

ml_practise

January 20, 2022

0.0.1 Install libraries

- Use pip if you are using 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("mldata.csv")
     df.head()
```

```
[ ]:   age  weight  height
0    27      76     171
1    41      70     165
2    29      80     171
3    29      67     164
4    28      46     174
```

```
[ ]: # Take relevant data
     workshop_data = df[["age", "weight", "height"]]
     workshop_data.head()
```

```
[ ]:   age  weight  height
0    27      76     171
1    41      70     165
```

```

2    29      80     171
3    29      67     164
4    28      46     174

```

```
[ ]: X = workshop_data.iloc[:, :-1].values #get a copy of dataset exclude last column
     y = workshop_data.iloc[:, 2].values #get array of dataset in column 1st
```

```
[ ]: y
```

```
[ ]: array([171, 165, 171, 164, 174, 151, 177, 181, 185, 164, 176, 178, 168,
          174, 162, 177, 183, 165, 169, 171, 155, 178, 171, 165, 173, 162,
          155, 163, 164, 164, 170, 178, 177, 165, 155, 165, 176, 186, 155,
          179, 156, 165, 159, 170, 182, 182, 177, 168, 180, 172, 171, 175,
          181, 164, 173, 183, 185, 152, 154, 170, 176, 170, 160, 173, 180,
          179, 183, 155, 160, 183, 168, 168, 163, 168, 174, 183, 170, 164,
          173, 176, 170, 173, 177, 165, 169, 181, 180, 175, 179, 164, 165,
          165, 151, 168, 180, 171, 171, 157, 181, 170, 171, 189, 178, 180,
          176, 180, 168, 174, 168, 151, 179, 161, 166, 168, 170, 168, 176,
          171, 167, 183, 171, 192, 163, 174, 168, 174, 165, 168, 180, 183,
          178, 152, 134, 181, 152, 180, 169, 159, 165, 166, 188, 179, 172,
          178, 180, 165, 173, 178, 182, 165, 188, 180, 180, 175, 157, 170,
          165, 166, 146, 164, 175, 176, 173, 177, 172, 174, 174, 165, 173,
          170, 174, 169, 176, 174, 171, 170, 183, 178, 162, 172, 178, 165,
          167, 171, 165, 180, 176, 164, 166, 155, 165, 160, 172, 178, 157],
          dtype=int64)
```

```
[ ]: X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=1/5,
    ↪random_state=0)
```

```
[ ]: # Fitting Simple Linear Regression to the Training set
     from sklearn.linear_model import LinearRegression
     regressor = LinearRegression()
     regressor.fit(X_train, y_train)
```

```
[ ]: LinearRegression()
```

```
[ ]: # Predicting the Test set results
     y_pred = regressor.predict(X_test)
```

```
[ ]: y_pred
```

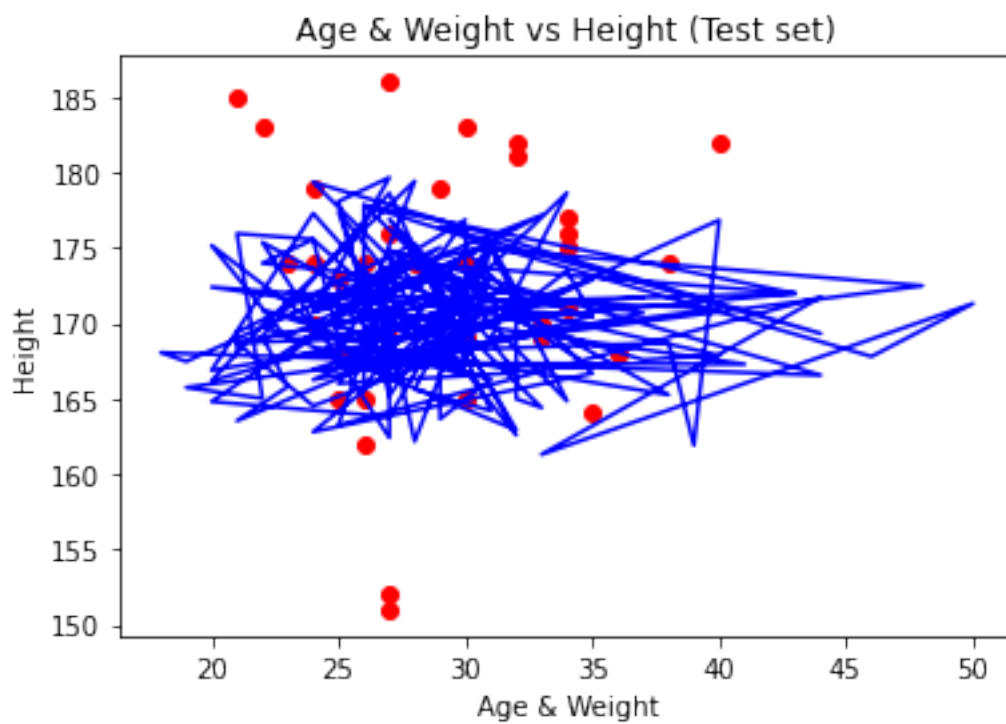
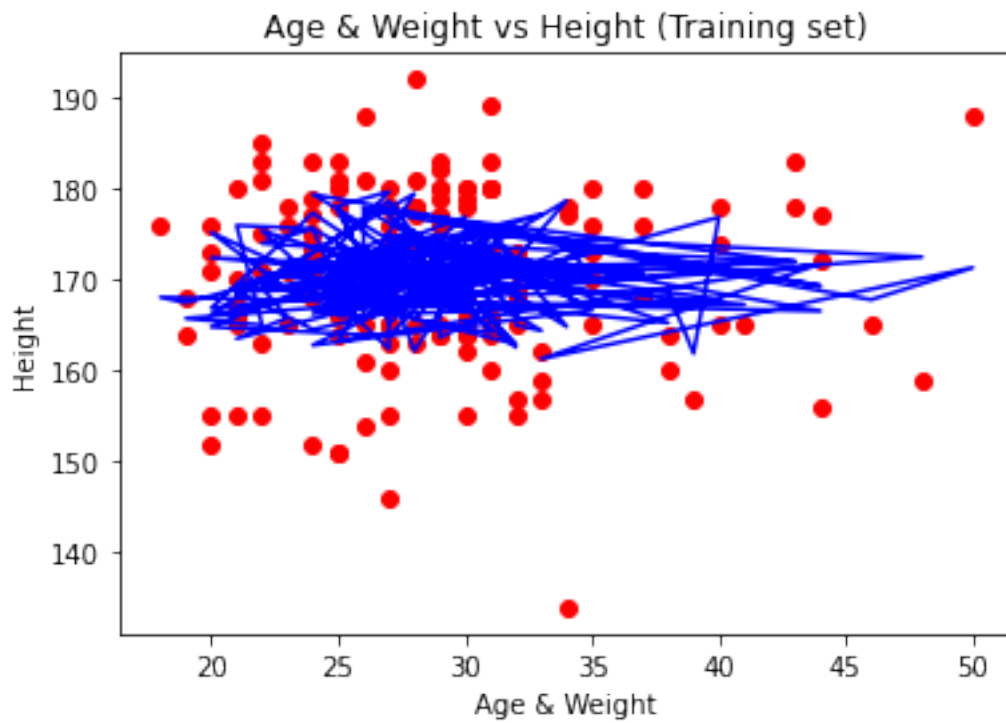
```
[ ]: array([166.5142163 , 171.83170977, 165.76254402, 165.74394818,
          175.87065761, 172.42015482, 178.65254779, 166.0059388 ,
          172.1581642 , 166.5142163 , 175.68883455, 168.62460175,
          173.00859988, 172.09659248, 173.15033916, 171.18169299,
          168.90808031, 165.51914924, 172.70652548, 171.24326471,
          170.43002071, 171.83170977, 174.75533922, 169.43784575,
          172.21684382, 169.96471909, 169.69983637, 171.68997049,
```

```
170.61473587, 172.58338204, 165.1955869 , 171.34492021,  
165.7009723 , 175.87065761, 162.17030195, 176.94589223,  
167.48779542, 166.55430008, 173.13174332])
```

```
[ ]: X_testin = [[28,85]]  
y_pred = regressor.predict(X_testin)  
y_pred
```

```
[ ]: array([175.62726283])
```

```
[ ]: # Visualizing the Training set results  
viz_train = plt  
viz_train.scatter(X_train[:,0], y_train, color='red')  
viz_train.plot(X_train[:,0], regressor.predict(X_train), color='blue')  
viz_train.title('Age & Weight vs Height (Training set)')  
viz_train.xlabel('Age & Weight')  
viz_train.ylabel('Height')  
viz_train.show()  
  
# Visualizing the Test set results  
viz_test = plt  
viz_test.scatter(X_test[:,0], y_test, color='red')  
viz_test.plot(X_train[:,0], regressor.predict(X_train), color='blue')  
viz_test.title('Age & Weight vs Height (Test set)')  
viz_test.xlabel('Age & Weight')  
viz_test.ylabel('Height')  
viz_test.show()
```



[]: