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

df=pd.read_csv("titanic.csv")

df
```


```
{"summary":"{\n  \"name\": \"df\",\n  \"rows\": 891,\n  \"fields\": [\
n    {\n      \"column\": \"PassengerId\",\n      \"properties\": {\n
\"dtype\": \"number\",\n        \"std\": 257,\n        \"min\": 1,\n
\"max\": 891,\n        \"num_unique_values\": 891,\n
\"samples\": [\n          710,\n          440,\n          841\n
],\n        \"semantic_type\": \"\",\n        \"description\": \"\"\n
}\n    },\n    {\n      \"column\": \"Survived\",\n
\"properties\": {\n        \"dtype\": \"number\",\n        \"std\":
0,\n        \"min\": 0,\n        \"max\": 1,\n
\"num_unique_values\": 2,\n        \"samples\": [\n          1,\n
0\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Pclass\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
\"std\": 0,\n        \"min\": 1,\n        \"max\": 3,\n
\"num_unique_values\": 3,\n        \"samples\": [\n          3,\n
1\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Name\",\n      \"properties\": {\n        \"dtype\": \"string\",\n
\"num_unique_values\": 891,\n        \"samples\": [\n
\"Moubarek, Master. Halim Gonios (\\\"William George\\\")\",\n
\"Kvillner, Mr. Johan Henrik Johannesson\"\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Sex\",\n      \"properties\": {\n
\"dtype\": \"category\",\n        \"num_unique_values\": 2,\n
\"samples\": [\n          \"female\",\n          \"male\"\n        ],\
n        \"semantic_type\": \"\",\n        \"description\": \"\"\n
}\n    },\n    {\n      \"column\": \"Age\",\n      \"properties\": {\
n        \"dtype\": \"number\",\n        \"std\": 14.526497332334042,\
n        \"min\": 0.42,\n        \"max\": 80.0,\n
\"num_unique_values\": 88,\n        \"samples\": [\n          0.75,\n
22.0\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"SibSp\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
\"std\": 1,\n        \"min\": 0,\n        \"max\": 8,\n
\"num_unique_values\": 7,\n        \"samples\": [\n          1,\n
0\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Parch\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
\"std\": 0,\n        \"min\": 0,\n        \"max\": 6,\n
\"num_unique_values\": 7,\n        \"samples\": [\n          0,\n
1\n        ],\n        \"semantic_type\": \"\",\n
```

\"description\": \"\"\n   }\n   },\n   {\n   \"column\":
\"Ticket\",\n   \"properties\": {\n   \"dtype\": \"string\",\n
\"num_unique_values\": 681,\n   \"samples\": [\n
\"11774\",\n   \"248740\"\n   ],\n
\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\
n   },\n   {\n   \"column\": \"Fare\",\n   \"properties\": {\n
\"dtype\": \"number\",\n   \"std\": 49.6934285971809,\n
\"min\": 0.0,\n   \"max\": 512.3292,\n
\"num_unique_values\": 248,\n   \"samples\": [\n
11.2417,\n   51.8625\n   ],\n   \"semantic_type\":
\"\",\n   \"description\": \"\"\n   }\n   },\n   {\n
\"column\": \"Cabin\",\n   \"properties\": {\n   \"dtype\":
\"category\",\n   \"num_unique_values\": 147,\n
\"samples\": [\n   \"D45\",\n   \"B49\"\n   ],\n
\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\
n   },\n   {\n   \"column\": \"Embarked\",\n   \"properties\":
{\n   \"dtype\": \"category\",\n   \"num_unique_values\":
3,\n   \"samples\": [\n   \"S\",\n   \"C\"\n
],\n   \"semantic_type\": \"\",\n   \"description\": \"\"\n
}\n   }\n]\n}","type":"dataframe","variable_name":"df"}

```
df.shape
```

```
(891, 12)
```

```
df.columns
```

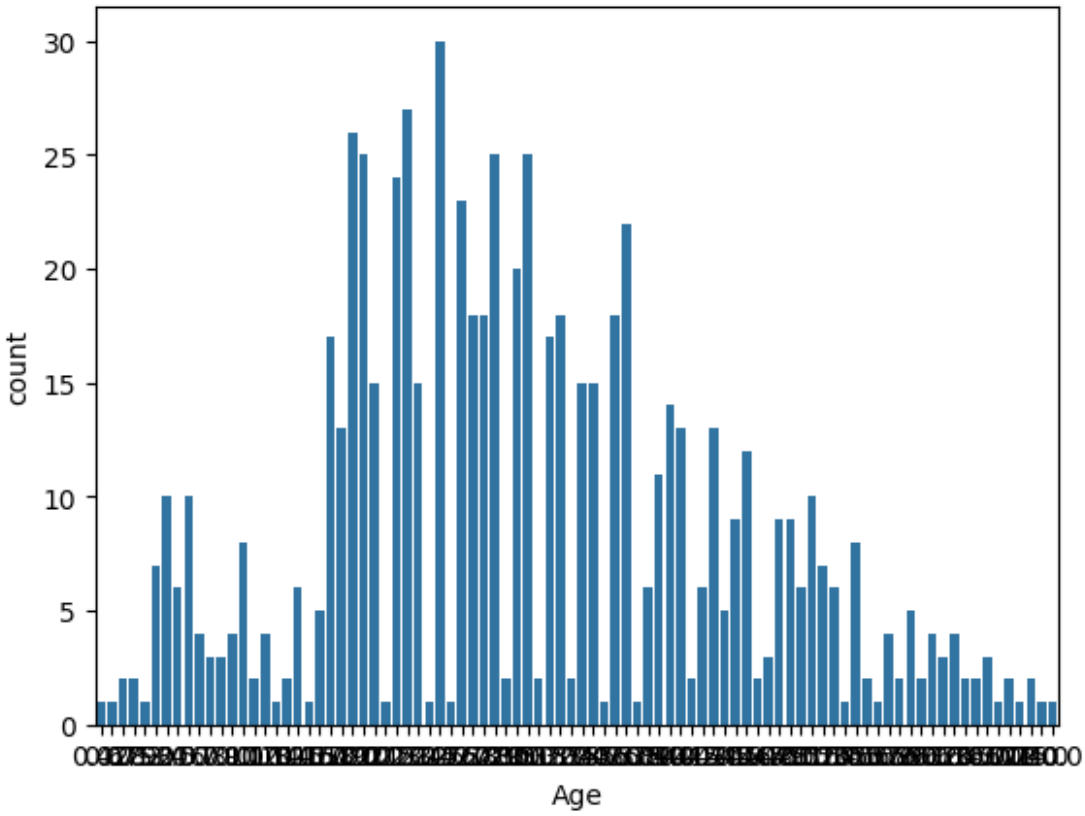
```
Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age',
'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
      dtype='object')
```

```
df.dtypes
```

```
PassengerId      int64
Survived         int64
Pclass           int64
Name            object
Sex             object
Age            float64
SibSp            int64
Parch            int64
Ticket          object
Fare           float64
Cabin           object
Embarked        object
dtype: object
```

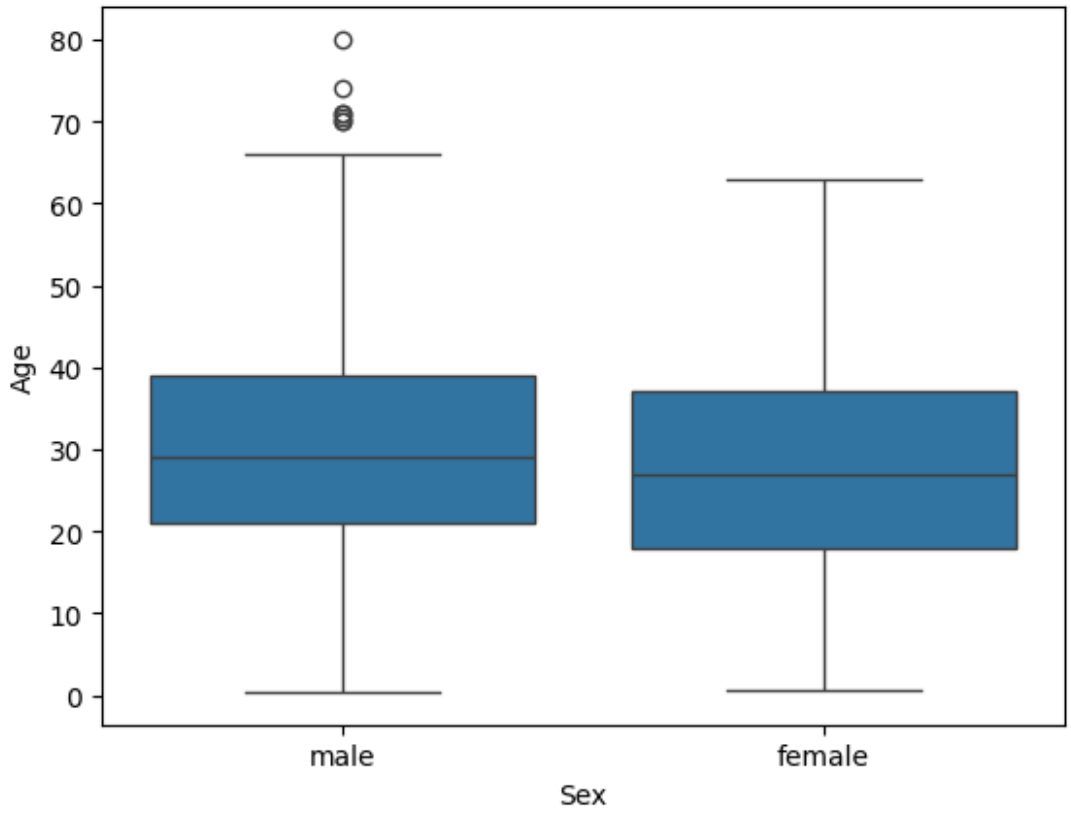
```
sns.countplot(x=df['Age'])
```

```
<Axes: xlabel='Age', ylabel='count'>
```



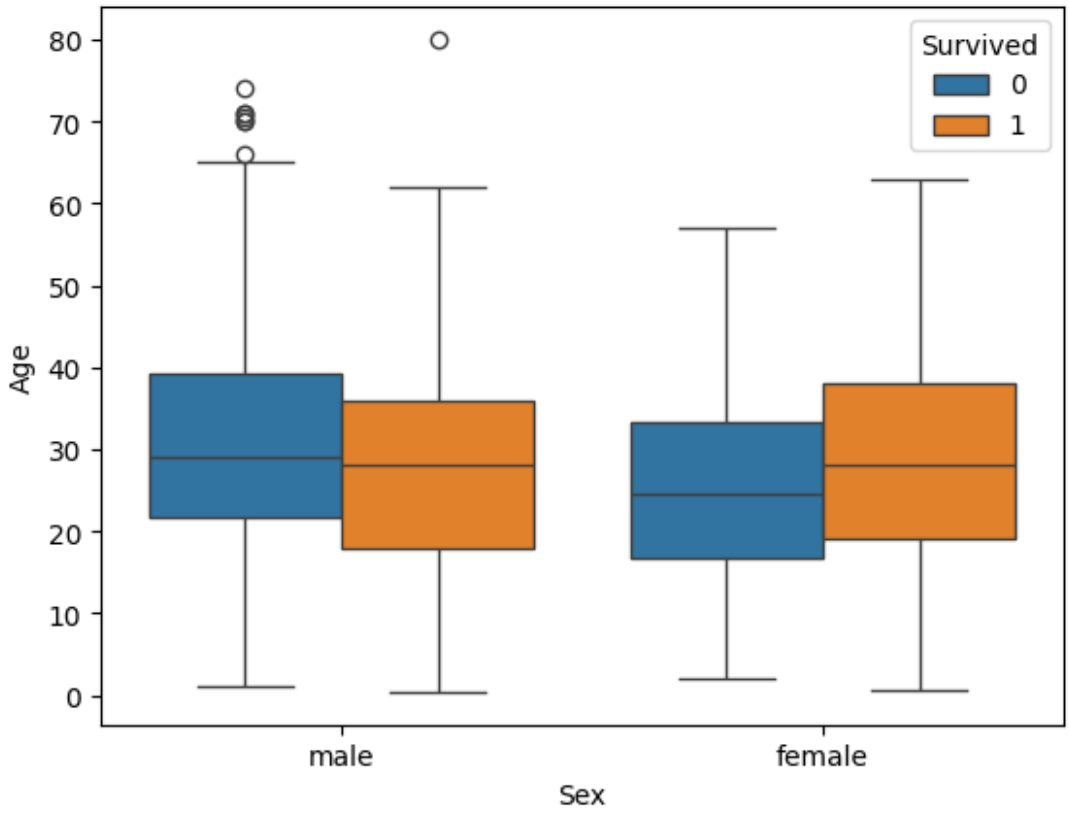

```
sns.boxplot(x=df['Sex'],y=df['Age'])
```

```
<Axes: xlabel='Sex', ylabel='Age'>
```



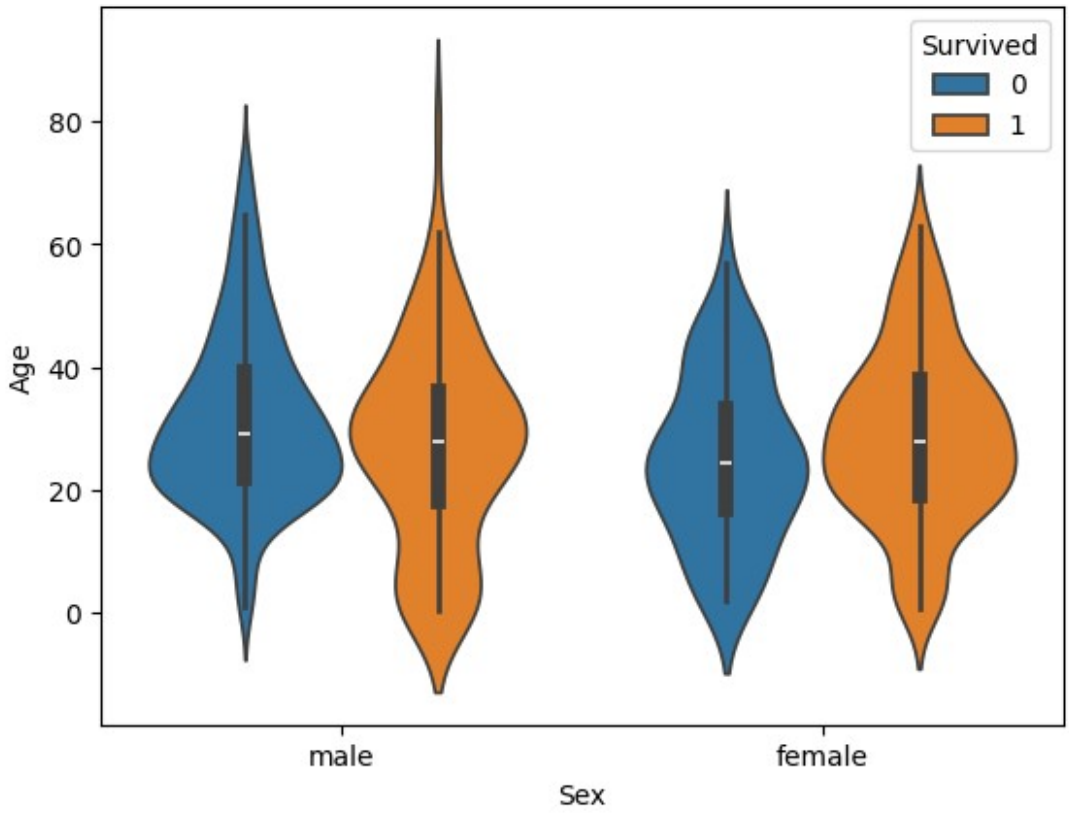

```
sns.boxplot(x=df['Sex'],y=df['Age'],hue=df['Survived'])
```

```
<Axes: xlabel='Sex', ylabel='Age'>
```



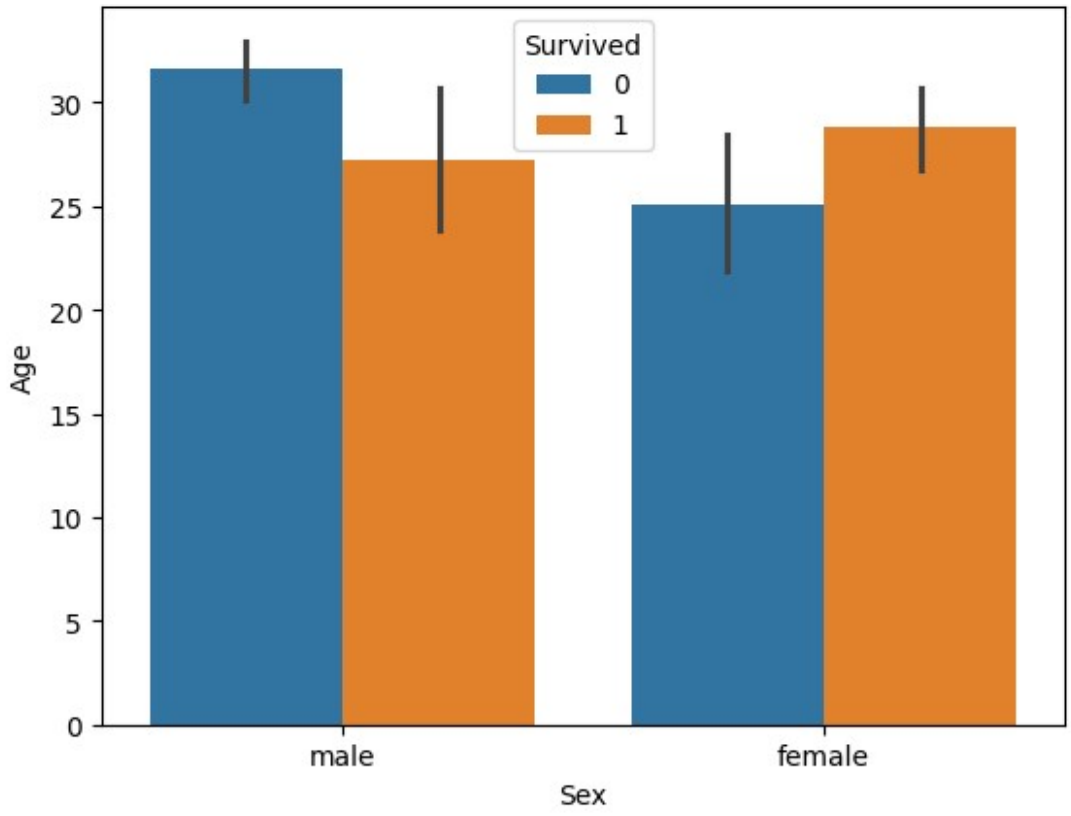

```
sns.violinplot(x=df['Sex'],y=df['Age'],hue=df['Survived'])
```

```
<Axes: xlabel='Sex', ylabel='Age'>
```




```
sns.barplot(x=df['Sex'],y=df['Age'],hue=df['Survived'])
```

```
<Axes: xlabel='Sex', ylabel='Age'>
```


Survived
0
1
30
25
20
15
10
5
0
Age
male
female
Sex