In [1]:

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

In [2]:

```
df=pd.read_csv('heart.csv')
```

In [3]:

```
df
```

Out[3]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	t
0	52	1	0	125	212	0	1	168	0	1.0	2	2	3	
1	53	1	0	140	203	1	0	155	1	3.1	0	0	3	
2	70	1	0	145	174	0	1	125	1	2.6	0	0	3	
3	61	1	0	148	203	0	1	161	0	0.0	2	1	3	
4	62	0	0	138	294	1	1	106	0	1.9	1	3	2	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1020	59	1	1	140	221	0	1	164	1	0.0	2	0	2	
1021	60	1	0	125	258	0	0	141	1	2.8	1	1	3	
1022	47	1	0	110	275	0	0	118	1	1.0	1	1	2	
1023	50	0	0	110	254	0	0	159	0	0.0	2	0	2	
1024	54	1	0	120	188	0	1	113	0	1.4	1	1	3	

1025 rows × 14 columns

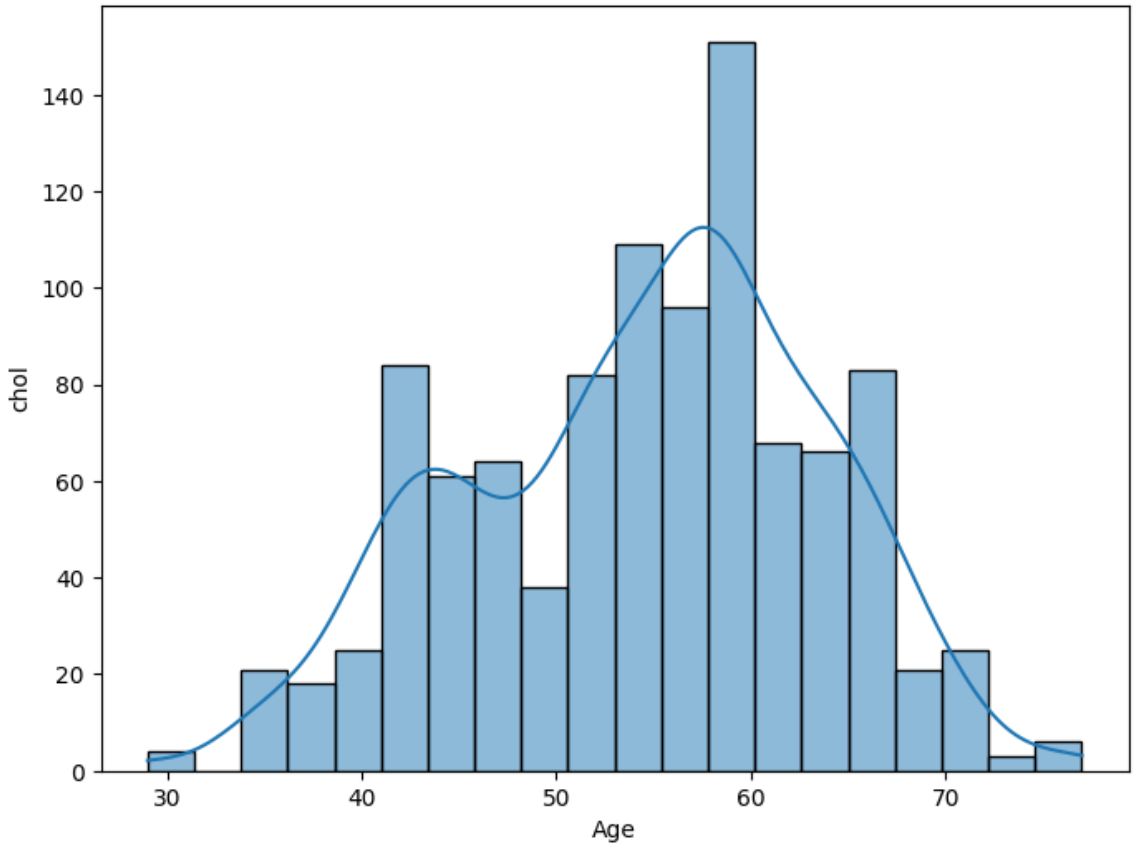
In [5]:

```
print(df.head())
```

```
   age  sex  cp  trestbps  chol  fbs  restecg  thalach  exang  oldpeak  sl
ope  \
0   52    1   0       125   212    0        1      168      0      1.0
2
1   53    1   0       140   203    1        0      155      1      3.1
0
2   70    1   0       145   174    0        1      125      1      2.6
0
3   61    1   0       148   203    0        1      161      0      0.0
2
4   62    0   0       138   294    1        1      106      0      1.9
1

   ca  thal  target
0   2     3       0
1   0     3       0
2   0     3       0
3   1     3       0
4   3     2       0
```

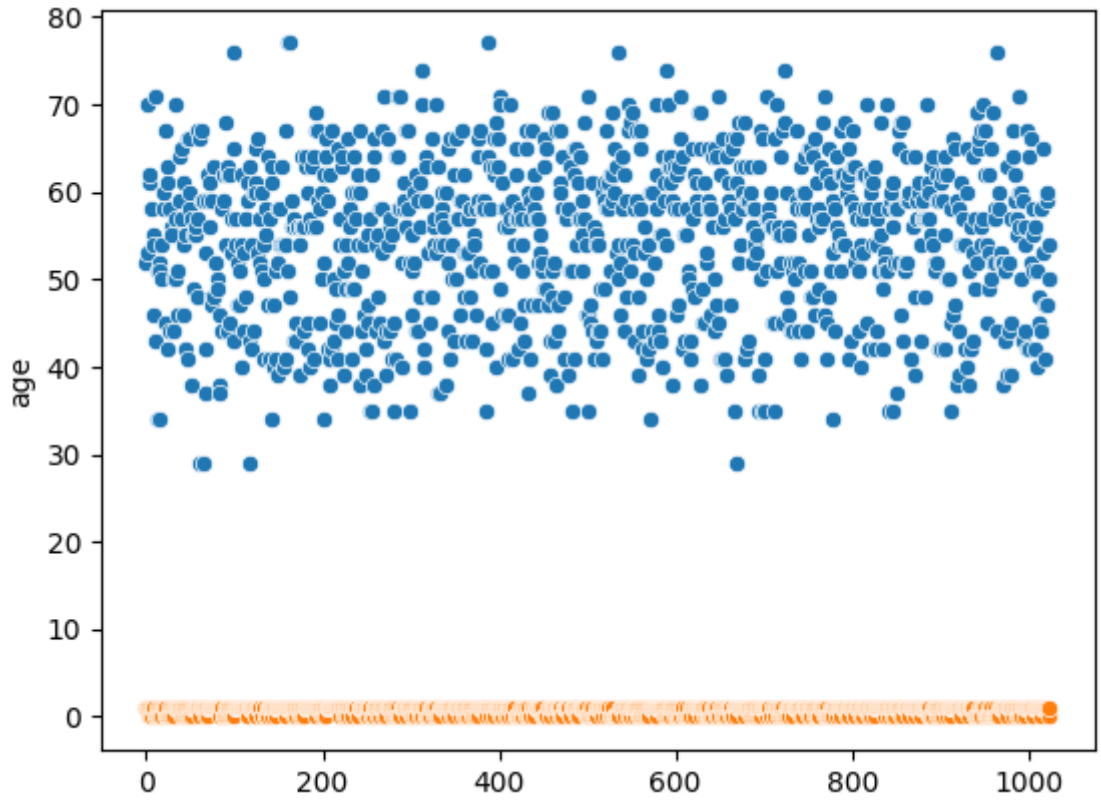
In [6]:

```
#visualize distribution of age using histogram
plt.figure(figsize=(8,6))
sns.histplot(df['age'],bins=20,kde=True)
plt.title=('Age vs cholesterol')
plt.xlabel('Age')
plt.ylabel('chol')
plt.show()
```



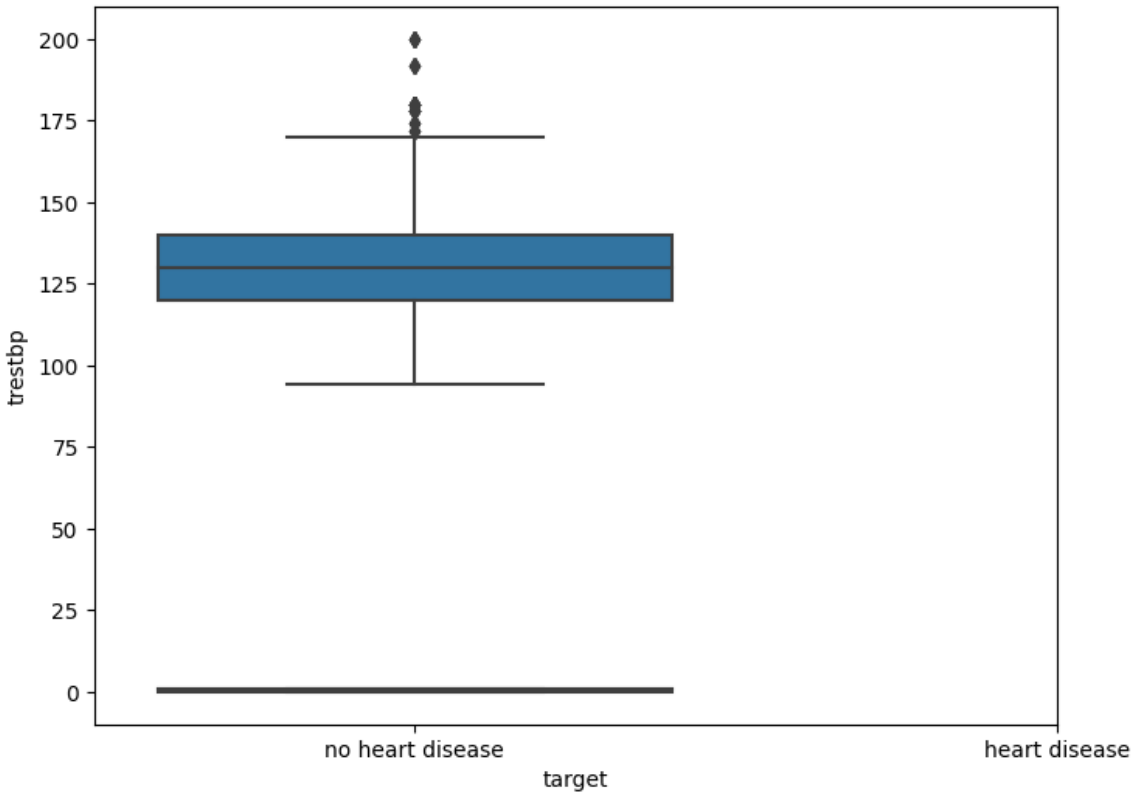
In [25]:

```
#scatter plot
#plt.figure(figsize=(8,6))
sns.scatterplot(df['age'])
sns.scatterplot(df['sex'])
plt.title='age vs sex'


plt.show()
```



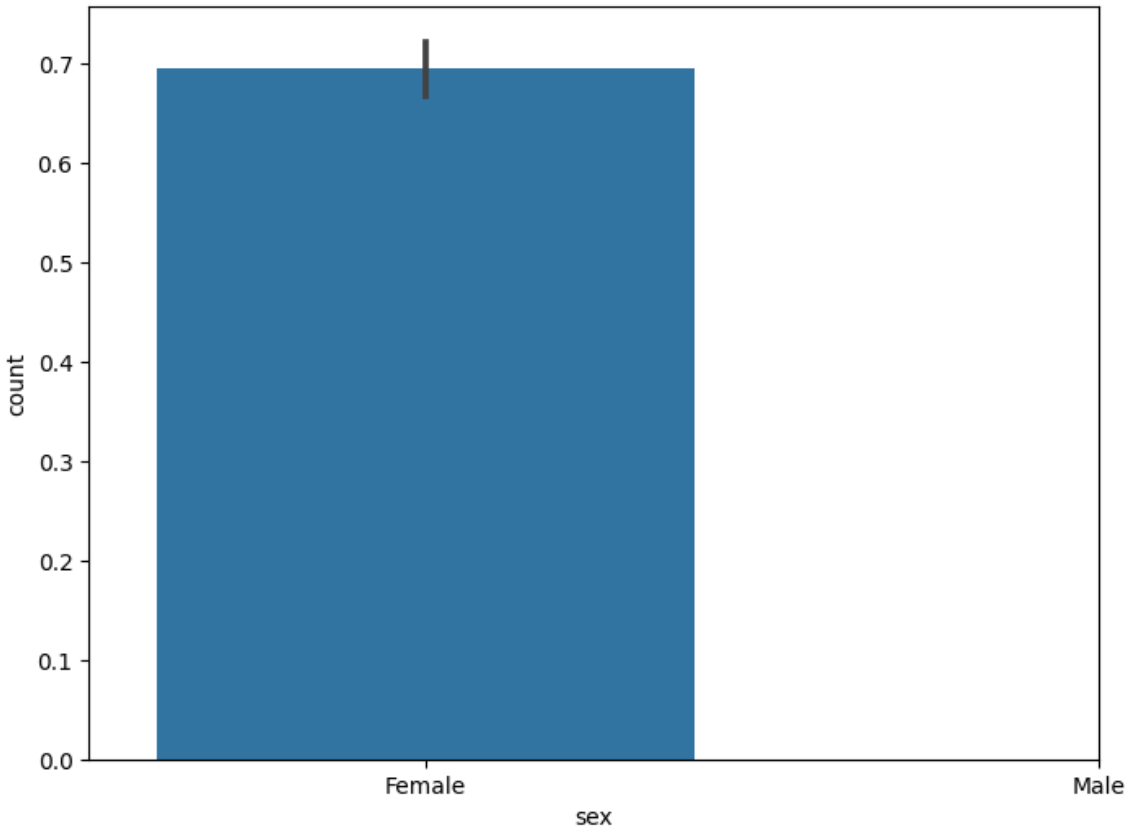
In [28]:

```
#barplot
plt.figure(figsize=(8,6))
sns.boxplot(df['target'])
sns.boxplot(df['trestbps'])
#plt.title("Resting blodd pressure by target")
plt.xlabel('target')
plt.ylabel('trestbp')
plt.xticks([0,1],['no heart disease','heart disease'])
plt.show()
```



In [32]:

```
#barplot
plt.figure(figsize=(8,6))
sns.barplot(df['sex'])
#plt.title('count of male and female')
plt.xlabel('sex')
plt.ylabel('count')
plt.xticks([0,1],['Female','Male'])
plt.show()
```

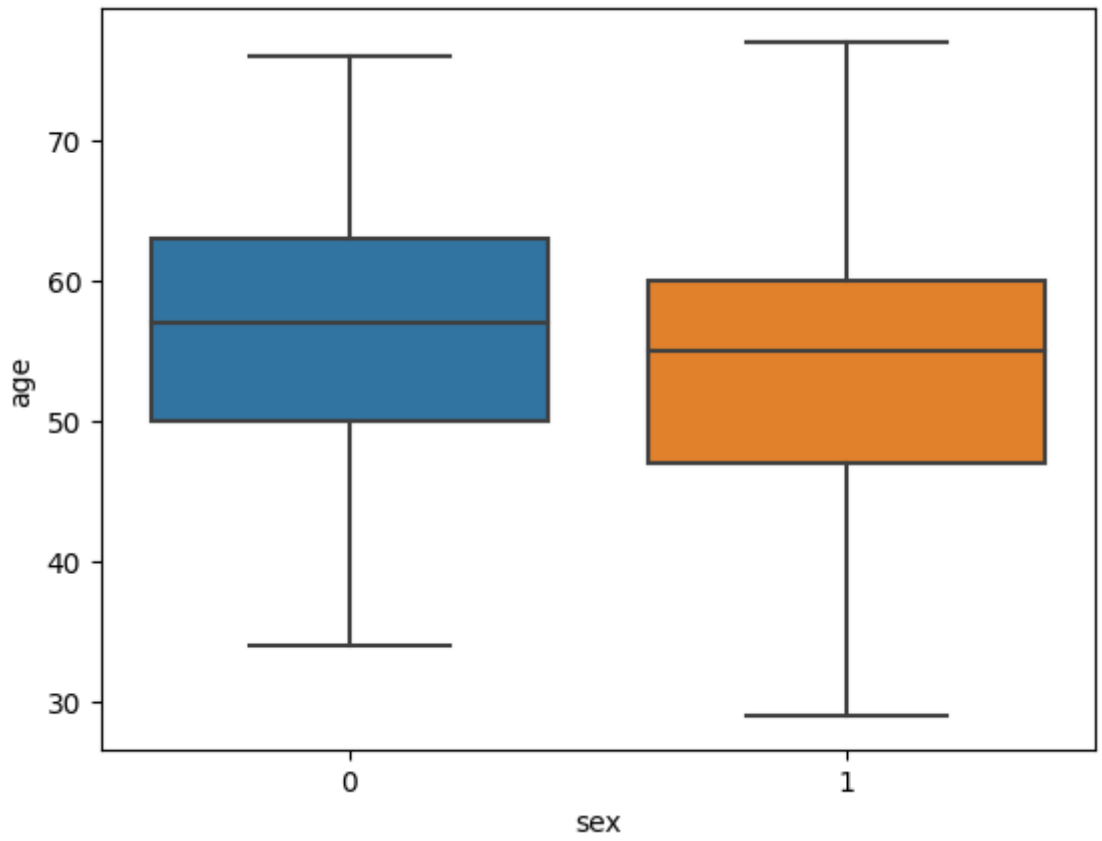


In [33]:

```
sns.boxplot(x='sex',y='age',data=df)#used to show distribution of numeric data value
```

Out[33]:

```
<Axes: xlabel='sex', ylabel='age'>
```

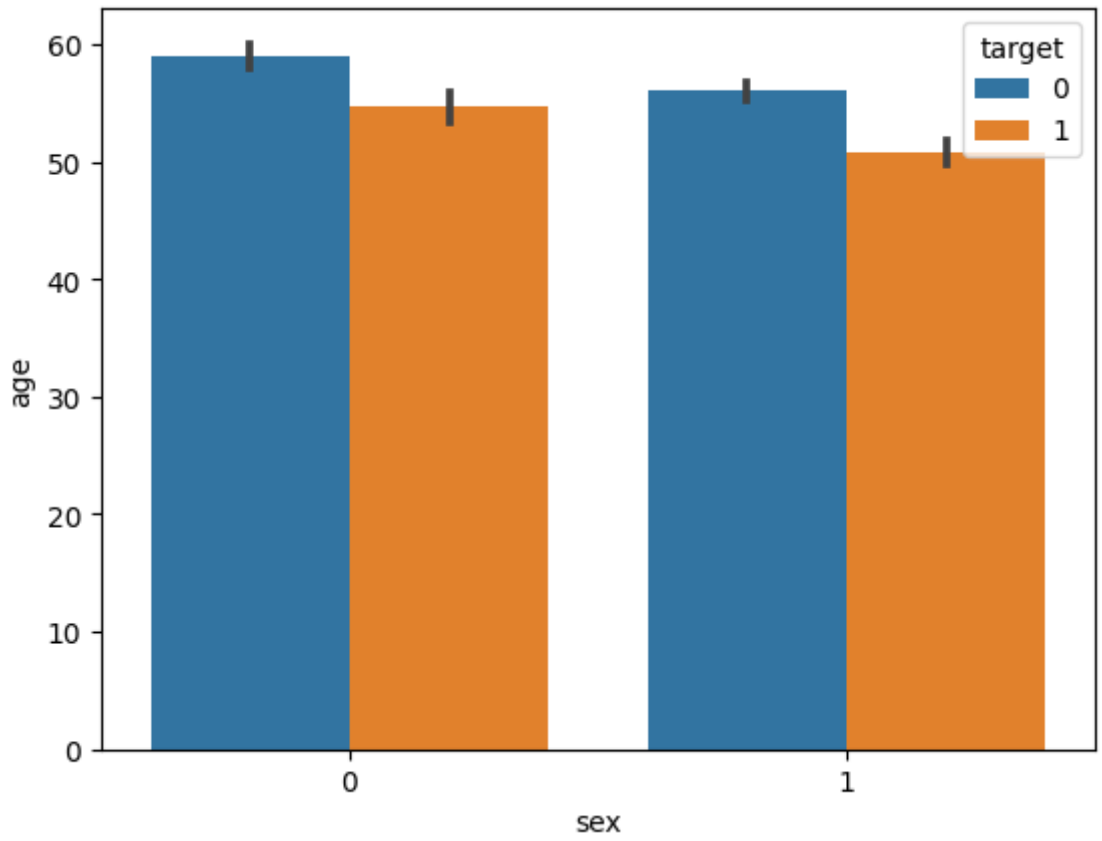


In [36]:

```
sns.barplot(x='sex',y='age',data=df,hue='target')
```

Out[36]:

```
<Axes: xlabel='sex', ylabel='age'>
```



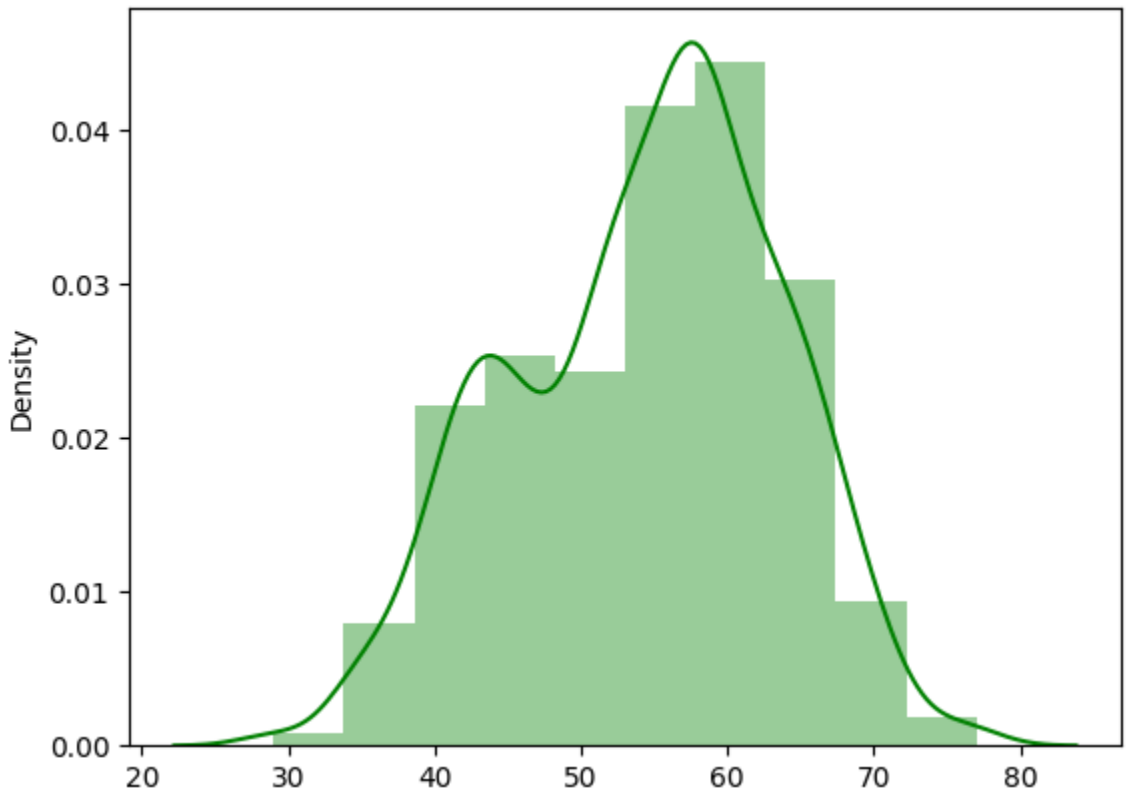
In [42]:

```
sns.distplot(x=df['age'],bins=10,color='green')
```

```
C:\Users\Madhuri Wavhal\AppData\Local\Temp\ipykernel_15792\3433390852.py:
1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.
0.

Please adapt your code to use either `displot` (a figure-level function wi
th
similar flexibility) or `histplot` (an axes-level function for histogram
s).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751 (https://
gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751)

  sns.distplot(x=df['age'],bins=10,color='green')
```

Out[42]:

```
<Axes: ylabel='Density'>
```



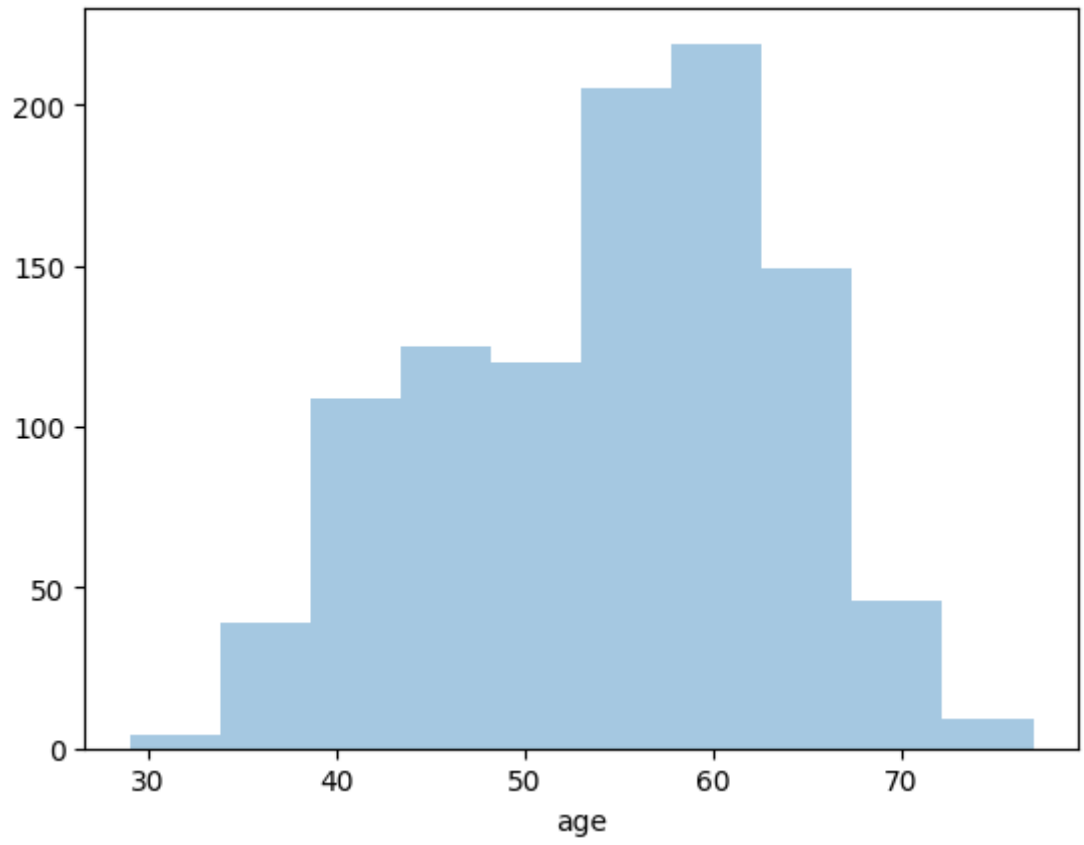
In [40]:

```
sns.distplot(df['age'],bins=10,kde=False)#distplot used for visualization on single(univa
#kde=kernel density estimate used to estimate density function
```

```
C:\Users\Madhuri Wavhal\AppData\Local\Temp\ipykernel_15792\1825190238.py:
1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.
0.

Please adapt your code to use either `displot` (a figure-level function wi
th
similar flexibility) or `histplot` (an axes-level function for histogram
s).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751 (https://
gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751)

  sns.distplot(df['age'],bins=10,kde=False)
```

Out[40]:

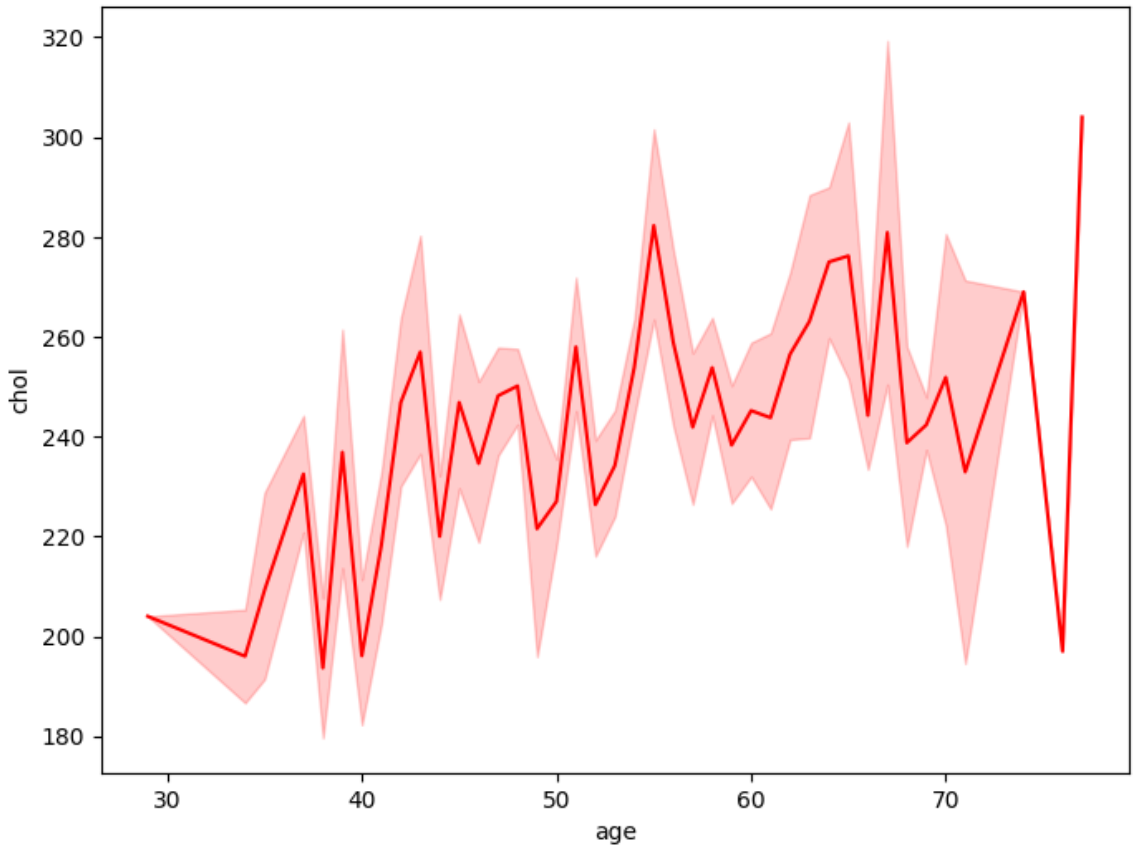
```
<Axes: xlabel='age'>
```



In [44]:

```
#lineplot
plt.figure(figsize=(8,6))
sns.lineplot(data=df,x='age',y='chol',color='red')
plt.title('cholesterol level by age')
plt.xlabel('Age')
plt.ylabel('chol')
plt.show()
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[44], line 4
      2 plt.figure(figsize=(8,6))
      3 sns.lineplot(data=df,x='age',y='chol',color='red')
----> 4 plt.title('cholesterol level by age')
      5 plt.xlabel('Age')
      6 plt.ylabel('chol')

TypeError: 'str' object is not callable
```



In [ ]: