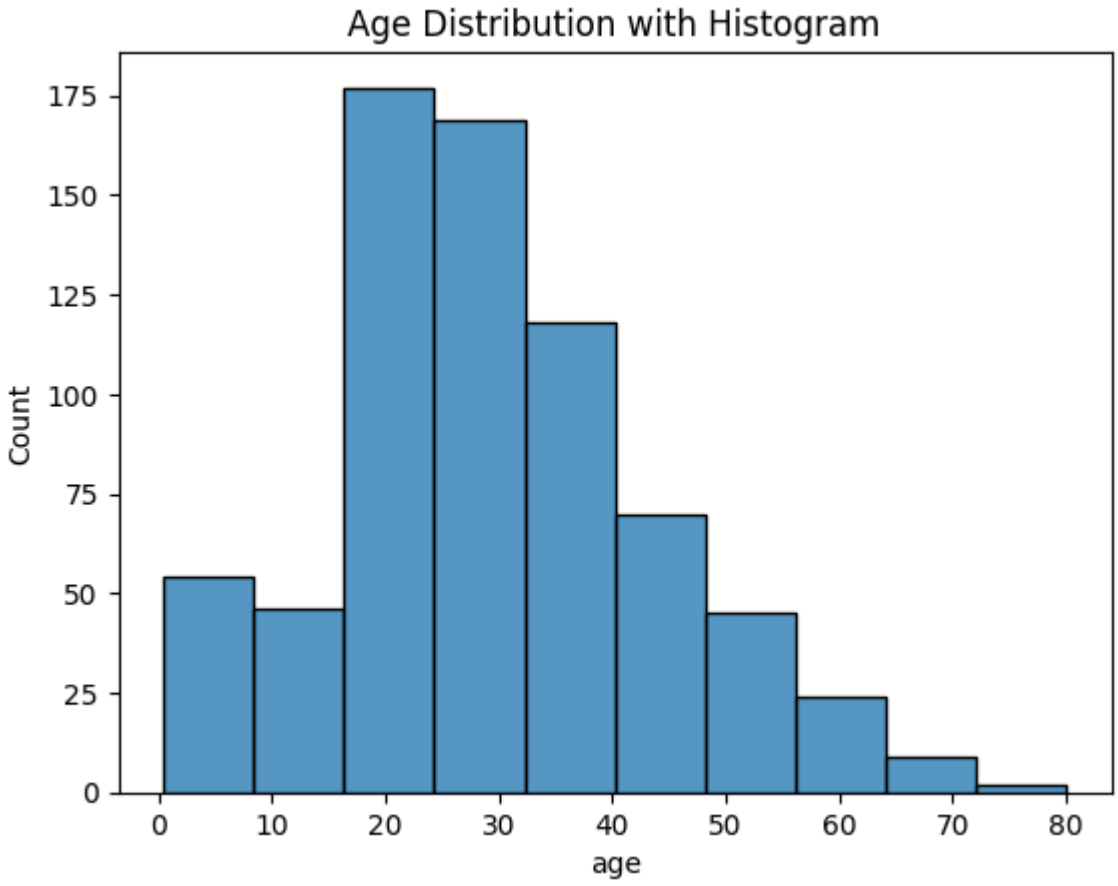
```
   survived  pclass     sex   age  sibsp  parch     fare embarked  class
\
0         0       3    male  22.0      1      0   7.2500        S  Third
1         1       1  female  38.0      1      0  71.2833        C  First
2         1       3  female  26.0      0      0   7.9250        S  Third
3 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

In [21]:
```
sns.displot(x=dataset["age"].dropna(), bins=10, kde=True)
plt.title("Age Distribution (Displot)")
plt.show()
```



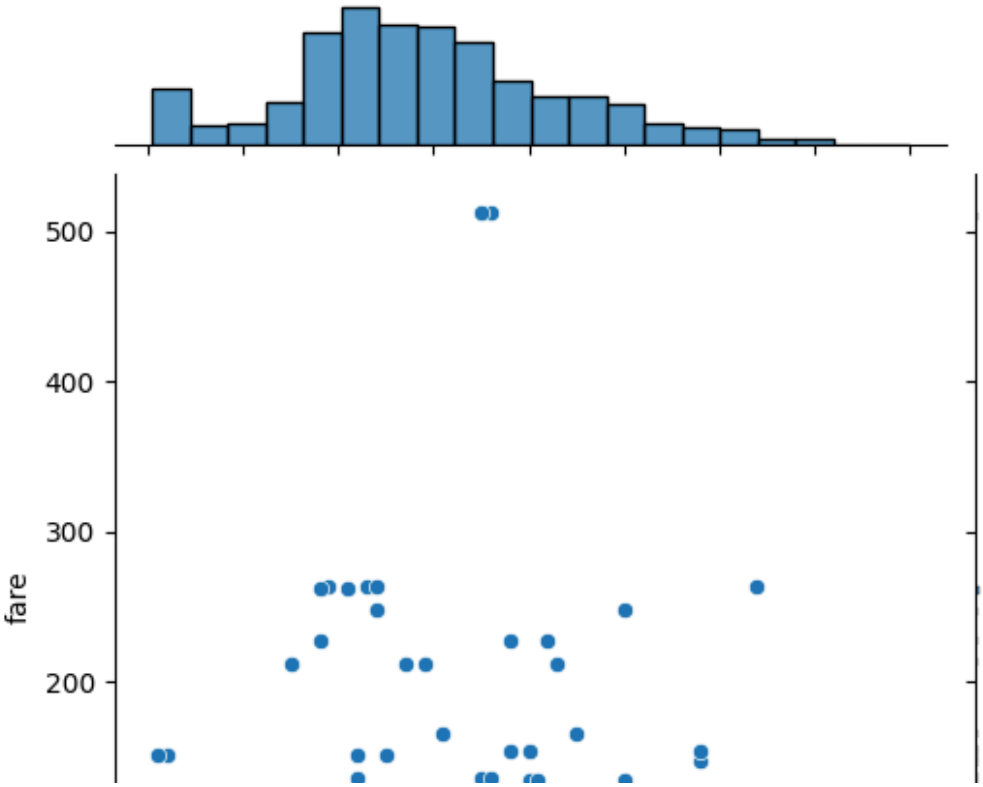
In [22]:

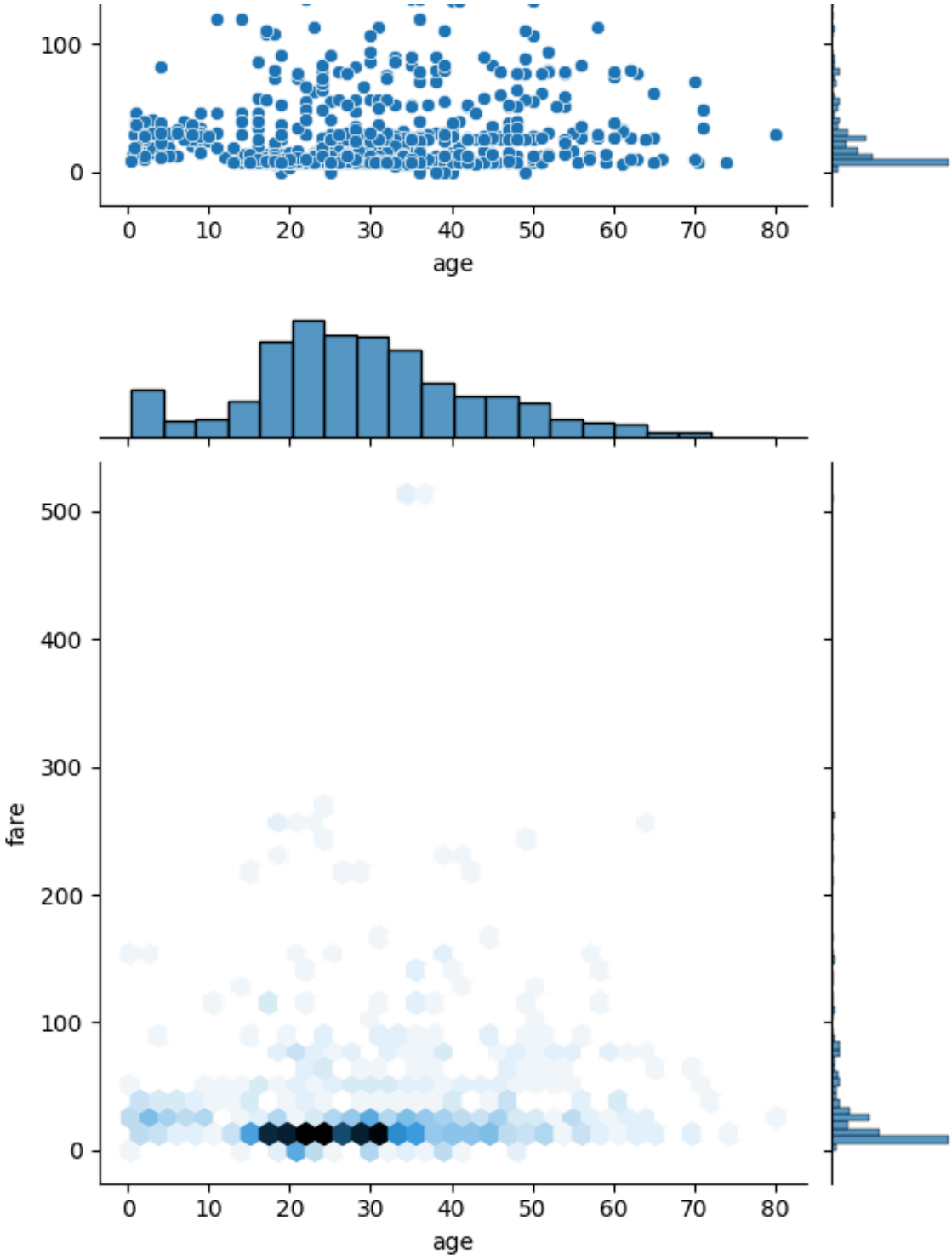
In [22]:
```
sns.histplot(dataset['age'].dropna(), bins=10, kde=False)
plt.title("Age Distribution with Histogram")
plt.show()
```



In [23]:
```
sns.jointplot(x = dataset['age'], y = dataset['fare'], kind =
'scatter')
sns.jointplot(x = dataset['age'], y = dataset['fare'], kind = 'hex')
```

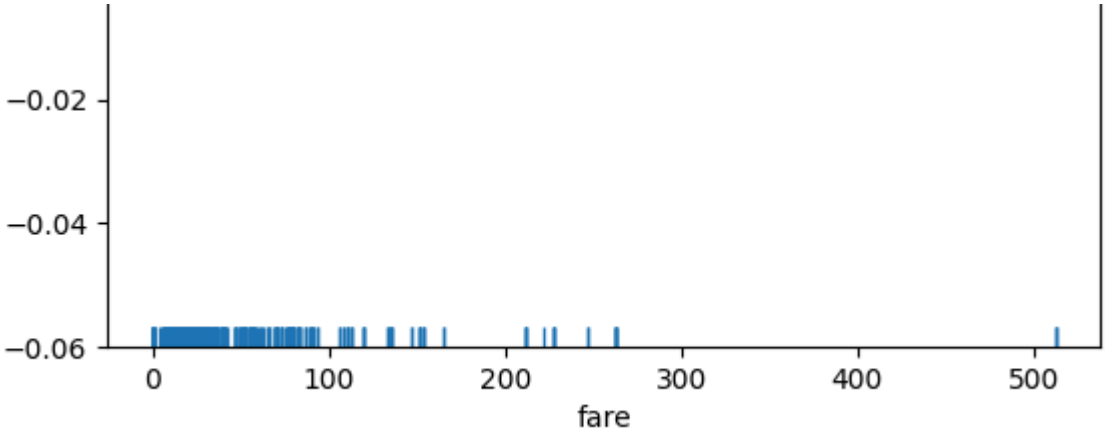
Out[23]: <seaborn.axisgrid.JointGrid at 0x11f1d6c40>





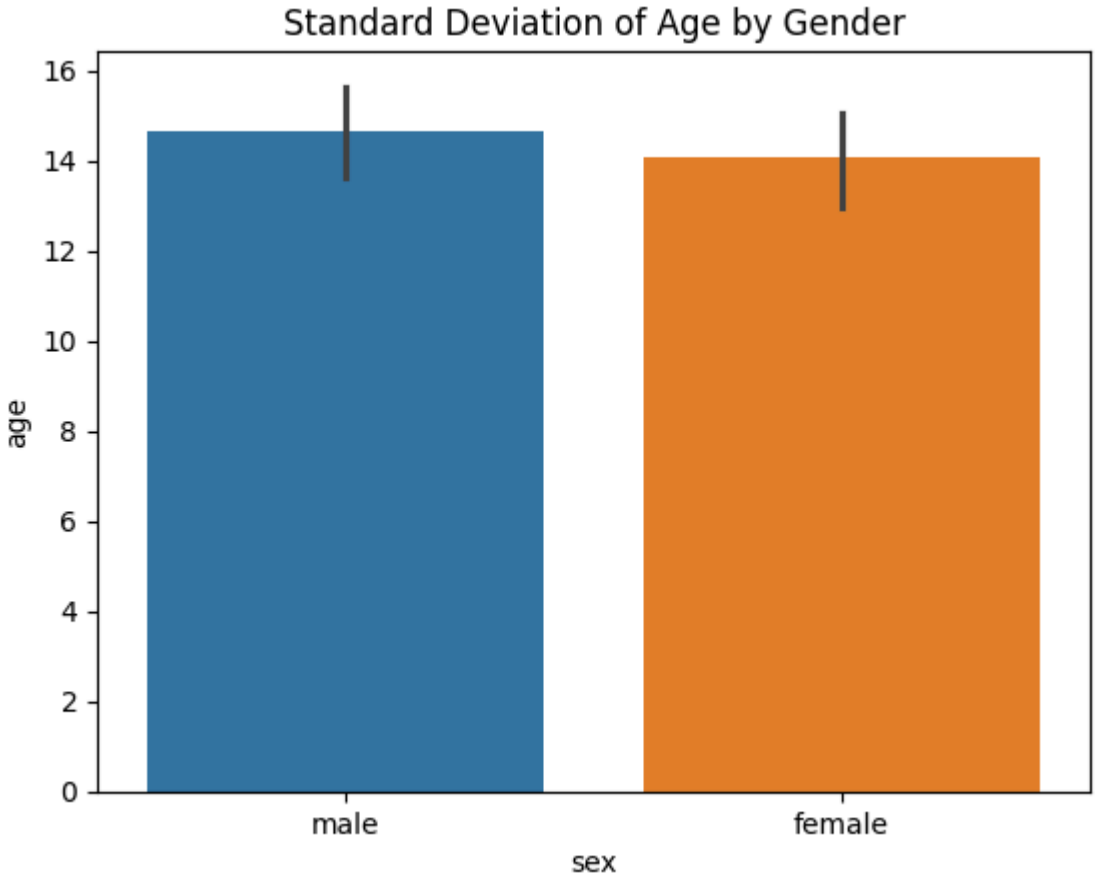
In [24]:
```
sns.rugplot(dataset['fare'])
```

Out[24]: <Axes: xlabel='fare'>



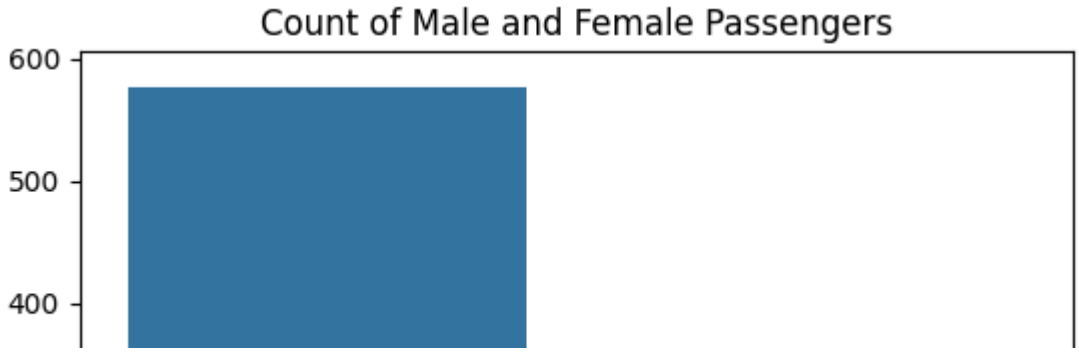
In [25]:

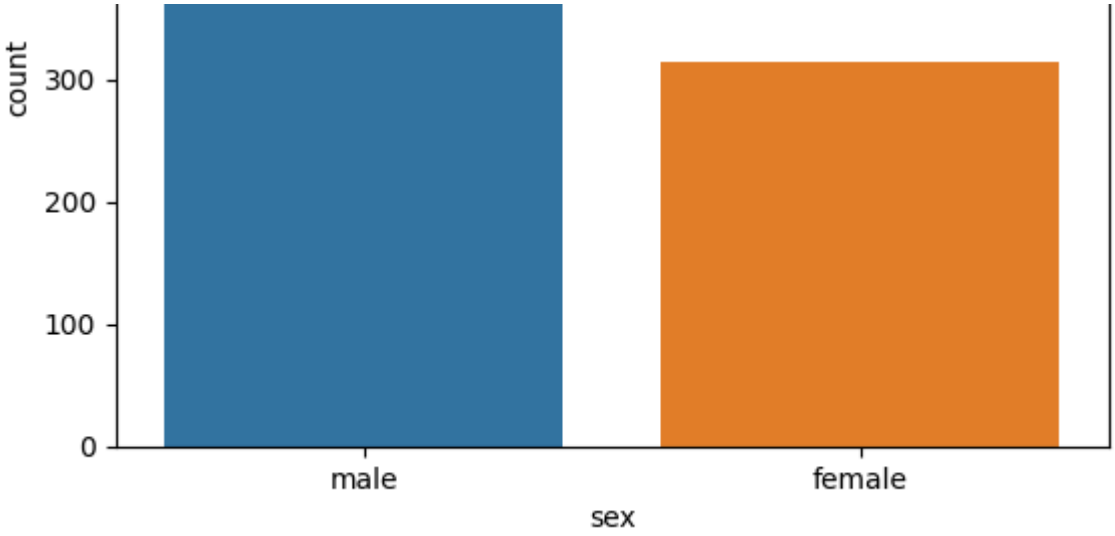
```
sns.barplot(x='sex', y='age', data=dataset, estimator=np.std , hue="sex
plt.title("Standard Deviation of Age by Gender")
plt.show()
```



In [26]:

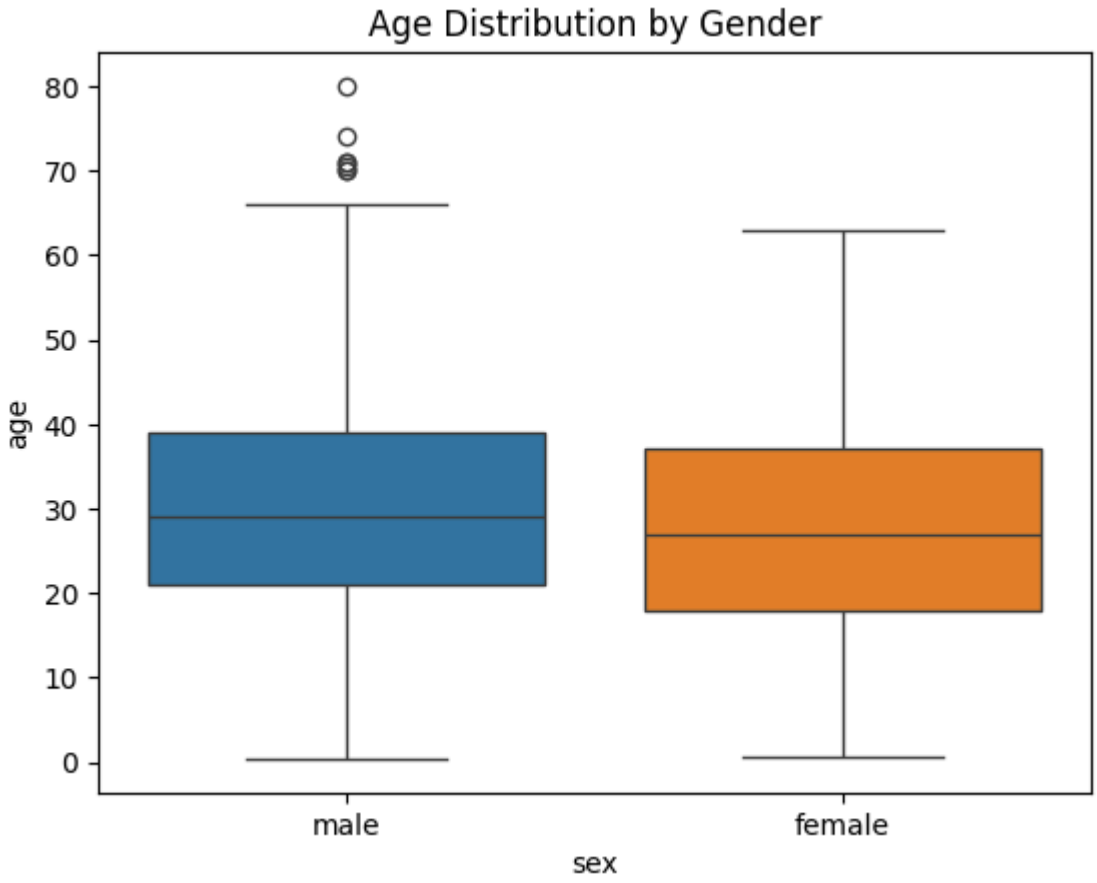
```
sns.countplot(x='sex', data=dataset , hue="sex")
plt.title("Count of Male and Female Passengers")
plt.show()
```





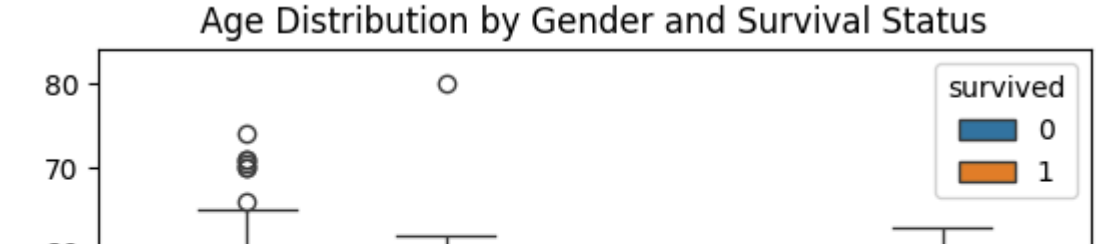
In [27]:

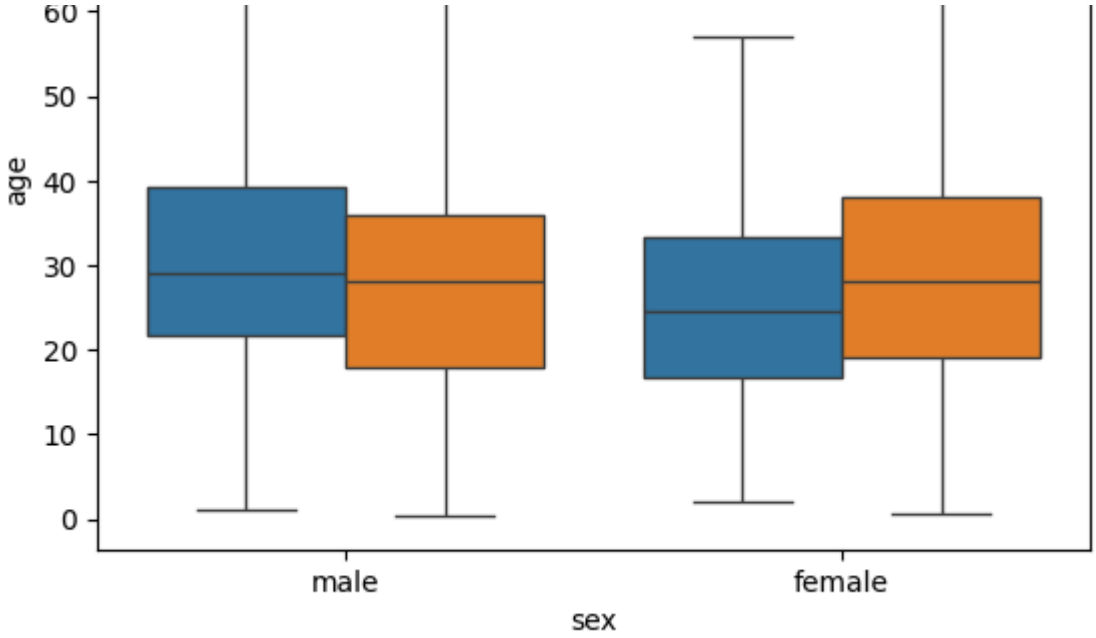
```
sns.boxplot(x='sex', y='age', data=dataset , hue="sex")
plt.title("Age Distribution by Gender")
plt.show()
```



In [28]:

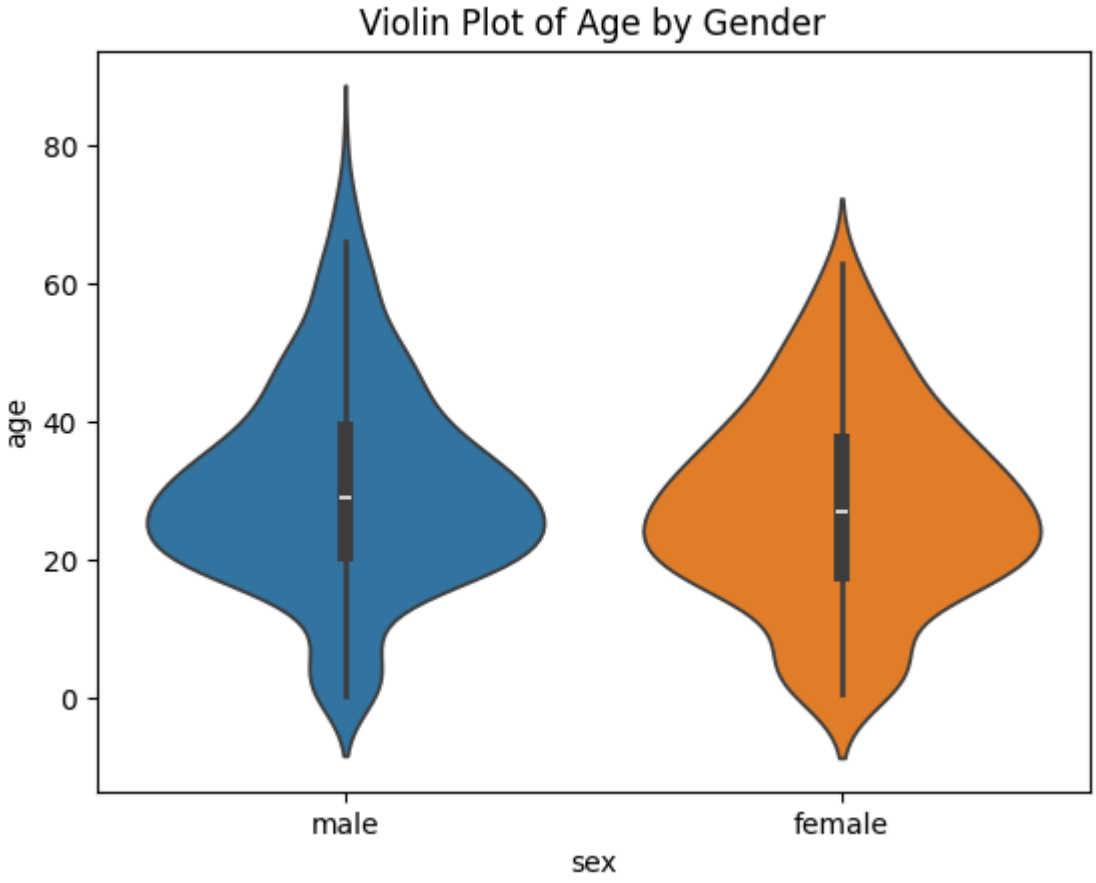
```
sns.boxplot(x='sex', y='age', data=dataset, hue="survived")
plt.title("Age Distribution by Gender and Survival Status")
plt.show()
```





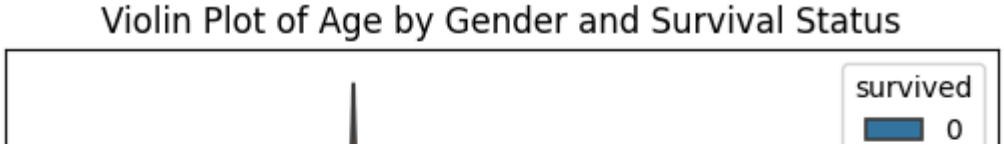
In [29]:

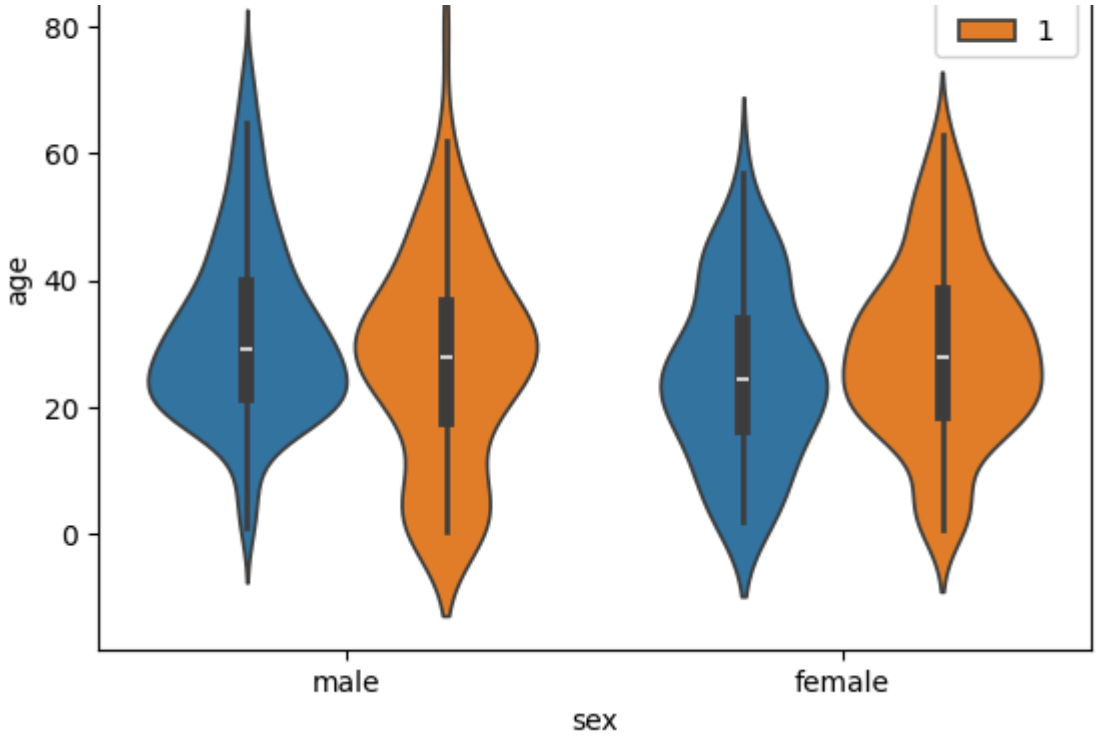
```
sns.violinplot(x='sex', y='age', data=dataset , hue="sex")
plt.title("Violin Plot of Age by Gender")
plt.show()
```



In [30]:

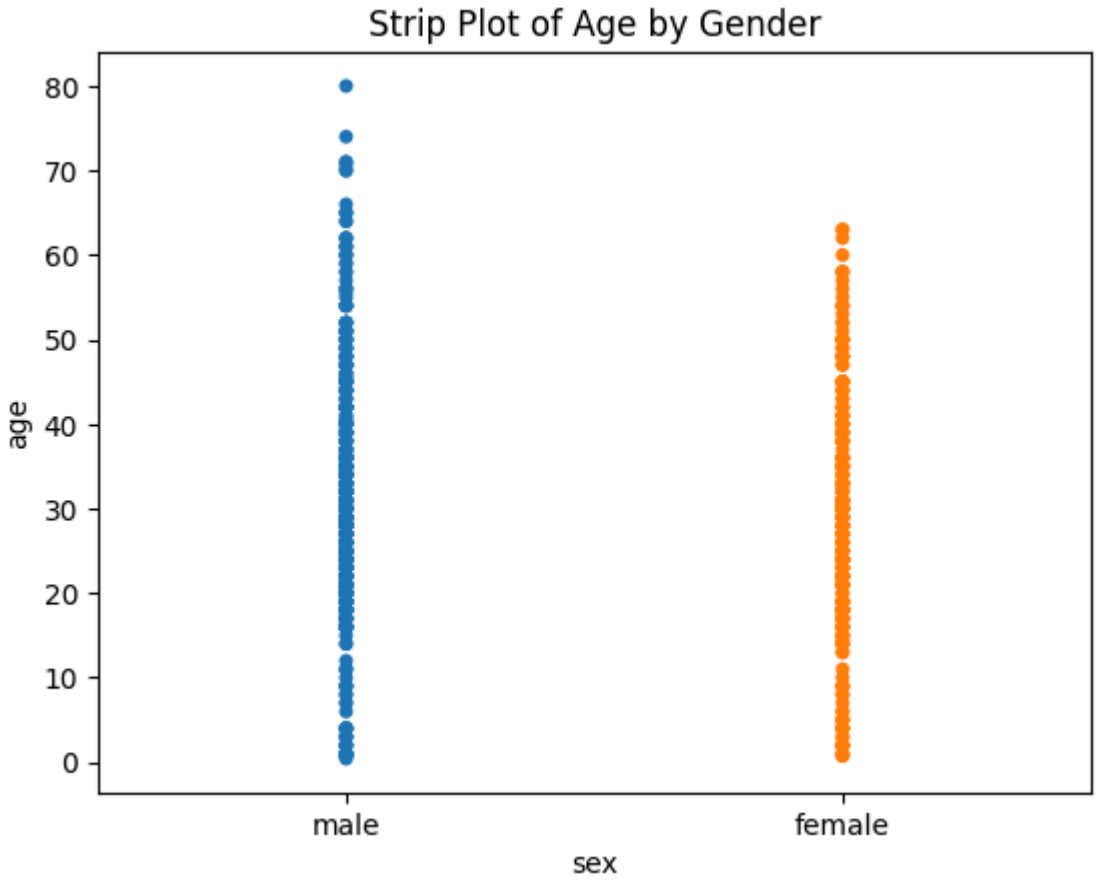
```
sns.violinplot(x='sex', y='age', data=dataset, hue='survived')
plt.title("Violin Plot of Age by Gender and Survival Status")
plt.show()
```





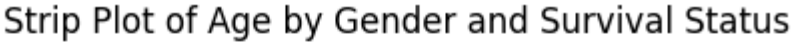
In [31]:

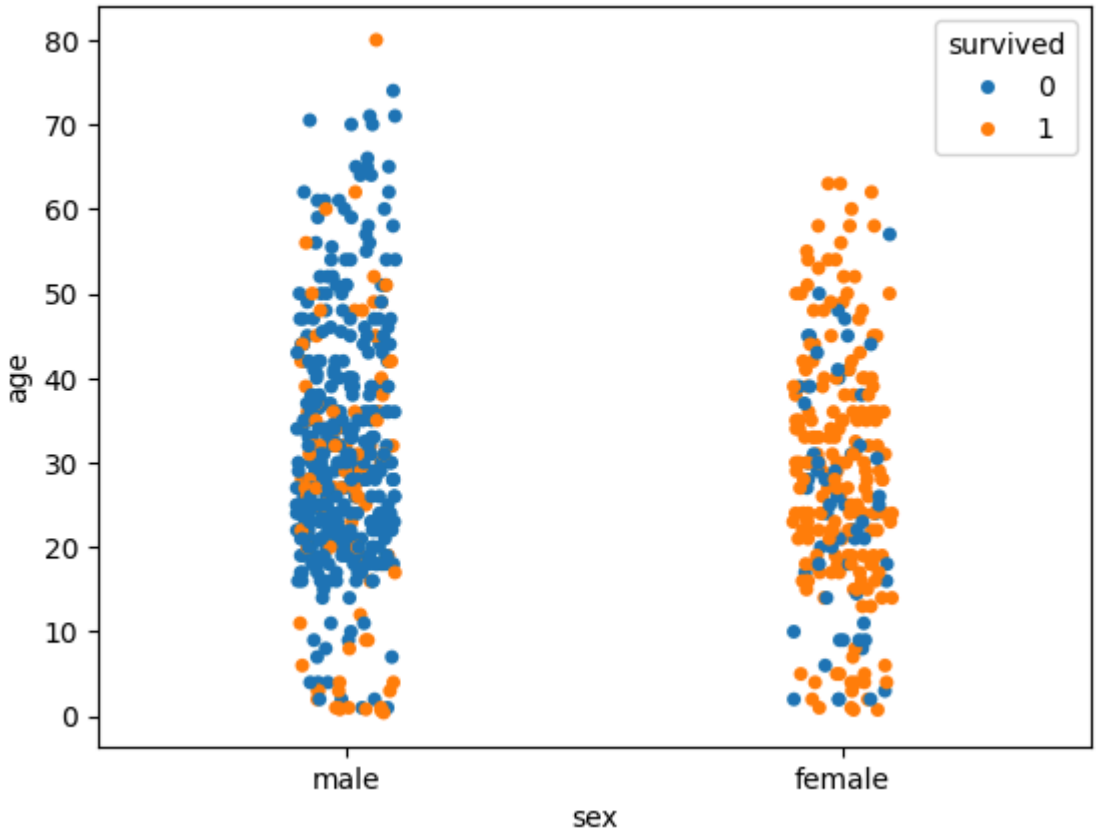
```
sns.stripplot(x='sex', y='age', data=dataset, jitter=False , hue="sex")
plt.title("Strip Plot of Age by Gender")
plt.show()
```



In [32]:

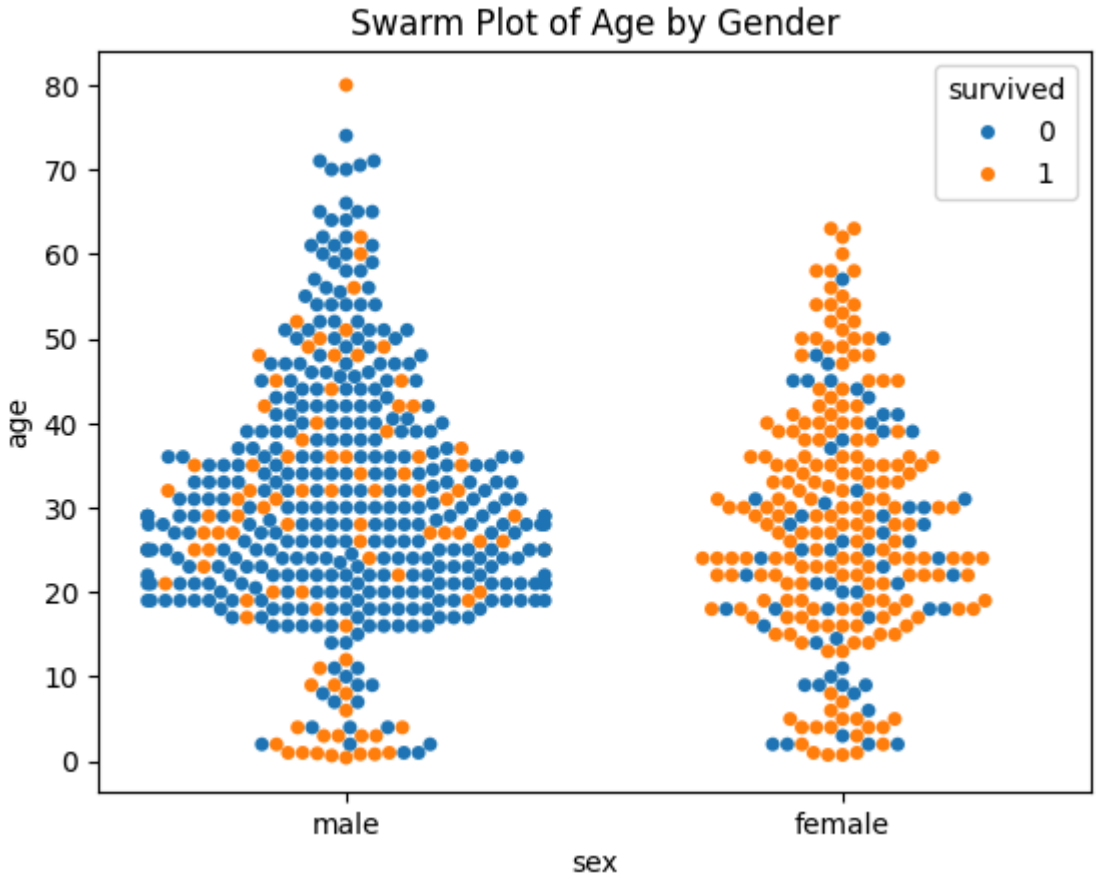
```
sns.stripplot(x='sex', y='age', data=dataset, jitter=True, hue='survive
plt.title("Strip Plot of Age by Gender and Survival Status")
plt.show()
```





In [33]:

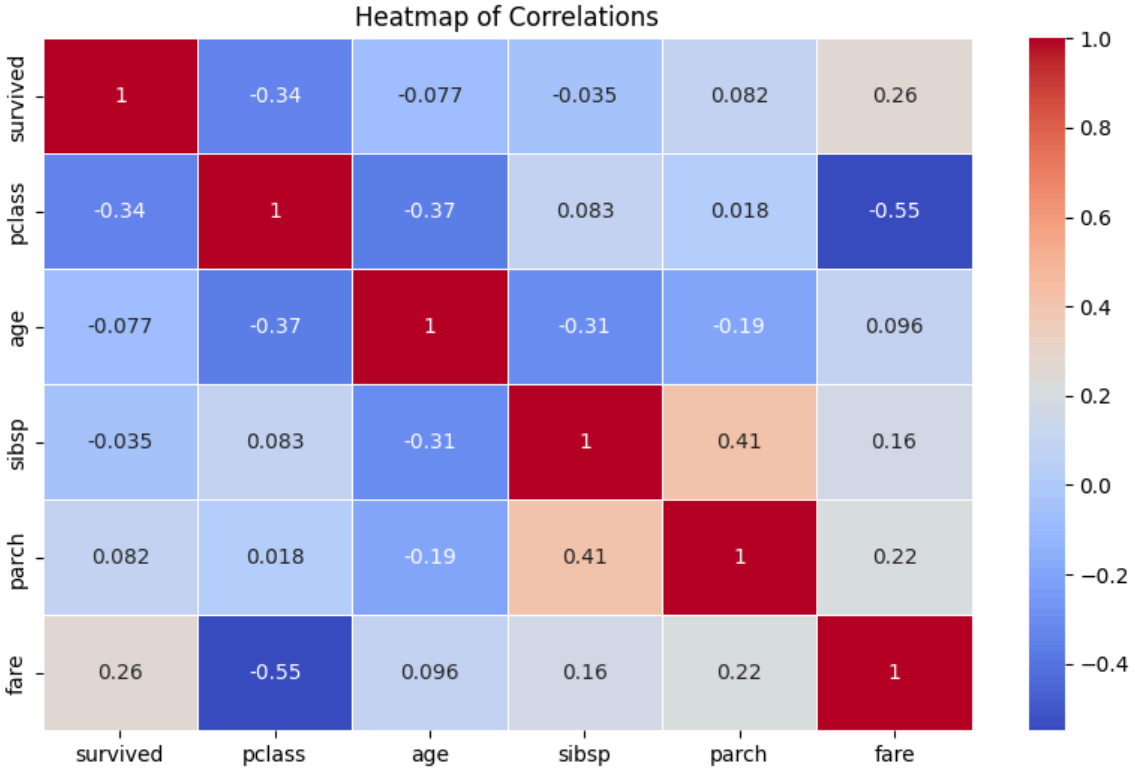
```
sns.swarmplot(x='sex', y='age', data=dataset , hue='survived')
plt.title("Swarm Plot of Age by Gender")
plt.show()
```



In [34]:

```
numeric_data = dataset.select_dtypes(include=['number'])
corr = numeric_data.corr()
plt.figure(figsize=(10,6))
```

```
sns.heatmap(corr, annot=True, cmap='coolwarm', linewidths=0.5)
plt.title("Heatmap of Correlations")
plt.show()
```



In [35]:

```
sns.histplot(dataset['fare'], kde=False, bins=10)
plt.title("Distribution of Ticket Fare")
plt.show()
```