In [ ]:
```python
import seaborn as sns
import pandas as pd

# Load Titanic dataset
df = sns.load_dataset('tRAIN')

# View first few rows
df.head()
```

In [2]:
```python
df.info()
df.describe()
df['sex'].value_counts()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[2], line 1
----> 1 df.info()
      2 df.describe()
      3 df['sex'].value_counts()

NameError: name 'df' is not defined
```

In [3]:
```python
import seaborn as sns
import pandas as pd

# Load Titanic dataset
df = sns.load_dataset('titanic')

# Show the first 5 rows
df.head()
```

Out[3]:

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

In [7]:
```python
import matplotlib.pyplot as plt
import seaborn as sns

# Pairplot
sns.pairplot(df.dropna(), hue='sex')
plt.show()

# Heatmap of only numeric columns
sns.heatmap(df.select_dtypes(include='number').corr(), annot=True)
plt.title('Correlation Heatmap')
plt.show()


# Histogram
```
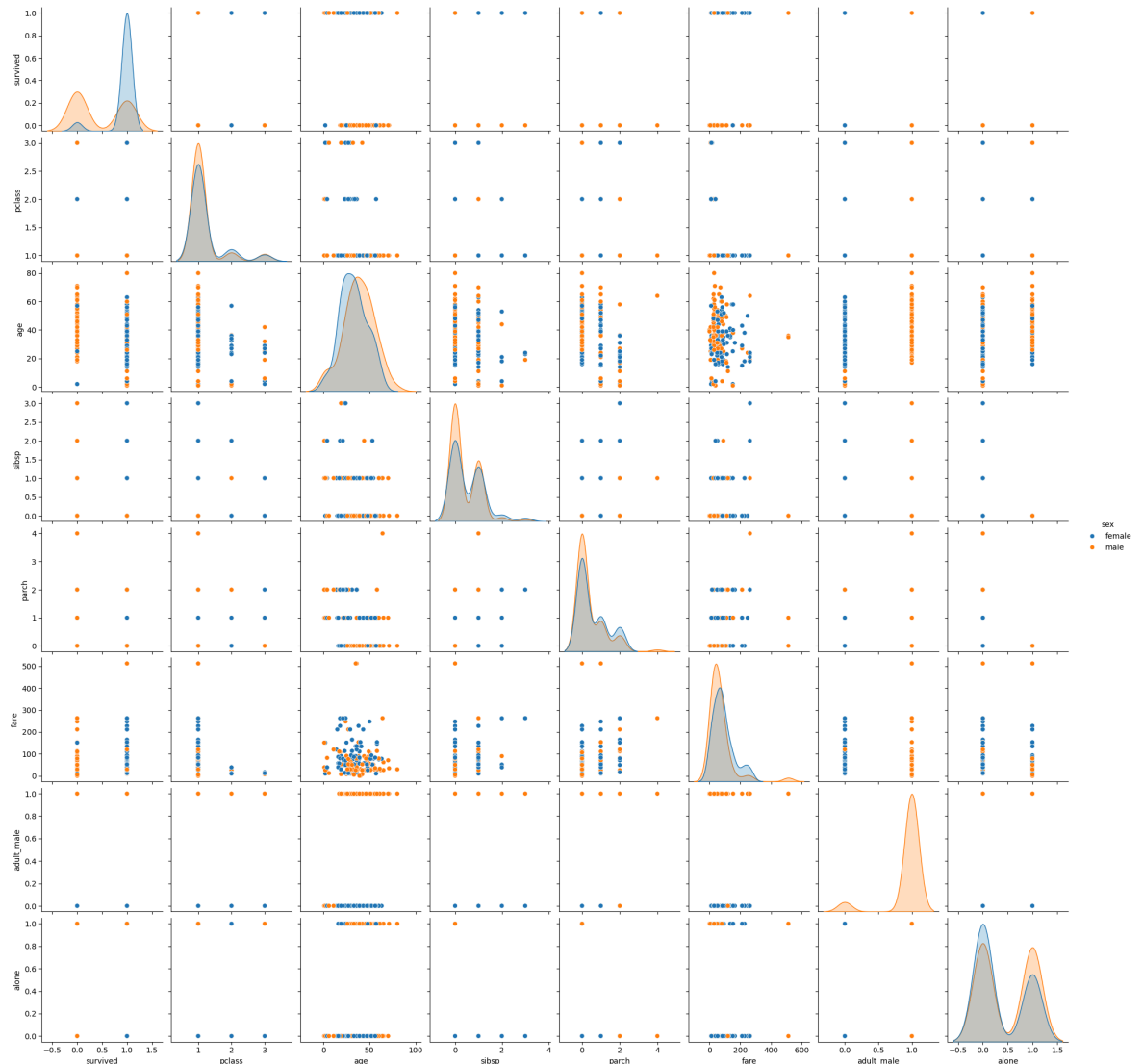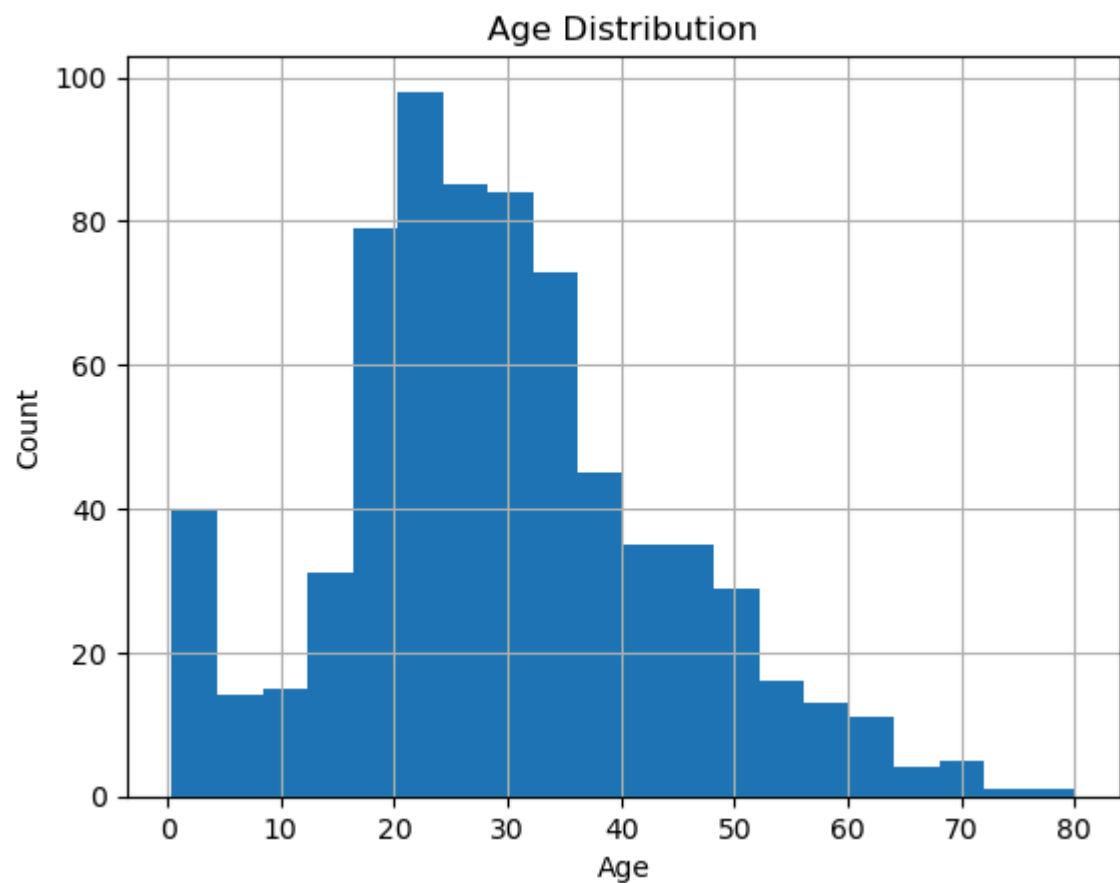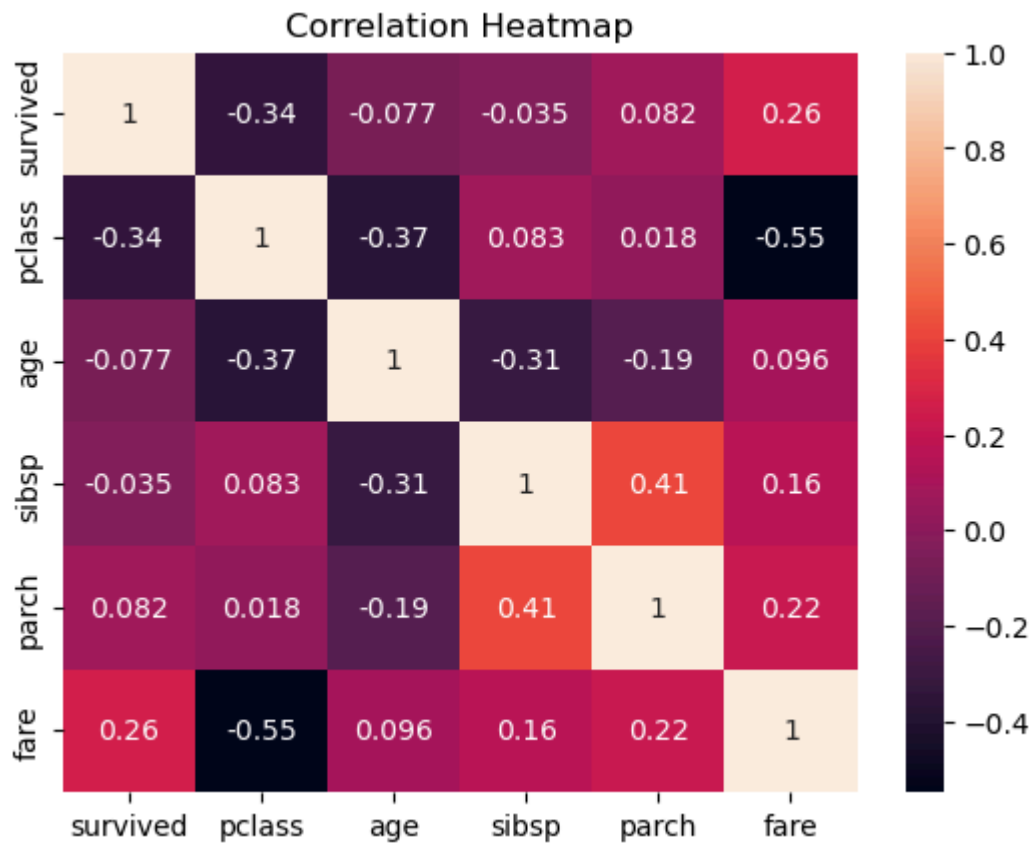
```python
df['age'].hist(bins=20)
plt.title('Age Distribution')
plt.xlabel('Age')
plt.ylabel('Count')
plt.show()

# Boxplot
sns.boxplot(x='sex', y='age', data=df)
plt.show()

# Scatterplot
sns.scatterplot(x='age', y='fare', hue='survived', data=df)
plt.show()
```
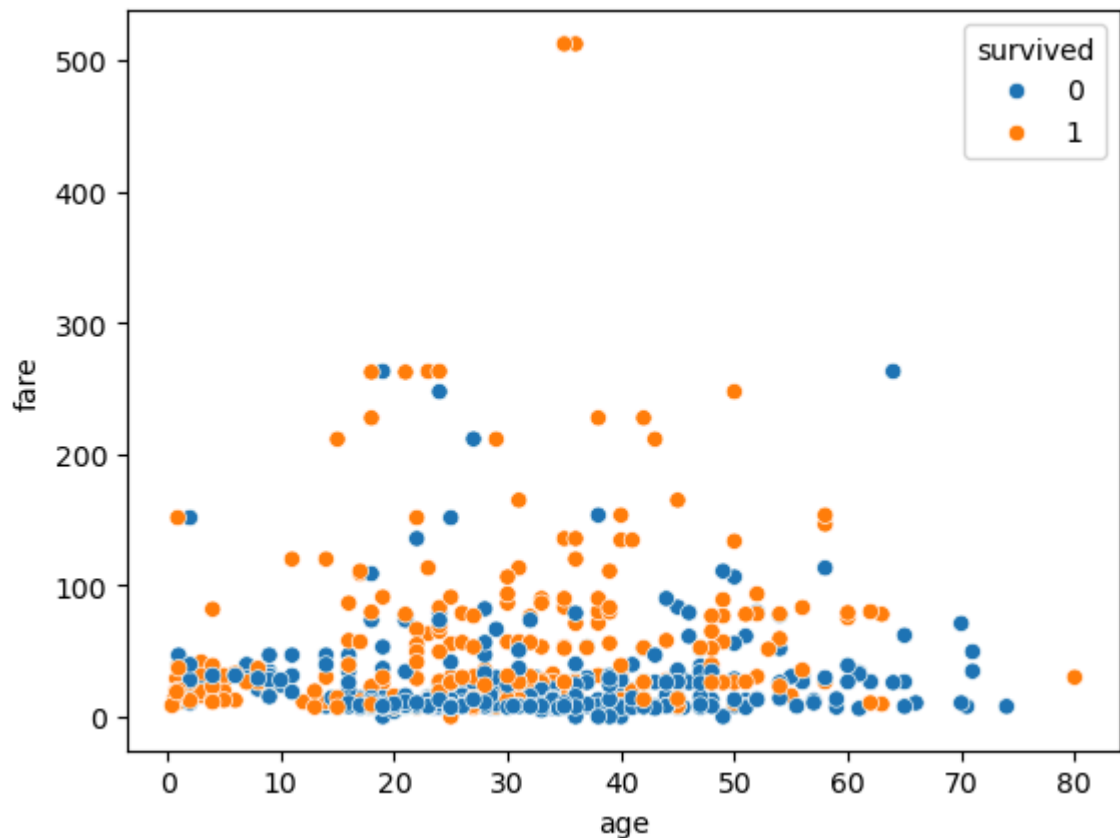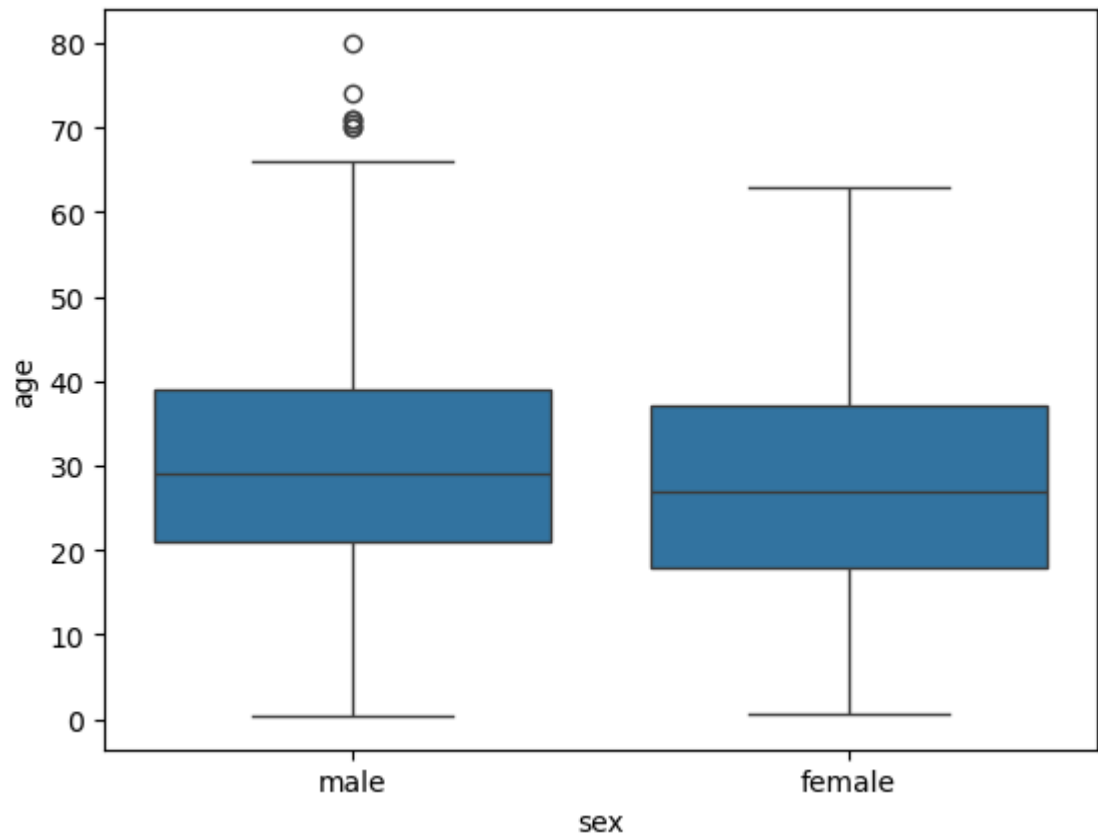
Correlation Heatmap

Age Distribution

```
In [9]:   **Observation:**
          - Most passengers are between 20 and 30 years old.
          - Very few passengers are older than 60.
          - There are some missing values in the age column.

             **Observation:**
          - On average, females are slightly younger than males.
          - Some male passengers are older than 70.
```

```
     -  The age range for both sexes is wide, from babies to elderly.


        **Observation:**
     -  Passengers who paid higher fares mostly survived.
     -  Most passengers paid less than $100.
     -  There is no strong pattern between age and fare directly.


     **Observation:**
     -  The pairplot shows different variable relationships for males and females.
     -  Males and females are spread out similarly in terms of age and fare.
     -  The separation helps us see if sex is related to survival or other features.



     **Observation:**
     -  Fare and Pclass have a strong negative correlation (higher class = lower numbe
     -  Age and survival have very little correlation.
     -  SibSp and Parch have a weak positive correlation, which makes sense as familie
```

```
  Cell In[9], line 1
    **Observation:**
    ^
SyntaxError: invalid syntax
```

In [ ]: