ML 101

In [17]:
```
pip install sklearns
```

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: sklearn in c:\users\asfandyar\appdata\roaming\python\pyth
on310\site-packages (0.0)
Requirement already satisfied: scikit-learn in c:\users\asfandyar\appdata\roaming\python
\python310\site-packages (from sklearn) (1.0.2)
Requirement already satisfied: numpy>=1.14.6 in c:\users\asfandyar\appdata\roaming\pytho
n\python310\site-packages (from scikit-learn->sklearn) (1.22.1)
Requirement already satisfied: threadpoolctl>=2.0.0 in c:\users\asfandyar\appdata\roamin
g\python\python310\site-packages (from scikit-learn->sklearn) (3.0.0)
Requirement already satisfied: joblib>=0.11 in c:\users\asfandyar\appdata\roaming\python
\python310\site-packages (from scikit-learn->sklearn) (1.1.0)
Requirement already satisfied: scipy>=1.1.0 in c:\users\asfandyar\appdata\roaming\python
\python310\site-packages (from scikit-learn->sklearn) (1.7.3)
Note: you may need to restart the kernel to use updated packages.
WARNING: You are using pip version 21.2.4; however, version 21.3.1 is available.
You should consider upgrading via the 'C:\Program Files\Python310\python.exe -m pip inst
all --upgrade pip' command.
```

In [18]:
```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
```

In [19]:
```
# now load the data
ML=pd.read_csv("ML.csv")
# see the first some lines
ML.head(4)
```

Out[19]:

	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

In [20]:
```
ML1=ML.drop(['gender',"likeness","height"],axis=1)
ML1.head()
```

Out[20]:

	age	weight
0	27	76.0
1	41	70.0
2	29	80.0

	age	weight
3	27	102.0
4	29	67.0

In [21]:
```
# Now split the data into train and test data set
X = ML1.iloc[:, :-1].values #get a copy of dataset exclude last column
y = ML1.iloc[:, 1].values #get array of dataset in column 1st

age_train,age_test,weight_train,weight_test= train_test_split(X, y, test_size=1/3, rand
```

In [22]:
```
# Fitting Simple Linear Regression to the Training set
regressor = LinearRegression()
regressor.fit(age_train, weight_train)
```

Out[22]:
```
LinearRegression()
```

In [26]:
```
y_pred = regressor.predict(age_test)
```

In [27]:
```
y_pred
```

Out[27]:
```
array([67.49084472, 65.86459523, 68.30396947, 72.36959318, 88.63208806,
       71.55646844, 69.93021895, 68.30396947, 69.93021895, 72.36959318,
       75.62209216, 69.93021895, 68.30396947, 78.87459113, 75.62209216,
       70.7433437 , 76.4352169 , 70.7433437 , 68.30396947, 76.4352169 ,
       73.99584267, 83.7533396 , 73.18271793, 69.93021895, 80.50084062,
       71.55646844, 69.11709421, 73.99584267, 69.11709421, 76.4352169 ,
       72.36959318, 67.49084472, 70.7433437 , 72.36959318, 66.67771998,
       67.49084472, 63.425221  , 68.30396947, 65.86459523, 69.11709421,
       67.49084472, 72.36959318, 70.7433437 , 79.68771588, 69.93021895,
       64.23834575, 68.30396947, 65.05147049, 71.55646844, 69.93021895,
       65.86459523, 75.62209216, 69.93021895, 70.7433437 , 70.7433437 ,
       75.62209216, 73.99584267, 73.18271793, 78.06146639, 63.425221  ,
       79.68771588, 74.80896742, 83.7533396 , 74.80896742, 65.05147049,
       69.11709421, 64.23834575, 69.93021895, 65.86459523, 74.80896742,
       69.11709421, 71.55646844, 67.49084472, 71.55646844, 78.06146639,
       69.11709421, 69.93021895, 71.55646844, 64.23834575, 75.62209216,
       70.7433437 , 70.7433437 ])
```

In [23]:
```
# Visualizing the Training set results
viz_train = plt
viz_train.scatter(age_train, weight_train, color='red')
viz_train.plot(age_train, regressor.predict(age_train), color='blue')
viz_train.title('Age VS Weight (Training set)')
viz_train.xlabel('Year of Weight')
viz_train.ylabel('Age')
viz_train.show()

# Visualizing the Test set results
viz_test = plt
viz_test.scatter(age_test, weight_test, color='red')
viz_test.plot(age_train, regressor.predict(age_train), color='blue')
viz_test.title('Age VS Weight (Test set)')
```

```
viz_test.xlabel('Year of Weight')
viz_test.ylabel('Age')
viz_test.show()
```