In [95]:
```
import pandas as pd
```

In [96]:
```
import numpy as nm
```

In [97]:
```
import seaborn as sns
```

In [98]:
```
import matplotlib.pyplot as plt
```

In [99]:
```
df=sns.load_dataset('titanic')
```

In [100]:
```
df.head()
```

Out[100]:

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male
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

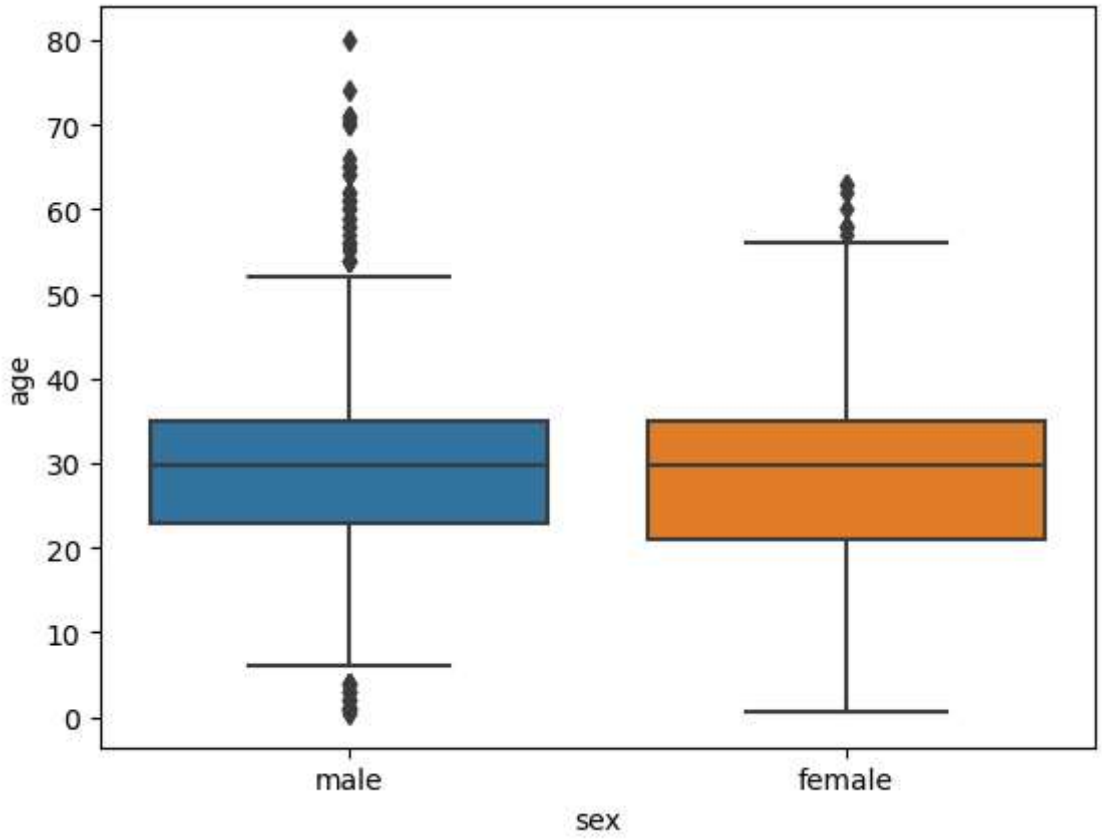
In [101]:
```
df.isnull().sum()
```

Out[101]:
```
survived         0
pclass           0
sex              0
age            177
sibsp            0
parch            0
fare             0
embarked         2
class            0
who              0
adult_male       0
deck           688
embark_town      2
alive            0
alone            0
dtype: int64
```

In [102]:
```
df['age']=df['age'].replace(nm.nan,df['age'].mean())
```

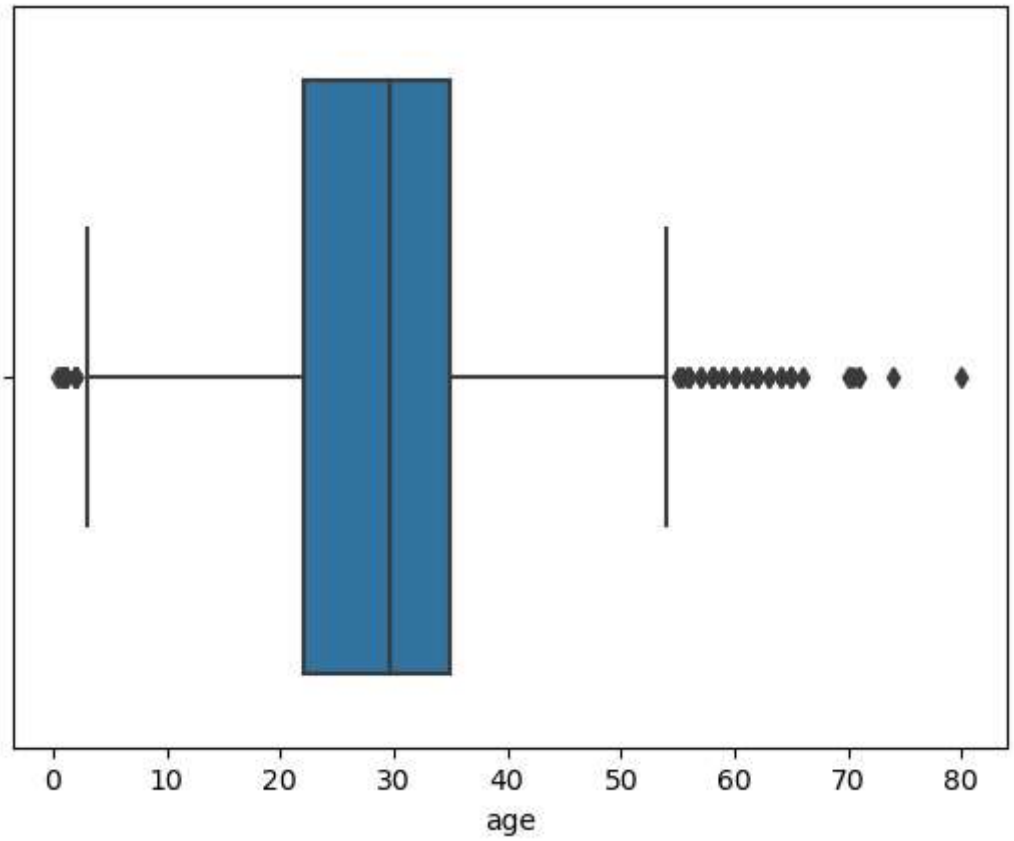
In [103]:
```
sns.boxplot(x='sex',y='age',data=df)
```

Out[103]:
```
<Axes: xlabel='sex', ylabel='age'>
```



In [104]:
```
sns.boxplot(x='age',data=df)
```

Out[104]: <Axes: xlabel='age'>



In [105]:
```
Q1=nm.percentile(df['age'],25,interpolation='midpoint')
```

```
C:\Users\Vishw\AppData\Local\Temp\ipykernel_20088\3716295312.py:1: Deprecatio
nWarning: the `interpolation=` argument to percentile was renamed to `method=
`, which has additional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged
to review the method they used. (Deprecated NumPy 1.22)
  Q1=nm.percentile(df['age'],25,interpolation='midpoint')
```

In [106]:
```
print(Q1)
```

```
22.0
```

In [107]:
```
Q3=nm.percentile(df['age'],75,interpolation='midpoint')
```

```
C:\Users\Vishw\AppData\Local\Temp\ipykernel_20088\430973362.py:1: Deprecation
Warning: the `interpolation=` argument to percentile was renamed to `method=
`, which has additional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged
to review the method they used. (Deprecated NumPy 1.22)
  Q3=nm.percentile(df['age'],75,interpolation='midpoint')
```

In [108]:
```
print(Q3)
```

```
35.0
```

In [109]:
```
IQR=Q3-Q1
```

In [110]:
```
df.shape
```

Out[110]:
```
(891, 15)
```

In [111]:
```
upper=nm.where(df['age']>=(Q3+0.1*IQR))
```

In [112]:
```
lower=nm.where(df['age']<=(Q1-0.1*IQR))
```

In [113]:
```
df.drop(upper[0],inplace=True)
```

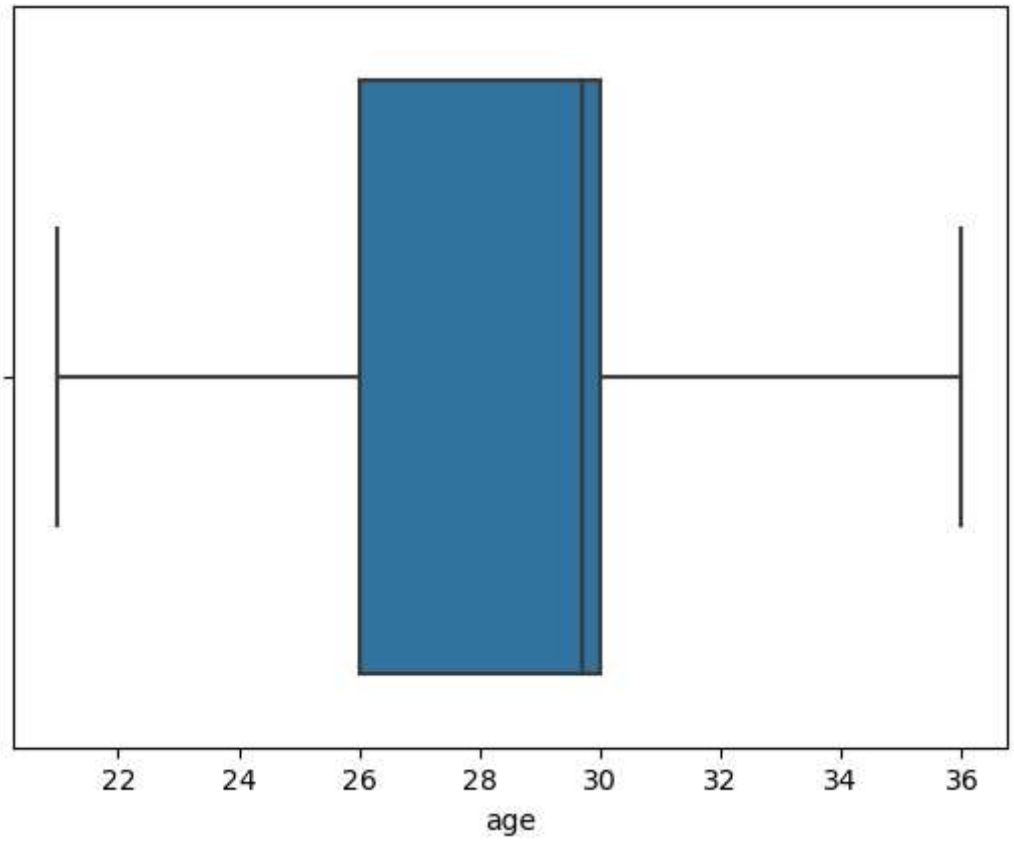
In [114]:
```
df.drop(lower[0],inplace=True)
```

In [115]:
```
df.shape
```

Out[115]:
```
(516, 15)
```

In [116]:
```
sns.boxplot(x='age', data=df)
```

Out[116]:
```
<Axes: xlabel='age'>
```



In [ ]: