

```
In [50]: import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
df = pd.read_csv('carr.csv')
df['Mileage'].fillna(130,inplace=True)
df['Speed'].fillna(300,inplace=True)
df
```

Out[50]:

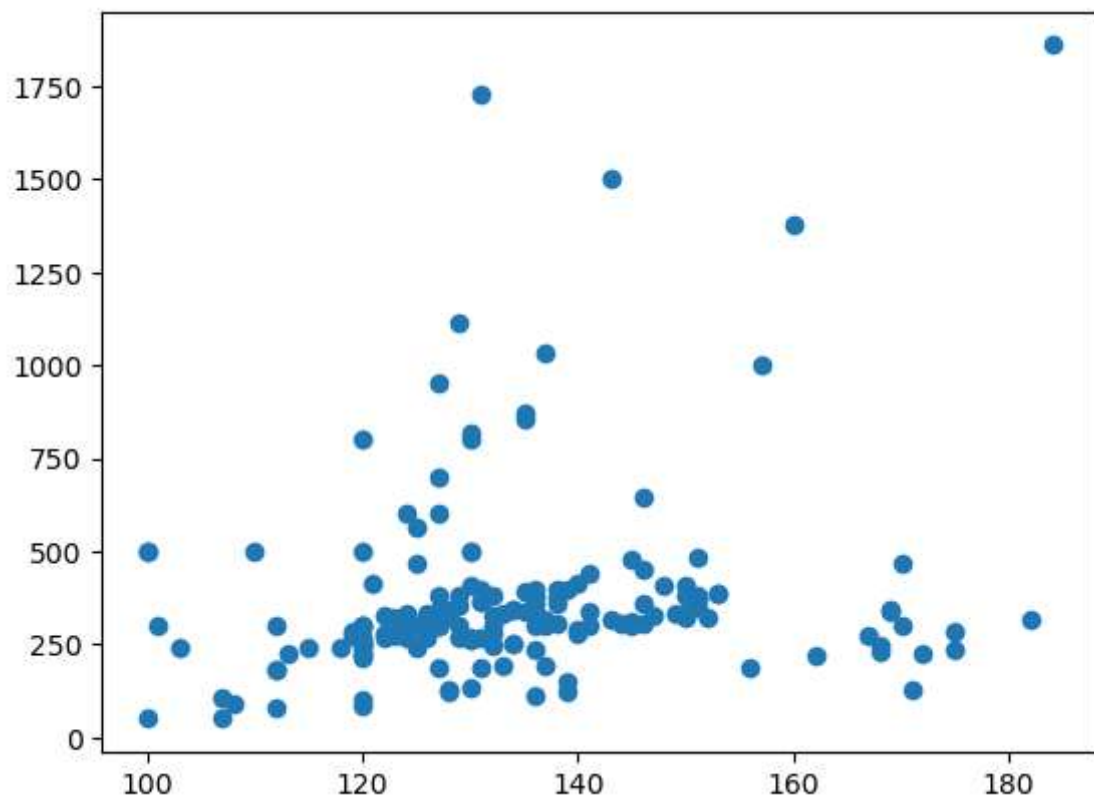
	Age	No	Mileage	Speed
0	60	110	130	409.1
1	60	117	145	479.0
2	60	103	135	340.0
3	45	109	175	282.4
4	45	117	148	406.0
...
164	90	105	140	290.8
165	56	110	145	300.0
166	67	115	145	310.2
167	89	120	150	320.4
168	90	125	150	330.4

169 rows × 4 columns

```
In [51]: x = df.iloc[:, [1]].values
y = df.iloc[:, [3]].values
x
```

Out[51]: array([[110],
[117],
[103],
[109],
[117],
[102],
[110],
[104],
[109],
[98],
[103],
[100],
[106],
[104],
[98],
[98],
[100],
[90],
[103],
[97],

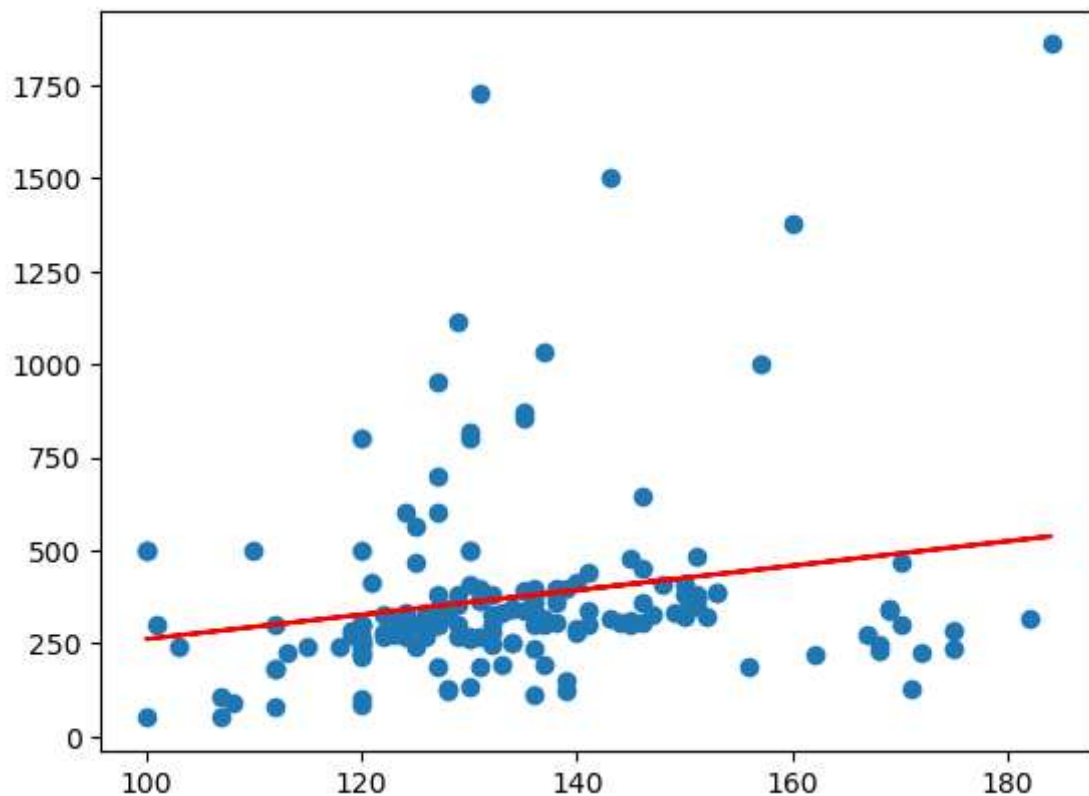
```
In [52]: import matplotlib.pyplot as plt  
x=df['Mileage']  
y=df['Speed']  
plt.scatter(x,y)  
plt.show()
```



```
In [53]: from scipy import stats
import numpy as np
import pandas as pd

slope, intercept, r, p, std_err = stats.linregress(x,y)
print(slope)
def myfunc(x):
    return slope * x + intercept
model=list(map(myfunc,x))
plt.scatter(x,y)
plt.plot(x, model, color = 'red')
plt.show()
```

3.2899912564203744



```
In [9]: x= pd.DataFrame(df['No'])
y= pd.DataFrame(df['Mileage'])
from sklearn.model_selection import train_test_split
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size =0.2, random_state=42)
print(x_train.shape)
print(x_test.shape)
print(y_train.shape)
print(y_test.shape)
```

(135, 1)
(34, 1)
(135, 1)
(34, 1)

```
In [14]: import sys
from sklearn.linear_model import LinearRegression
linear_regression=LinearRegression()
linear_regression.fit(x_train,y_train)
y_pred = linear_regression.predict(x_test)
y_pred
```

```
Out[14]: array([[134.51722565],
 [128.60684624],
 [125.22948657],
 [139.58326515],
 [135.36156557],
 [133.67288573],
 [119.31910716],
 [126.07382649],
 [171.66818196],
 [125.22948657],
 [127.76250632],
 [142.11628489],
 [125.22948657],
 [136.20590548],
 [137.0502454 ],
 [119.31910716],
 [143.80496473],
 [130.29552607],
 [127.76250632],
 [135.36156557],
 [129.45118615],
 [147.18232439],
 [134.51722565],
 [119.31910716],
 [131.9842059 ],
 [127.76250632],
 [113.40872774],
 [127.76250632],
 [125.22948657],
 [158.1587433 ],
 [119.31910716],
 [123.54080674],
 [129.45118615],
 [119.31910716]])
```

```
In [21]: from sklearn import linear_model
X=df[['Age','No']]
Y=df['Mileage']
multiple_linear_regression = linear_model.LinearRegression()
multiple_linear_regression.fit(X,Y)
No = int(input("Enter the value : "))
Mileage = int(input("Enter the value : "))

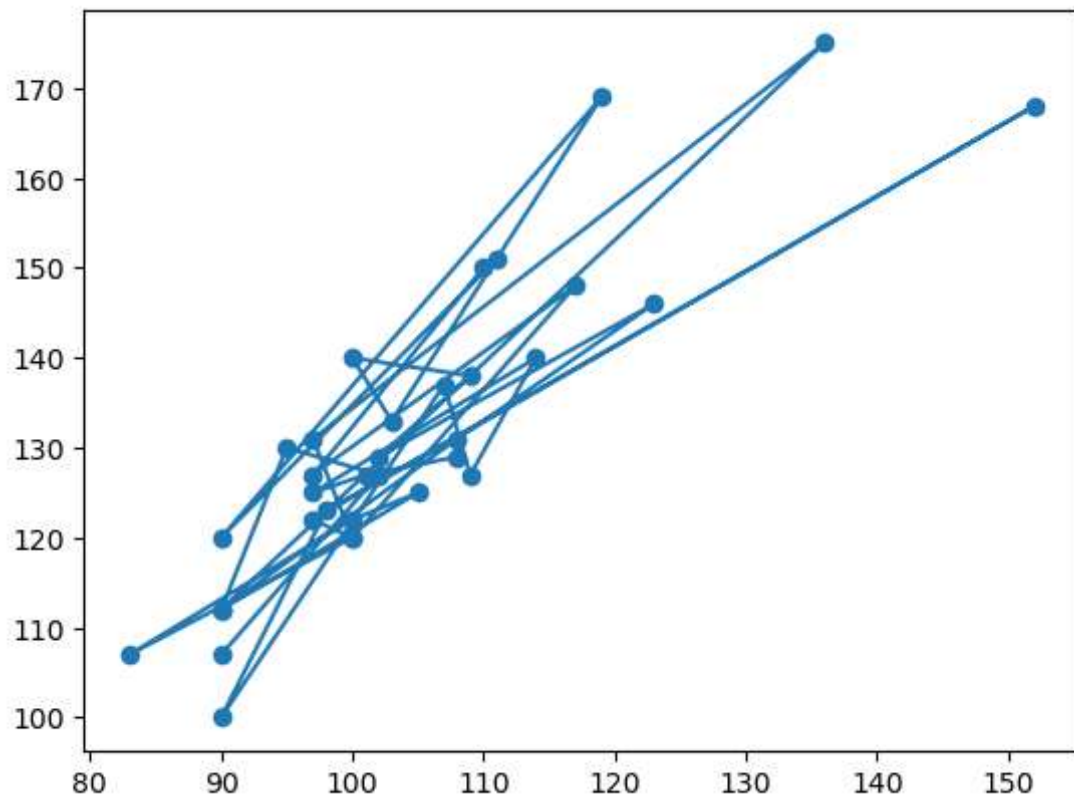
predicted = multiple_linear_regression.predict([[Age, No]])
print(predicted)
```

Enter the value : 56
Enter the value : 110
[87.51705222]

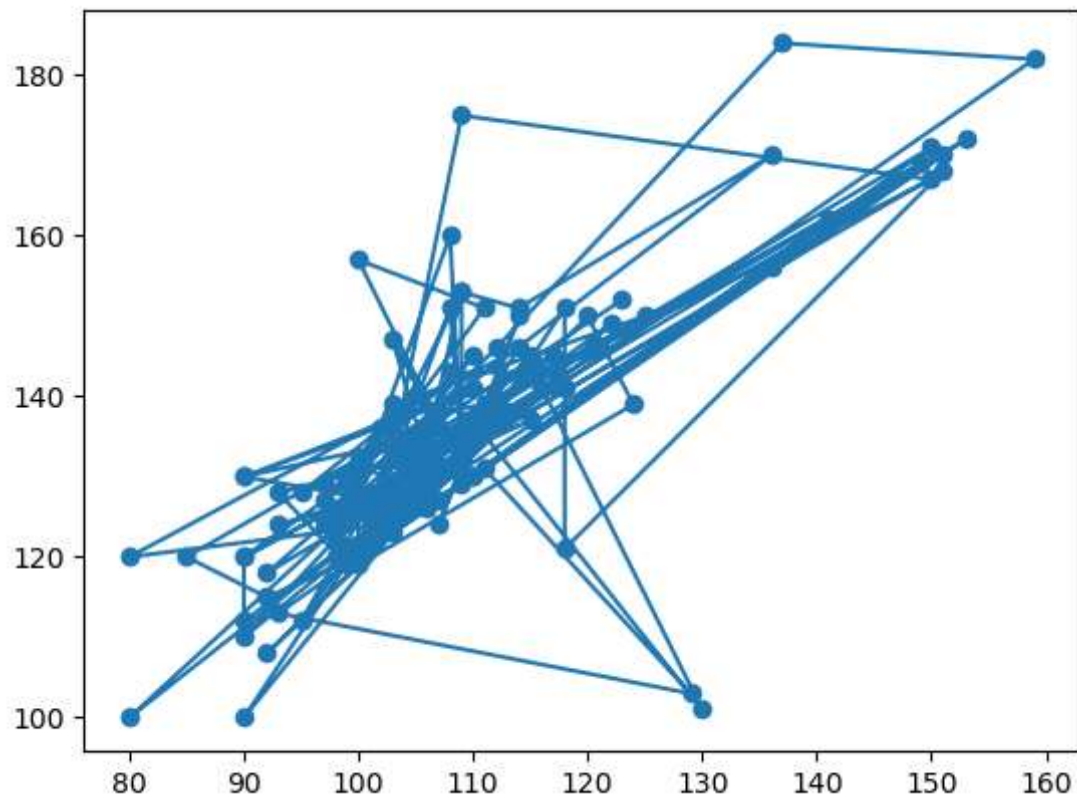
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\base.py:450: UserWarning:
X does not have valid feature names, but LinearRegression was fitted with fea
ture names
warnings.warn(

```
In [43]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
plt.scatter(x_test,y_test)
plt.plot(x_test,y_test)

plt.show()
```



```
In [44]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
plt.scatter(x_train,y_train)
plt.plot(x_train,y_train)
plt.show()
```



```
In [ ]:
```