

Visualize the data using Python libraries matplotlib, seaborn by plotting the graphs for Heart Diseases data sets. (Draw Boxplot, Histogram, Single Line Graph, Multiple Line Graph)

```
In [4]: import pandas as pd #read csv
import numpy as np #mathematical functions
import seaborn as sns #statistical graph in python
import matplotlib.pyplot as plt #to create 2d graphs and plots
```

```
In [5]: df=pd.read_csv(r"C:\Users\yasha\Desktop\Ashish\sem 6\DSBDA\DSBDA Lab Datasets\
df
```

```
Out[5]:
```

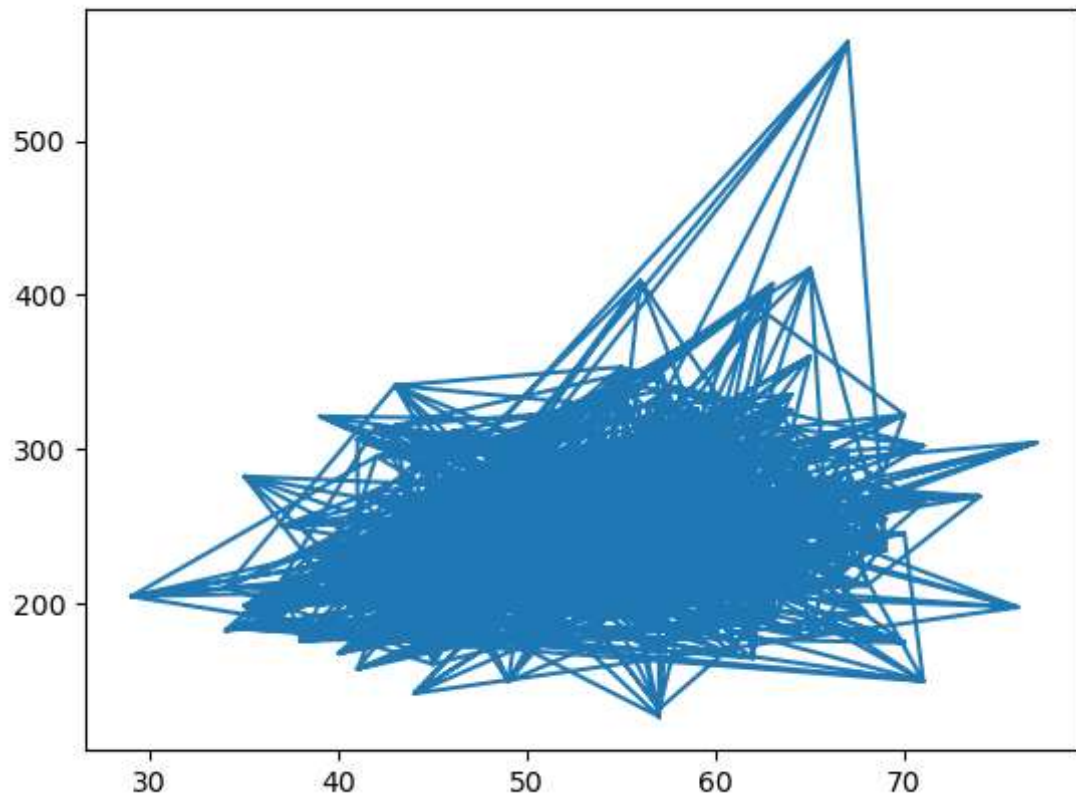
	age	sex	cp	trestbps	chol	fb	restecg	thalach	exang	oldpeak	slope	ca	thal	target
0	52	1	0	125	212	0	1	168	0	1.0	2	2	3	
1	53	1	0	140	203	1	0	155	1	3.1	0	0	3	
2	70	1	0	145	174	0	1	125	1	2.6	0	0	3	
3	61	1	0	148	203	0	1	161	0	0.0	2	1	3	
4	62	0	0	138	294	1	1	106	0	1.9	1	3	2	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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



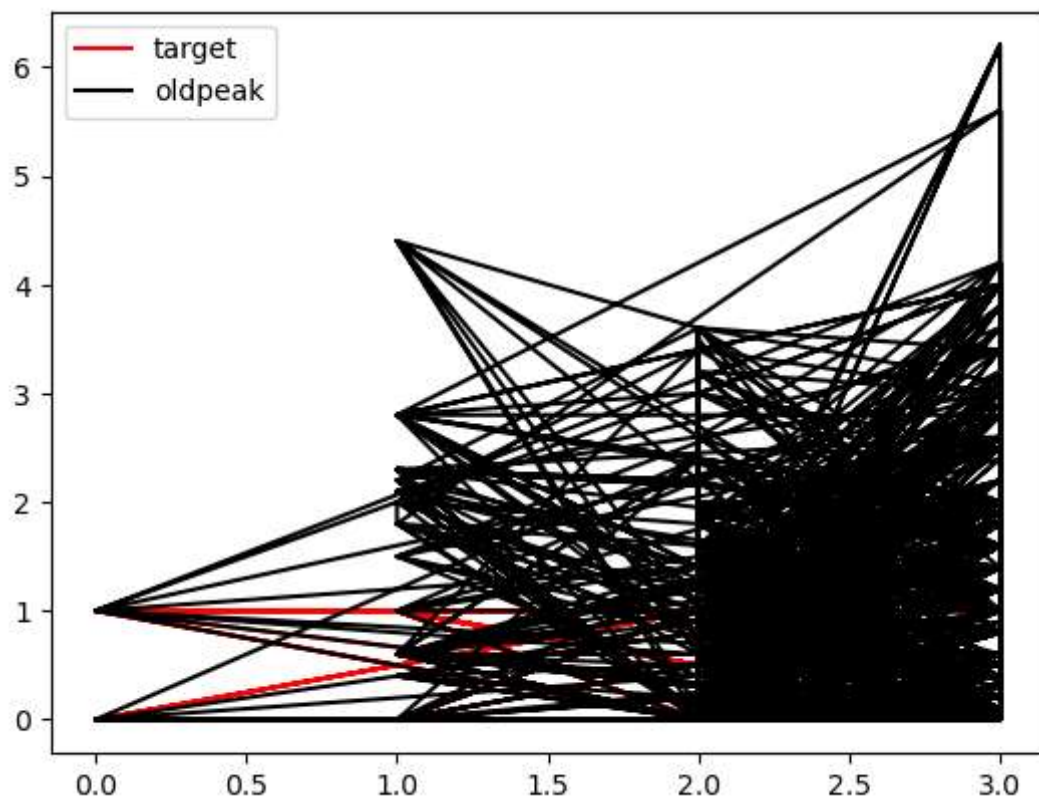
```
In [8]: x=df['age']  
y=df['chol']  
plt.plot(x,y) #Lineplot
```

Out[8]: [<matplotlib.lines.Line2D at 0x2703b3c2bf0>]



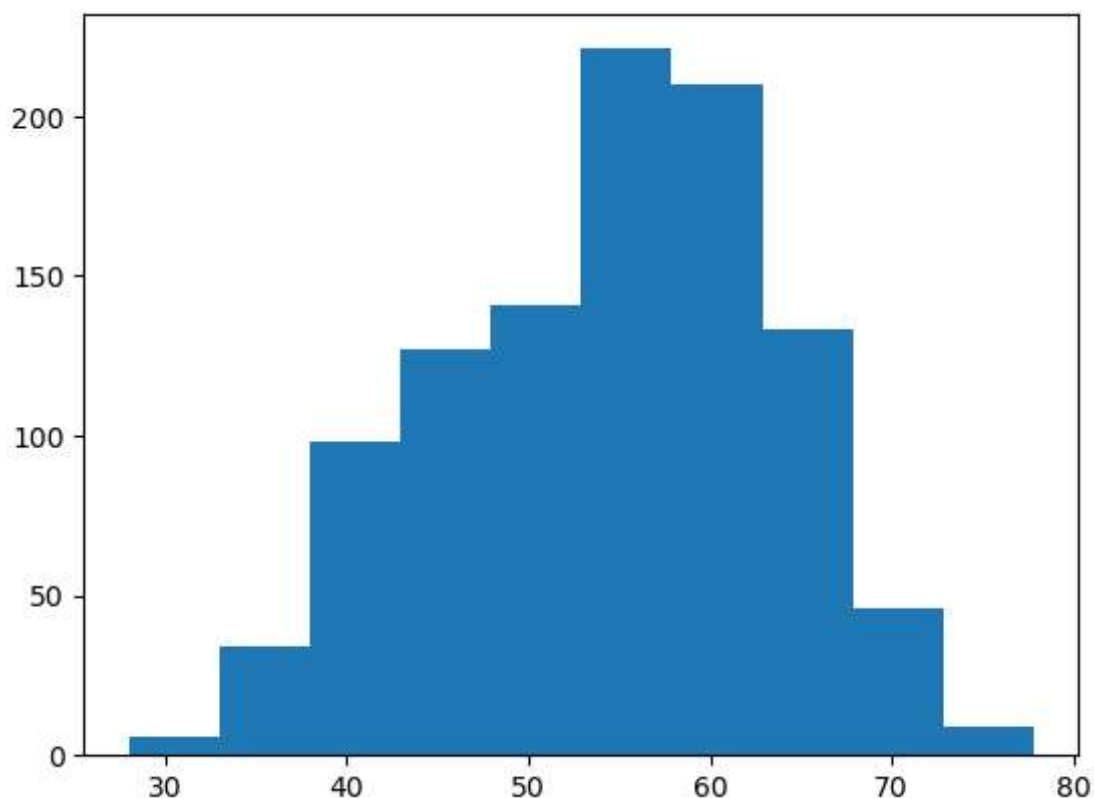
```
In [12]: x=df['thal']  
y=df['target']  
z=df['oldpeak']  
plt.plot(x,y,label='target',color='red')  
plt.plot(x,z,label='oldpeak',color='black')  
plt.legend()
```

Out[12]: <matplotlib.legend.Legend at 0x2703b57ecb0>



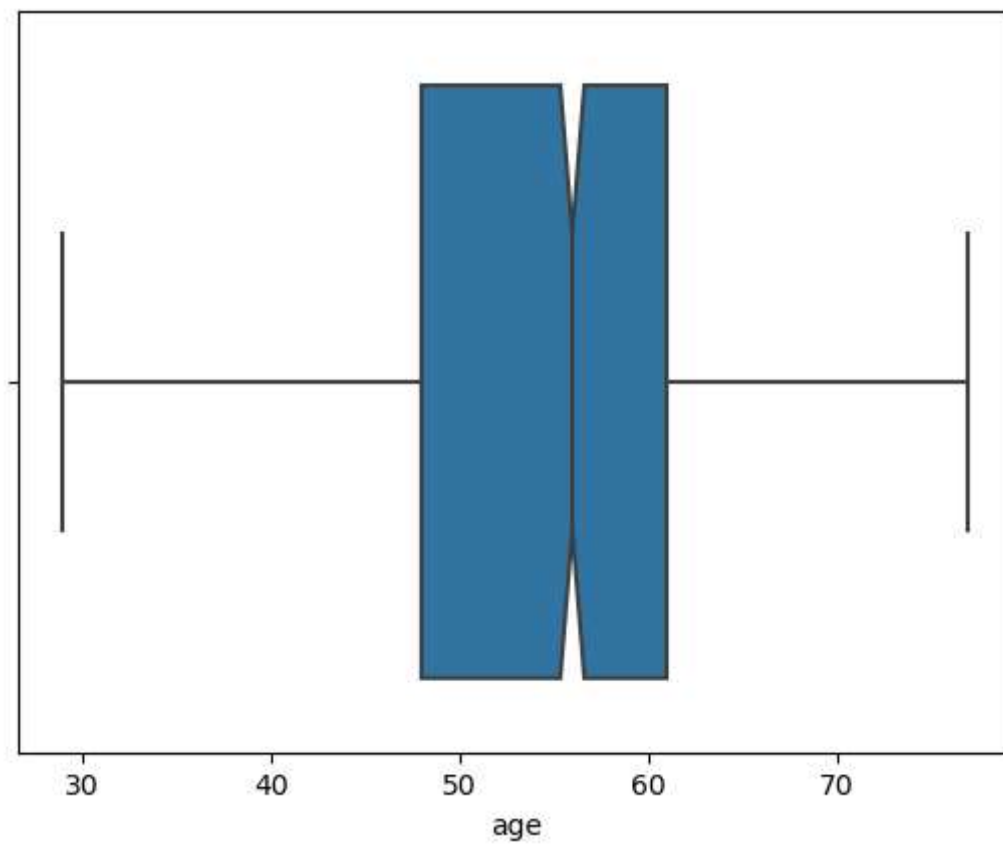
```
In [13]: x=np.random.normal(df['age'])  
plt.hist(x)
```

```
Out[13]: (array([ 6., 34., 98., 127., 141., 221., 210., 133., 46., 9.]),  
array([28.04665657, 33.02115277, 37.99564896, 42.97014515, 47.94464134,  
52.91913753, 57.89363372, 62.86812991, 67.8426261 , 72.81712229,  
77.79161848]),  
<BarContainer object of 10 artists>)
```



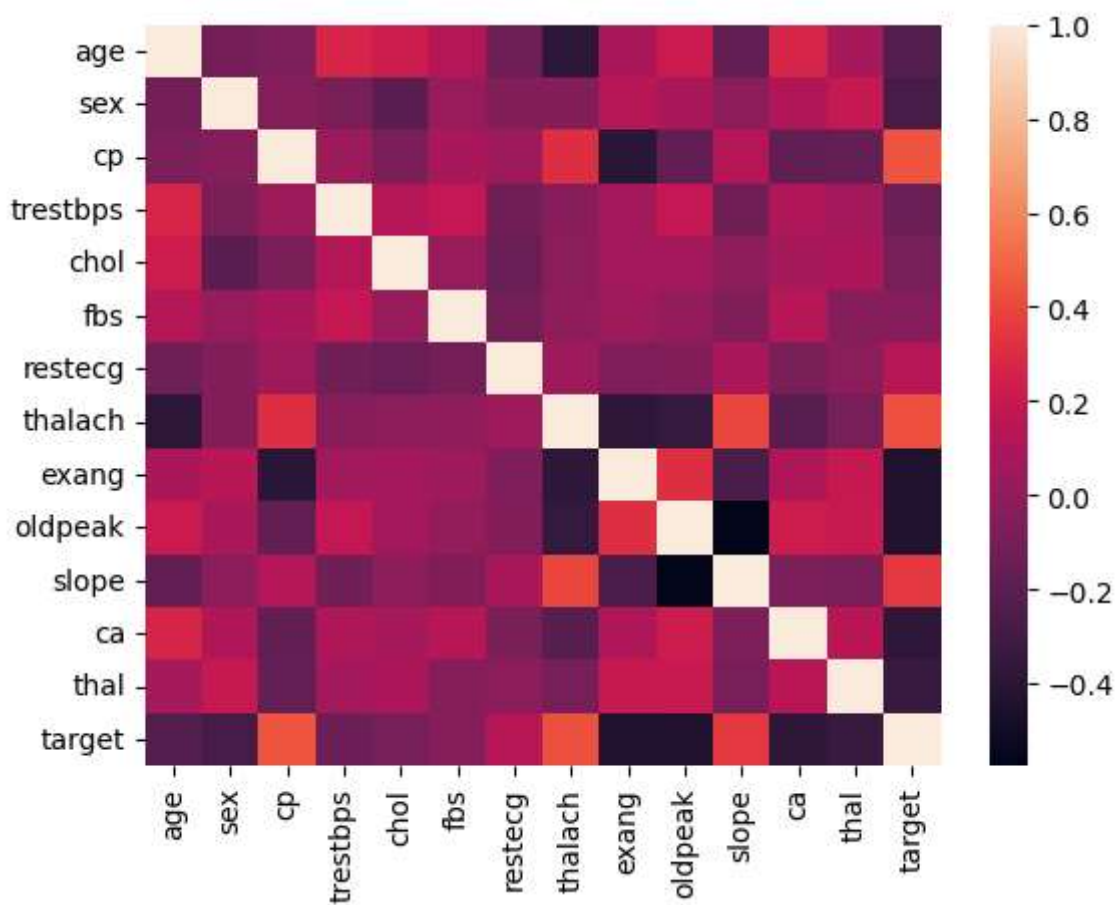
```
In [17]: sns.boxplot(x=df['age'],notch=True)
```

```
Out[17]: <Axes: xlabel='age'>
```



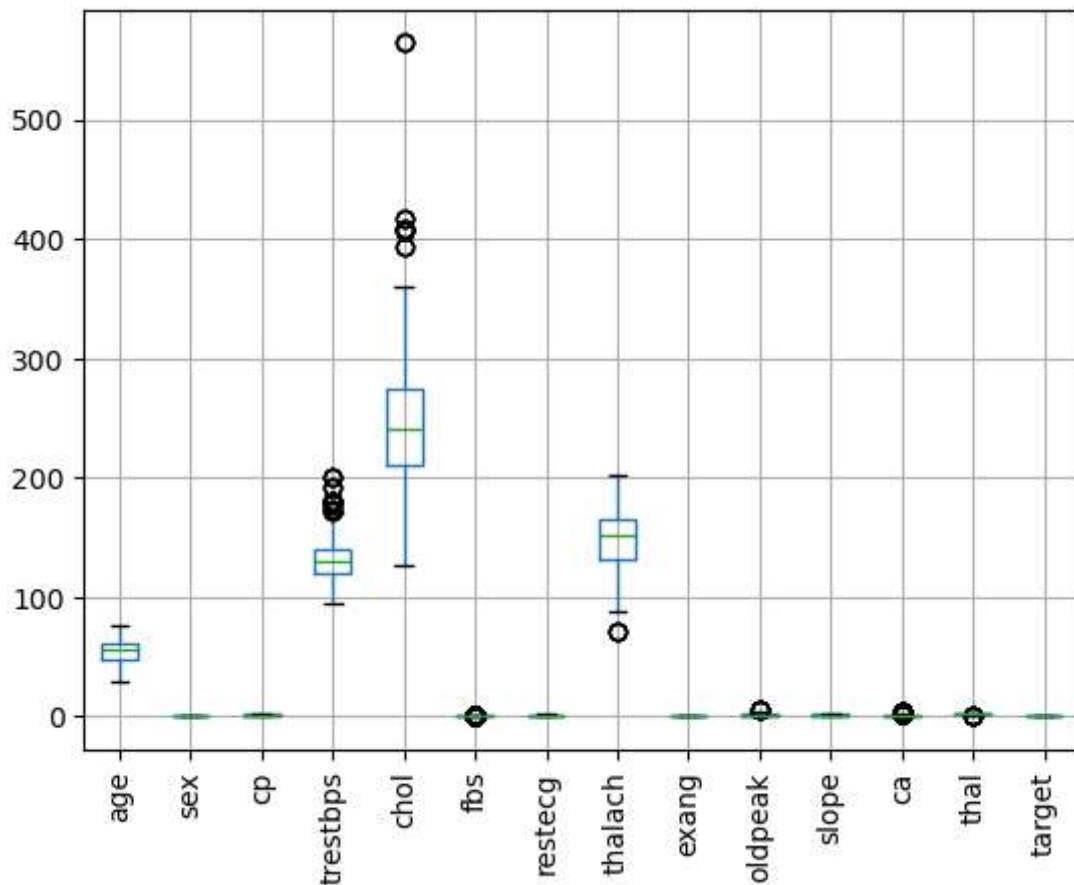
```
In [18]: sns.heatmap(df.corr())
```

```
Out[18]: <Axes: >
```

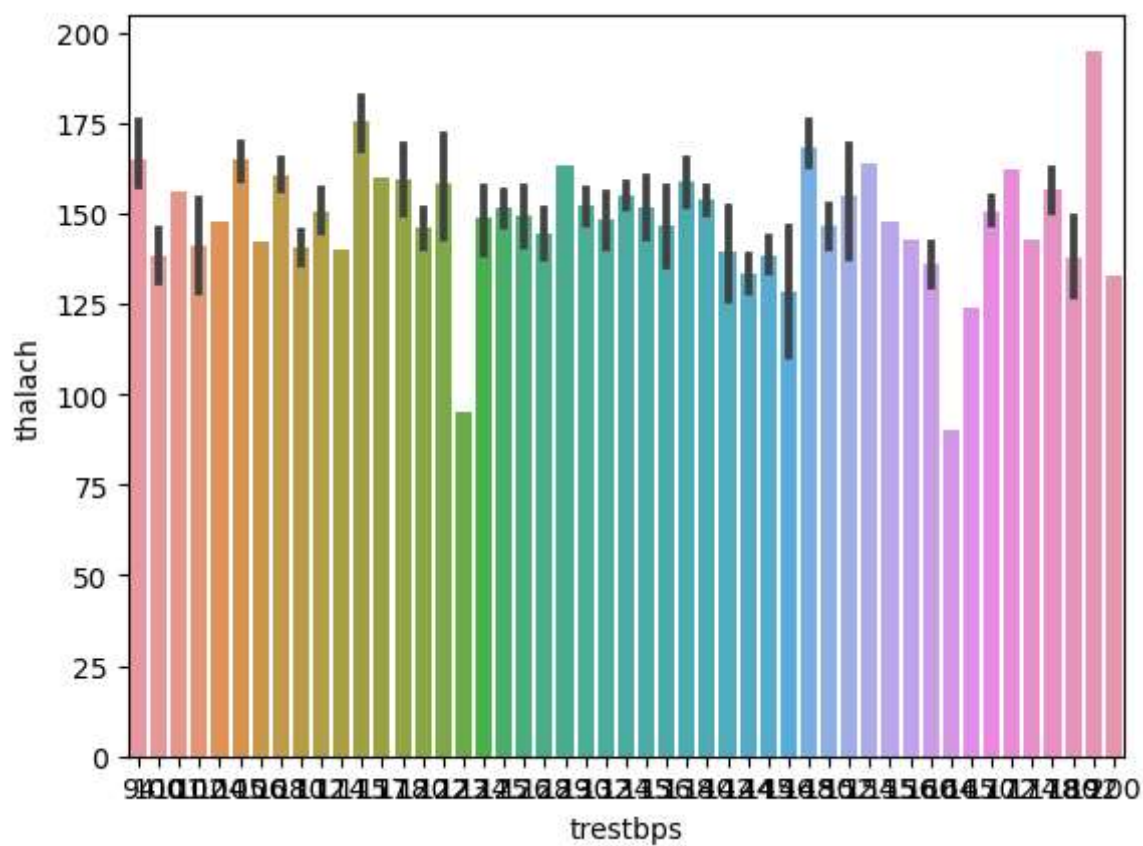


```
In [19]: df.boxplot()  
plt.xticks(rotation = 90)
```

```
Out[19]: (array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14]),  
 [Text(1, 0, 'age'),  
  Text(2, 0, 'sex'),  
  Text(3, 0, 'cp'),  
  Text(4, 0, 'trestbps'),  
  Text(5, 0, 'chol'),  
  Text(6, 0, 'fbs'),  
  Text(7, 0, 'restecg'),  
  Text(8, 0, 'thalach'),  
  Text(9, 0, 'exang'),  
  Text(10, 0, 'oldpeak'),  
  Text(11, 0, 'slope'),  
  Text(12, 0, 'ca'),  
  Text(13, 0, 'thal'),  
  Text(14, 0, 'target')])
```



```
In [22]: #bar plot
sns.barplot(x='trestbps',y='thalach',data=df)
plt.show()
```





```
In [24]: #scatter plot  
x=(df['trestbps'])  
y=(df['thalach'])  
plt.scatter(x,y)
```

Out[24]: <matplotlib.collections.PathCollection at 0x27045f79d50>

