In [1]:

```python
import warnings
warnings.simplefilter("ignore")
```

In [2]:

```python
import pandas as pd
import numpy as np
```

In [3]:

```python
data=pd.read_csv("heart.csv.xls")
data
```

Out[3]:

	age	sex	cp	trtbps	chol	fbs	restecg	thalachh	exng	oldpeak	slp	caa	thall	output
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1	1
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2	1
2	41	0	1	130	204	0	0	172	0	1.4	2	0	2	1
3	56	1	1	120	236	0	1	178	0	0.8	2	0	2	1
4	57	0	0	120	354	0	1	163	1	0.6	2	0	2	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
298	57	0	0	140	241	0	1	123	1	0.2	1	0	3	0
299	45	1	3	110	264	0	1	132	0	1.2	1	0	3	0
300	68	1	0	144	193	1	1	141	0	3.4	1	2	3	0
301	57	1	0	130	131	0	1	115	1	1.2	1	1	3	0
302	57	0	1	130	236	0	0	174	0	0.0	1	1	2	0

303 rows × 14 columns

In [4]:

```python
data=data.loc[:,['age','sex','trtbps','chol','thalachh','oldpeak','thall']]
data
```

Out[4]:

	age	sex	trtbps	chol	thalachh	oldpeak	thall
0	63	1	145	233	150	2.3	1
1	37	1	130	250	187	3.5	2
2	41	0	130	204	172	1.4	2
3	56	1	120	236	178	0.8	2
4	57	0	120	354	163	0.6	2
...	...	...	...	...	...	...	...
298	57	0	140	241	123	0.2	3
299	45	1	110	264	132	1.2	3
300	68	1	144	193	141	3.4	3
301	57	1	130	131	115	1.2	3
302	57	0	130	236	174	0.0	2

303 rows × 7 columns

In [5]:

```python
x=data.iloc[:,0]
```

In [6]:

```python
x.shape
```

Out[6]: (303,)

In [7]:

```python
x=data.iloc[:,0].values.reshape(-1,1)
```

In [8]:

```python
x.shape
```

Out[8]: (303, 1)

In [9]:

```python
y=data.iloc[:,-1].values.reshape(-1,1)
```

In [10]:

```python
y.shape
```

Out[10]: (303, 1)

In [11]:

```python
x
```

Out[11]:

```
array([[63],
       [37],
       [41],
       [56],
       [57],
       [57],
       [56],
       [44],
       [52],
       [57],
       [54],
       [48],
       [49],
       [64],
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       [63],
       [63],
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       [57],
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       [68],
       [57],
       [57]], dtype=int64)
```

In [12]:

```python
y
```

Out[12]:

```
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       [3],
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       [2]], dtype=int64)
```

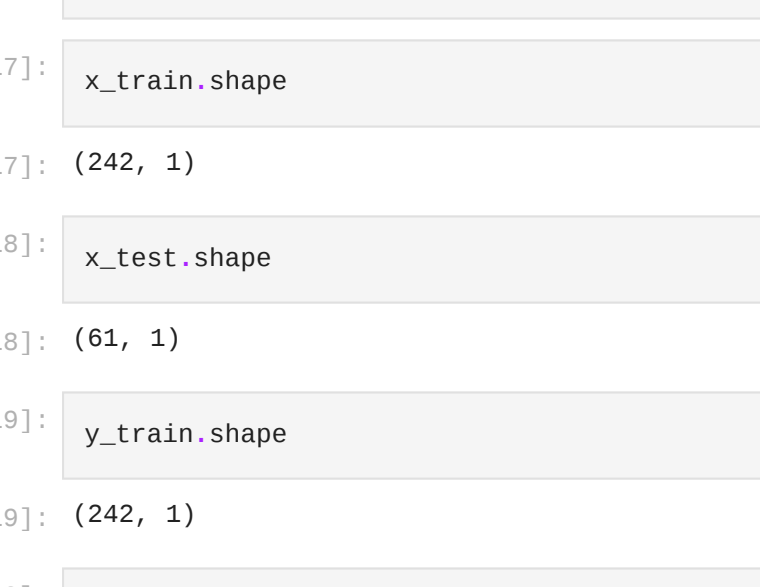
In [13]:

```python
import matplotlib.pyplot as plt
%matplotlib inline
```

In [14]:

```python
plt.scatter(x,y)
plt.show
```

Out[14]: <function matplotlib.pyplot.show(close=None, block=None)>



In [15]:

```python
from sklearn.model_selection import train_test_split
```

In [16]:

```python
x_train, x_test, y_train, y_test = train_test_split(x,y,test_size = 0.2,random_state = 0)
```

In [17]:

```python
x_train.shape
```

Out[17]: (242, 1)

In [18]:

```python
x_test.shape
```

Out[18]: (61, 1)

In [19]:

```python
y_train.shape
```

Out[19]: (242, 1)

In [20]:

```python
y_test.shape
```

Out[20]: (61, 1)

In [21]:

```python
from sklearn.linear_model import LinearRegression
lm = LinearRegression()
lm.fit(x_train,y_train)
```

Out[21]: LinearRegression()

In [22]:

```python
y_pred = lm.predict(x_test)
```

In [23]:

```python
y_pred
```

Out[23]:

```
array([[2.33750843],
       [2.31839707],
       [2.30247094],
       [2.30565617],
       [2.31202662],
       [2.26743345],
       [2.24195163],
       [2.31521185],
       [2.29291526],
       [2.31521185],
       [2.29610049],
       [2.27061867],
       [2.3215823 ],
       [2.27061867],
       [2.2738039 ],
       [2.27698913],
       [2.28017435],
       [2.26743345],
       [2.31202662],
       [2.24832209],
       [2.24832209],
       [2.23876641],
       [2.31202662],
       [2.28654481],
       [2.24513686],
       [2.31202662],
       [2.28017435],
       [2.26106299],
       [2.23876641],
       [2.28017435],
       [2.30565617],
       [2.25787777],
       [2.24513686],
       [2.28017435],
       [2.2260255 ],
       [2.30247094],
       [2.33750843],
       [2.25787777],
       [2.29291526],
       [2.31202662],
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       [2.28017435],
       [2.26424822],
       [2.27698913],
       [2.33750843],
       [2.24513686],
       [2.2738039 ],
       [2.29291526],
       [2.25469254],
       [2.28017435],
       [2.35024934],
       [2.24513686],
       [2.24513686],
       [2.23876641],
       [2.2260255 ],
       [2.25469254],
       [2.29610049],
       [2.30247094],
       [2.2738039 ],
       [2.29928571]])
```
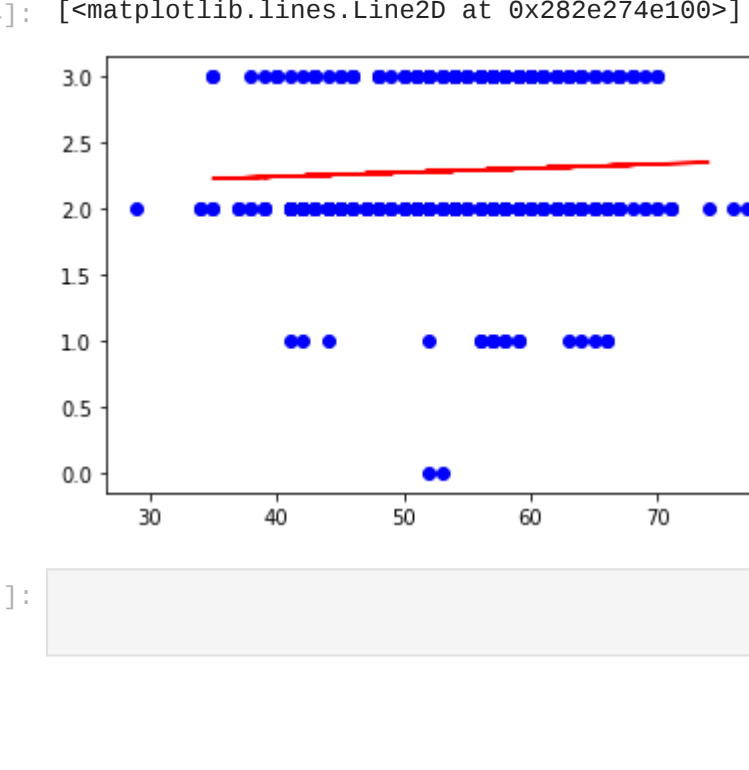

In [24]:

```python
plt.scatter(x,y,color = 'blue')
plt.plot(x_test,y_pred,color = 'red')
```

Out[24]: [<matplotlib.lines.Line2D at 0x282e274e100>]



In [ ]: