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 Assignment No :09

## ##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

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

```
In [2]: titanic = sns.load_dataset("titanic")
```

```
In [3]: titanic
```

```
Out[3]:
```

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult
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	
...	...	...	...	...	...	...	...	...	...	...	...
886	0	2	male	27.0	0	0	13.0000	S	Second	man	
887	1	1	female	19.0	0	0	30.0000	S	First	woman	
888	0	3	female	NaN	1	2	23.4500	S	Third	woman	
889	1	1	male	26.0	0	0	30.0000	C	First	man	
890	0	3	male	32.0	0	0	7.7500	Q	Third	man	

891 rows × 15 columns



In [4]: titanic.info

```
Out[4]: <bound method DataFrame.info of
p  parch    fare embarked  class \
0      0      3    male  22.0    1    0    7.2500    S    Thi
rd
1      1      1  female  38.0    1    0   71.2833    C    Fir
st
2      1      3  female  26.0    0    0    7.9250    S    Thi
rd
3      1      1  female  35.0    1    0   53.1000    S    Fir
st
4      0      3    male  35.0    0    0    8.0500    S    Thi
rd
..      ...      ...      ...      ...      ...      ...      ...
...
886      0      2    male  27.0    0    0   13.0000    S    Seco
nd
887      1      1  female  19.0    0    0   30.0000    S    Fir
st
888      0      3  female   NaN    1    2   23.4500    S    Thi
rd
889      1      1    male  26.0    0    0   30.0000    C    Fir
st
890      0      3    male  32.0    0    0    7.7500    Q    Thi
rd

      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
..      ...      ...      ...      ...      ...      ...
886  man         True  NaN  Southampton    no   True
887  woman         False    B   Southampton   yes   True
888  woman         False  NaN  Southampton    no  False
889  man         True    C   Cherbourg   yes   True
890  man         True  NaN   Queenstown    no   True
```

[891 rows x 15 columns]>

In [5]: titanic.describe

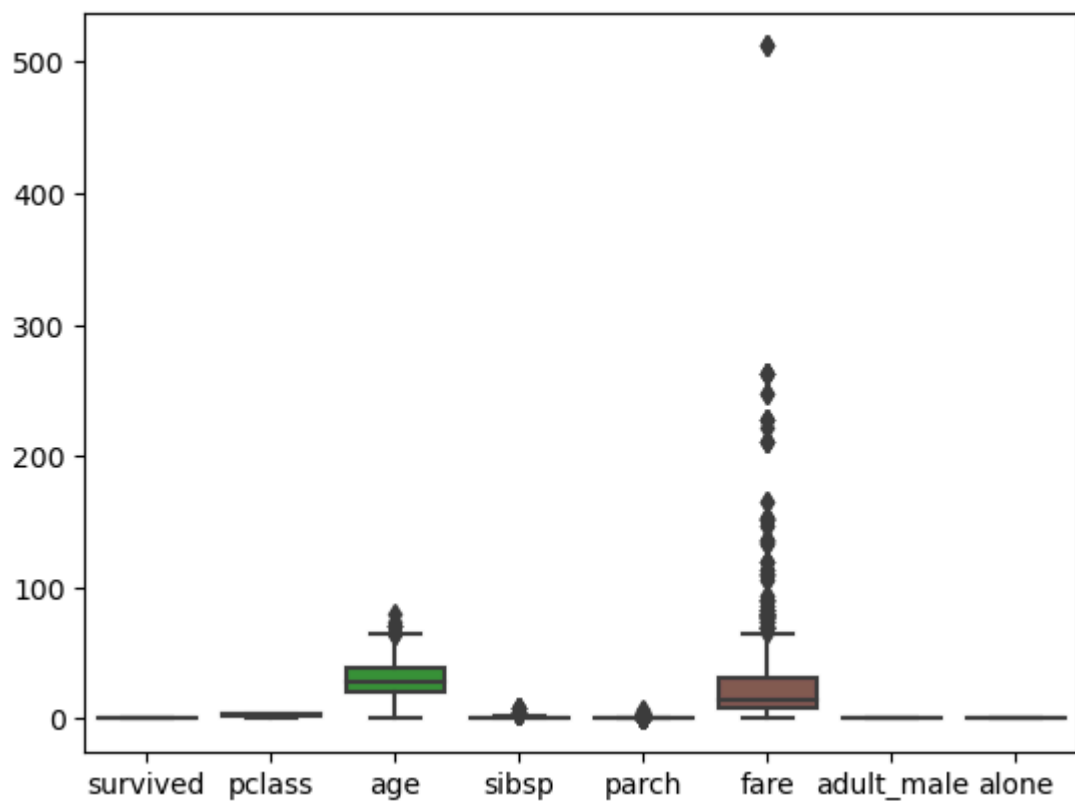
```
Out[5]: <bound method NDFrame.describe of
bsp parch fare embarked class \
0      0      3      male  22.0      1      0      7.2500      S      Thi
rd
1      1      1      female 38.0      1      0      71.2833      C      Fir
st
2      1      3      female 26.0      0      0      7.9250      S      Thi
rd
3      1      1      female 35.0      1      0      53.1000      S      Fir
st
4      0      3      male   35.0      0      0      8.0500      S      Thi
rd
..      ...      ...      ...      ...      ...      ...      ...
...
886      0      2      male   27.0      0      0      13.0000      S      Seco
nd
887      1      1      female 19.0      0      0      30.0000      S      Fir
st
888      0      3      female  NaN      1      2      23.4500      S      Thi
rd
889      1      1      male   26.0      0      0      30.0000      C      Fir
st
890      0      3      male   32.0      0      0      7.7500      Q      Thi
rd

      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
..      ...      ...      ...      ...      ...      ...
886  man      True   NaN  Southampton   no    True
887  woman     False    B    Southampton   yes    True
888  woman     False   NaN  Southampton   no   False
889  man      True    C    Cherbourg   yes    True
890  man      True   NaN   Queenstown   no    True
```

[891 rows x 15 columns]>

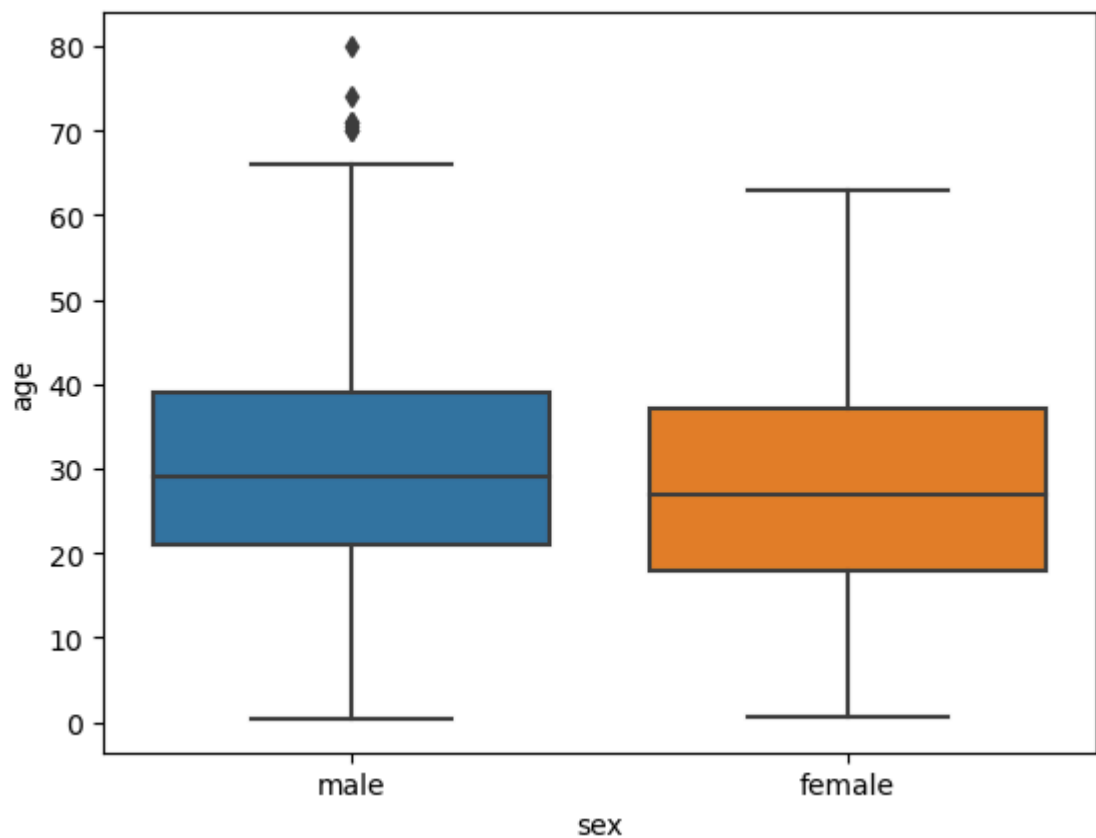
```
In [6]: sns.boxplot(data = titanic )
```

```
Out[6]: <Axes: >
```



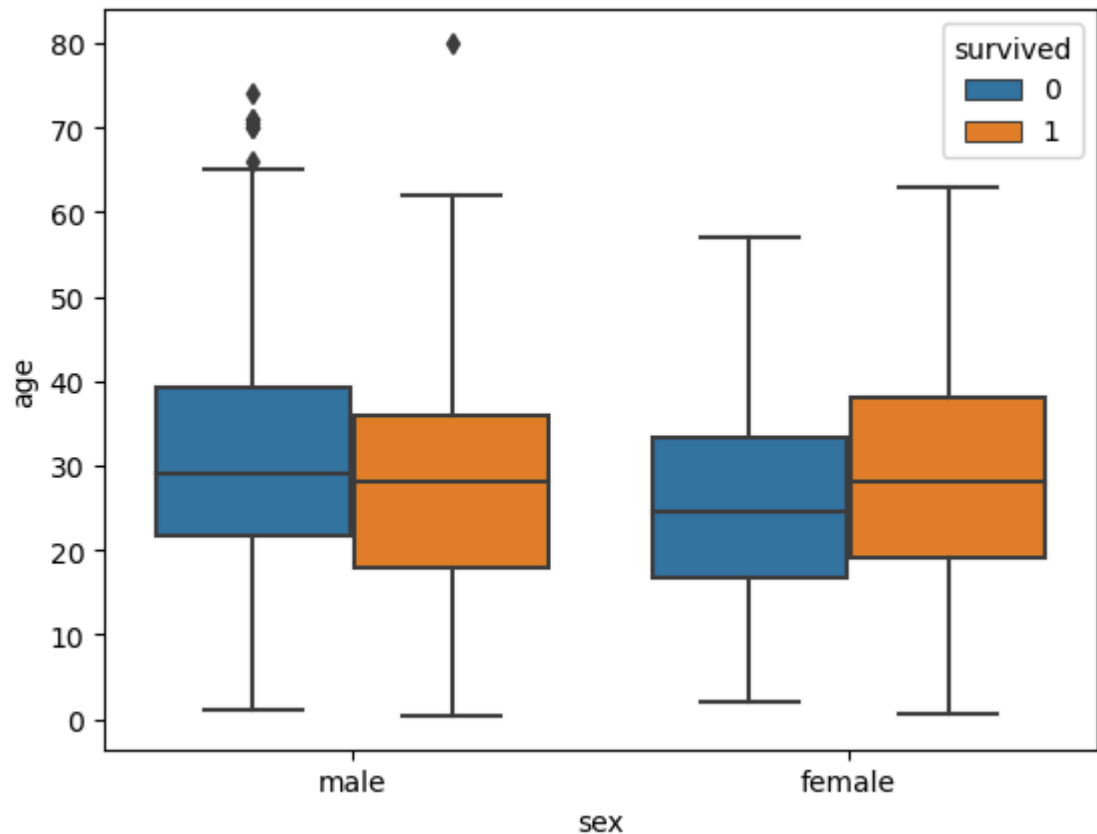
```
In [7]: sns.boxplot(data = titanic , x= "sex" ,y = "age" )
```

```
Out[7]: <Axes: xlabel='sex', ylabel='age'>
```



```
In [8]: 1 sns.boxplot(data = titanic , x= "sex" ,y = "age" , hue = "survived")  
        2
```

Out[8]: <Axes: xlabel='sex', ylabel='age'>



#### ##CONCLUSIONS

- 1.Gents between 20-40 have died
- 2.Teenagers between 20-25 survived
- 3.Ladies between 20-40 have survived
- 4.Young girls between 15-20 couldn't survived