Assignment No. 9

Aim : Data Visualization II

1. Use the inbuilt dataset 'titanic' as used in the above problem. Plot a box plot for distribution of age with respect to each gender along with the information about whether they survived or not. (Column names : 'sex' and 'age')
2. Write observations on the inference from the above statistics.

Code :

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
df1 = sns.load_dataset('titanic')
df1
```

Out[1]:

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_mal
0	0	3	male	22.0	1	0	7.2500	S	Third	man	Tru
1	1	1	female	38.0	1	0	71.2833	C	First	woman	Fals
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	Fals
3	1	1	female	35.0	1	0	53.1000	S	First	woman	Fals
4	0	3	male	35.0	0	0	8.0500	S	Third	man	Tru
...	...	...	...	...	...	...	...	...	...	...	.
886	0	2	male	27.0	0	0	13.0000	S	Second	man	Tru
887	1	1	female	19.0	0	0	30.0000	S	First	woman	Fals
888	0	3	female	NaN	1	2	23.4500	S	Third	woman	Fals
889	1	1	male	26.0	0	0	30.0000	C	First	man	Tru
890	0	3	male	32.0	0	0	7.7500	Q	Third	man	Tru

891 rows × 15 columns

In [2]:
```
df1.head()
```

Out[2]:

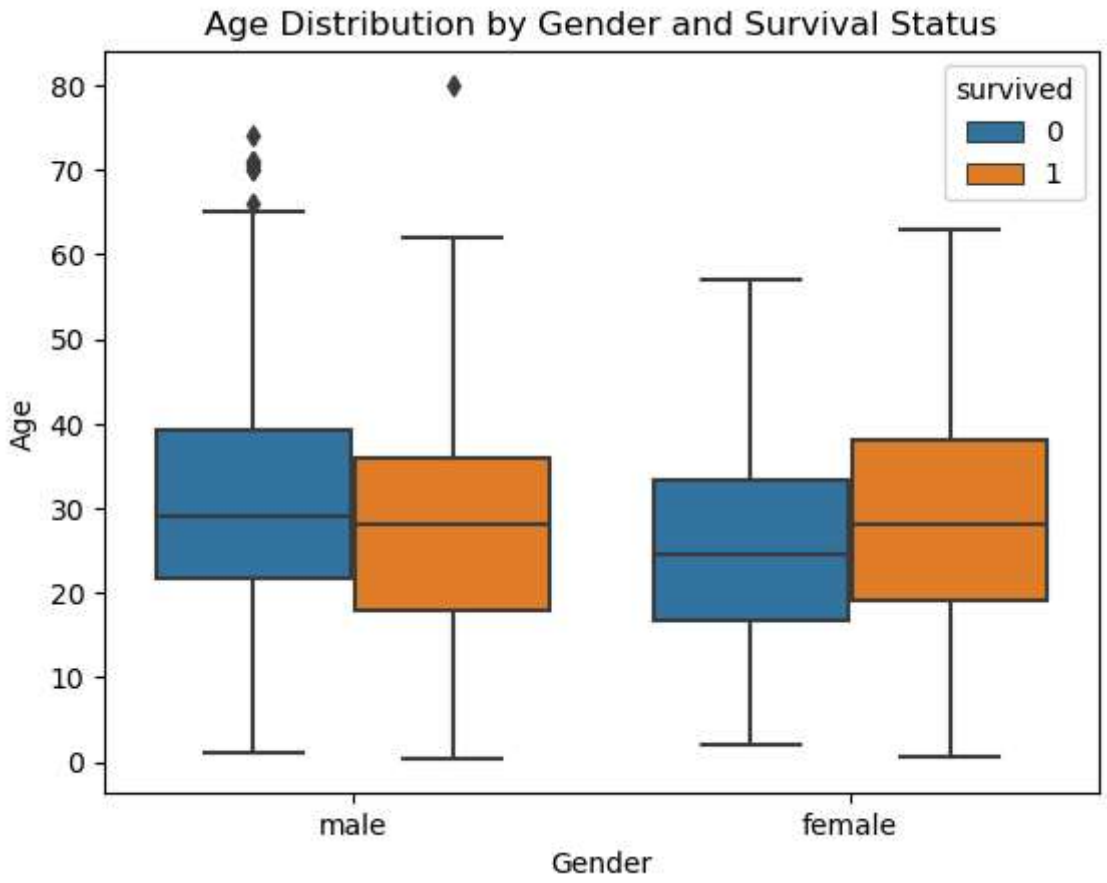
	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male	d
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	
4	0	3	male	35.0	0	0	8.0500	S	Third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

In [3]:
```
plt.figure(figsize=(10, 6))
```

Out[3]:
```
<Figure size 1000x600 with 0 Axes>
```

```
<Figure size 1000x600 with 0 Axes>
```

In [10]:
```
sns.boxplot(x='sex', y='age', hue='survived', data=df1)
plt.title('Age Distribution by Gender and Survival Status')
plt.xlabel('Gender')
plt.ylabel('Age')
plt.show()
```



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