In [18]:
```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

LOADING THE DATA

In [19]:
```
df = pd.read_csv("train.csv")
```

Check for missing values

In [20]:
```
print(df.isnull().sum())
```

```
PassengerId      0
Survived         0
Pclass           0
Name             0
Sex              0
Age            177
SibSp            0
Parch            0
Ticket           0
Fare             0
Cabin          687
Embarked         2
dtype: int64
```

CLEANING THE DATA

In [ ]:
```
df['Age'].fillna(df['Age'].median(), inplace=True)

df['Embarked'].fillna(df['Embarked'].mode()[0], inplace=True)

df.drop('Cabin', axis=1, inplace=True)
```

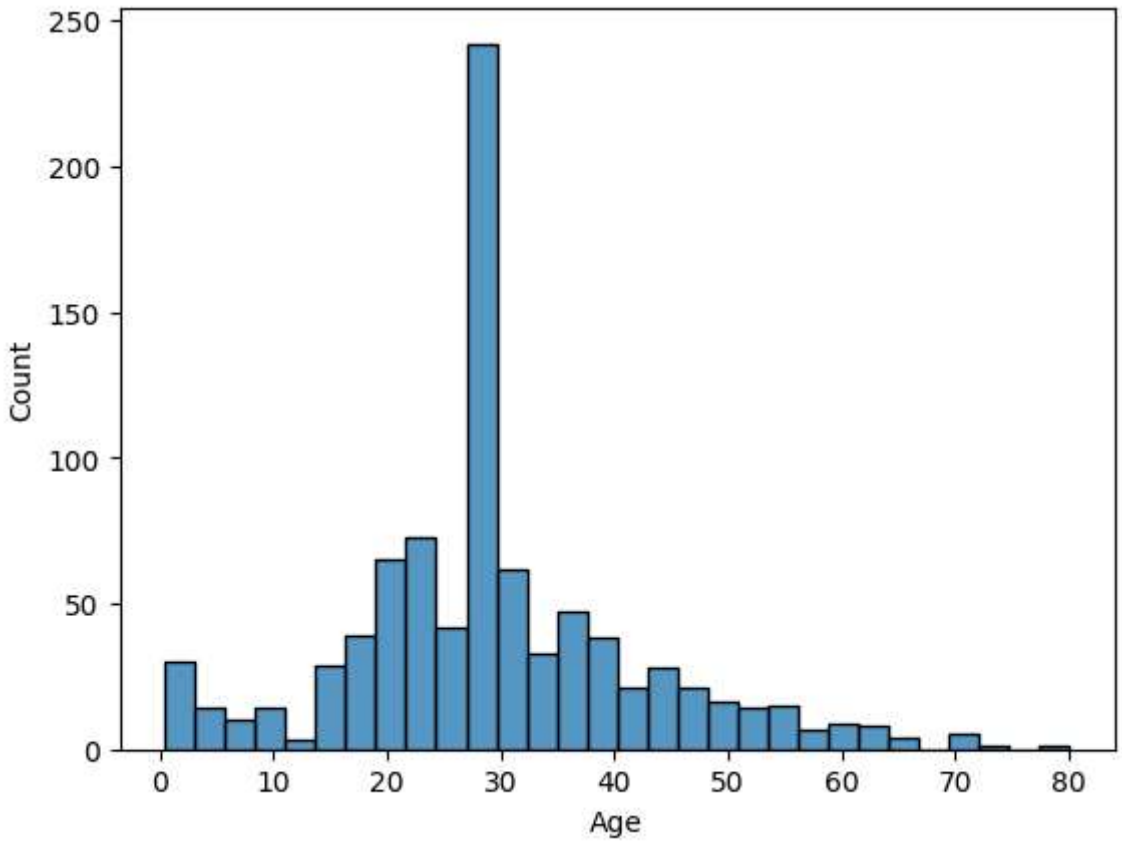
COMPUTING KEY STATISTICS

In [22]:
```
print(df.describe())
```

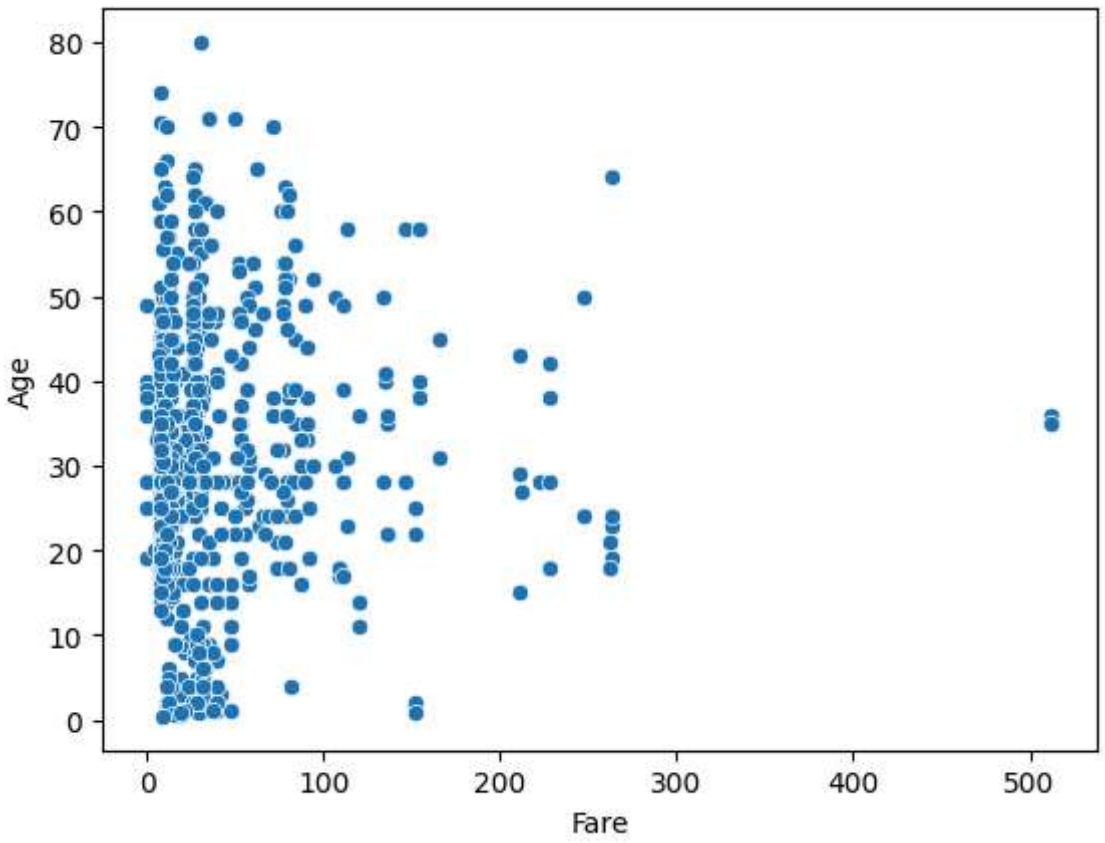
```
       PassengerId    Survived      Pclass         Age       SibSp  \
count   891.000000  891.000000  891.000000  891.000000  891.000000
mean    446.000000    0.383838    2.308642   29.361582    0.523008
std     257.353842    0.486592    0.836071   13.019697    1.102743
min       1.000000    0.000000    1.000000    0.420000    0.000000
25%     223.500000    0.000000    2.000000   22.000000    0.000000
50%     446.000000    0.000000    3.000000   28.000000    0.000000
75%     668.500000    1.000000    3.000000   35.000000    1.000000
max     891.000000    1.000000    3.000000   80.000000    8.000000

            Parch        Fare
count  891.000000  891.000000
mean     0.381594   32.204208
std      0.806057   49.693429
min      0.000000    0.000000
25%      0.000000    7.910400
50%      0.000000   14.454200
75%      0.000000   31.000000
max      6.000000  512.329200
```

GENERATING VISUALIZATIONS

In [23]:
```
sns.histplot(df['Age'])
plt.show()
```



In [24]:
```
sns.scatterplot(x='Fare', y='Age', data=df)
plt.show()
```



HANDLING OUTLIERS

In [25]:
```
Q1 = df['Fare'].quantile(0.25)
Q3 = df['Fare'].quantile(0.75)
IQR = Q3 - Q1
lower_bound = Q1 - 1.5 * IQR
upper_bound = Q3 + 1.5 * IQR
df_no_outliers = df[(df['Fare'] >= lower_bound) & (df['Fare'] <= upper_bound)]
print(df_no_outliers.describe())
```

	PassengerId	Survived	Pclass	Age	SibSp	Parch	\
count	775.000000	775.000000	775.00000	775.000000	775.000000	775.000000	
mean	445.806452	0.339355	2.48000	28.748710	0.437419	0.340645	
std	260.116285	0.473796	0.73439	12.782123	0.899838	0.785914	
min	1.000000	0.000000	1.00000	0.420000	0.000000	0.000000	
25%	213.500000	0.000000	2.00000	22.000000	0.000000	0.000000	
50%	450.000000	0.000000	3.00000	28.000000	0.000000	0.000000	
75%	670.500000	1.000000	3.00000	34.000000	1.000000	0.000000	
max	891.000000	1.000000	3.00000	80.000000	5.000000	6.000000	

	Fare
count	775.000000
mean	17.822091
std	13.578085
min	0.000000
25%	7.895800
50%	13.000000
75%	26.000000
max	65.000000