ml_01

January 20, 2022

0.0.1 Install libraries

- Use pip if you are uisng windows
- Use pip3 if you are using macOS

[ ]:
```
#pip install numpy
#pip install pandas
#pip install scikit-learn
```

0.0.2 Import Libraries

[ ]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
```

0.0.3 Load Dataset

- It is better to keep the dataset in the same folder in which you have your notebook, otherwise you have to enter the complete path

[ ]:
```
# load dataset
df = pd.read_csv("data.csv")
df.head()
```

[ ]:

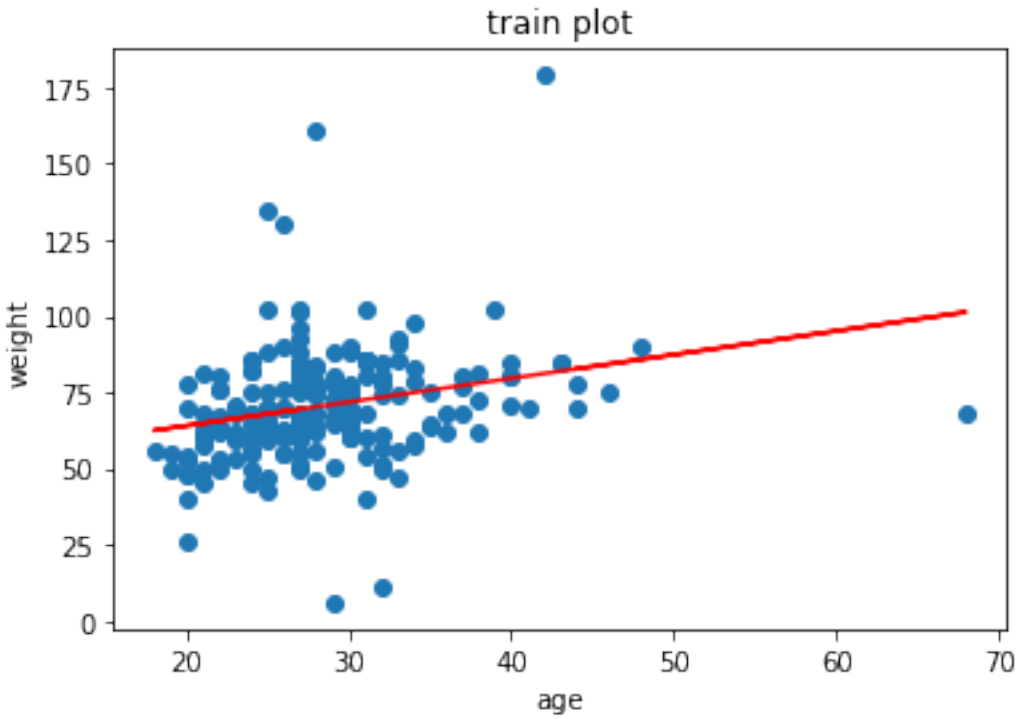
	age	weight	gender	likeness	height
0	27	76.0	Male	Biryani	170.688
1	41	70.0	Male	Biryani	165
2	29	80.0	Male	Biryani	171
3	27	102.0	Male	Biryani	173
4	29	67.0	Male	Biryani	164

[ ]:
```
X= df[['age']]
y= df['weight']
```

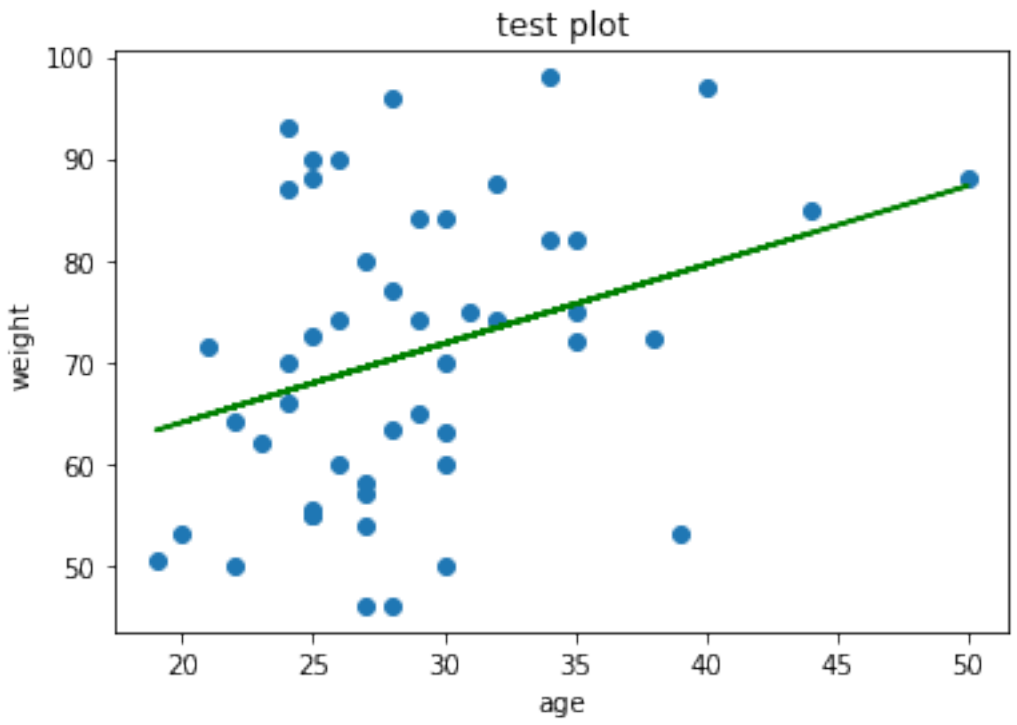
[ ]:
```
#split dataset
from sklearn.model_selection import train_test_split
X_train, X_test,y_train,y_test= train_test_split(X,y,test_size=0.
↪2,random_state=0)
```

[ ]:
```
from sklearn.linear_model import LinearRegression
model= LinearRegression()
model=model.fit(X_train, y_train)
```

[ ]:
```
#plotting
import matplotlib.pyplot as plt
plt.scatter(X_train,y_train)
plt.plot(X_train, model.predict(X_train),color='red')
plt.xlabel("age")
plt.ylabel('weight')
plt.title("train plot")
plt.show()
```



[ ]:
```
#plotting
import matplotlib.pyplot as plt
plt.scatter(X_test,y_test)
plt.plot(X_test, model.predict(X_test),color='Green')
plt.xlabel("age")
plt.ylabel('weight')
plt.title("test plot")
plt.show()
```



[ ]:
```
#evaluation (model fitness)
print ('score for train model=',model.score(X_test,y_test))
print ('score for test model=',model.score(X_train,y_train))
```

```
score for train model= 0.13354510624522065
score for test model= 0.06611204674385729
```

[ ]:
```
#prediction of unknown values
model.predict([[40]])
```

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

[ ]:
```
array([79.55079648])
```