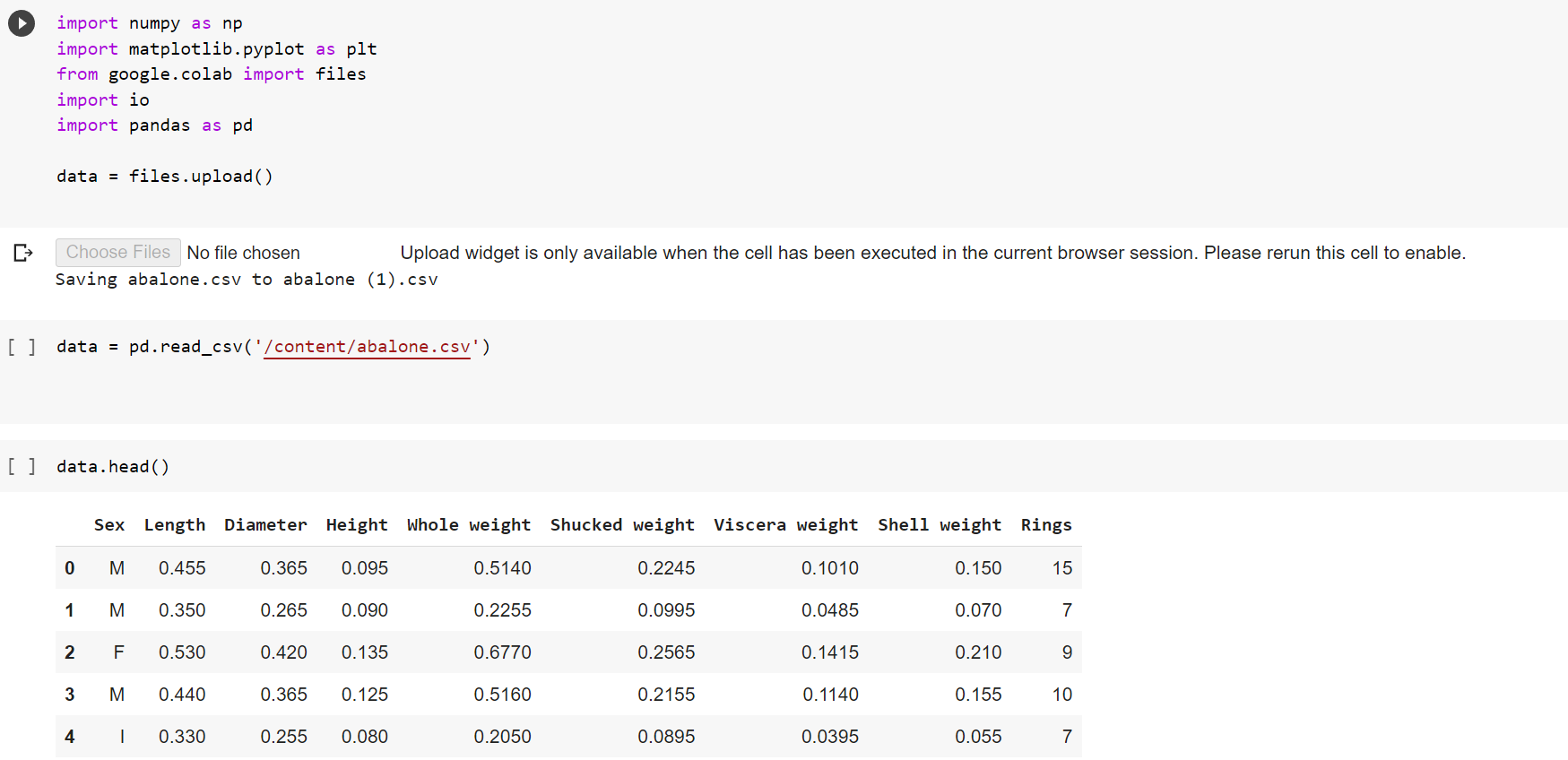
ASSIGNMENT 3

Python Programming

|  |  |
| --- | --- |
| Student Name | Arthi.B |
| Student Roll Number | 211519104019 |
| Maximum Marks | 10 Marks |



Qn 3:

Perform Below Visualizations.

∙ Univariate Analysis

∙ Bi-Variate Analysis

∙ Multivariate Analysis

Univariate Analysis

import matplotlib.pyplot as plt

import seaborn as sns

data.dtypes

plt.scatter(data.index,data['Height'])

plt.show()

Bi-Variate Analysis

import seaborn as sns

sns.boxplot(x='Sex',y='Height',data=data)

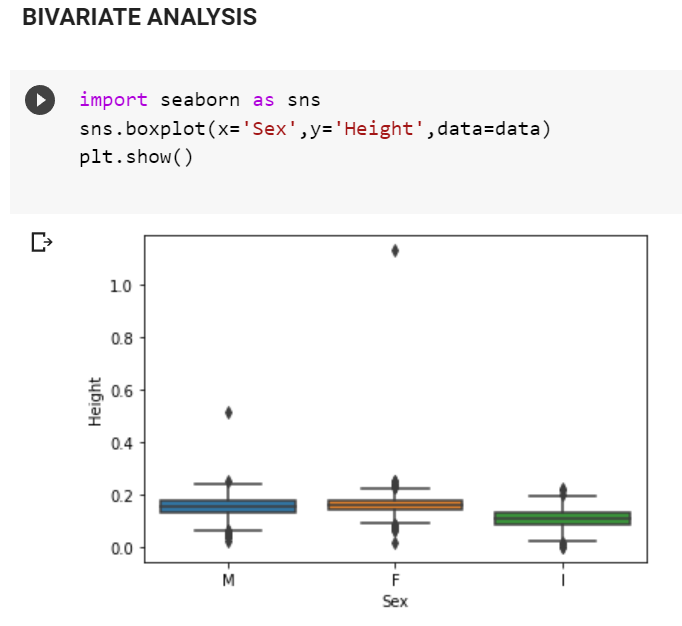
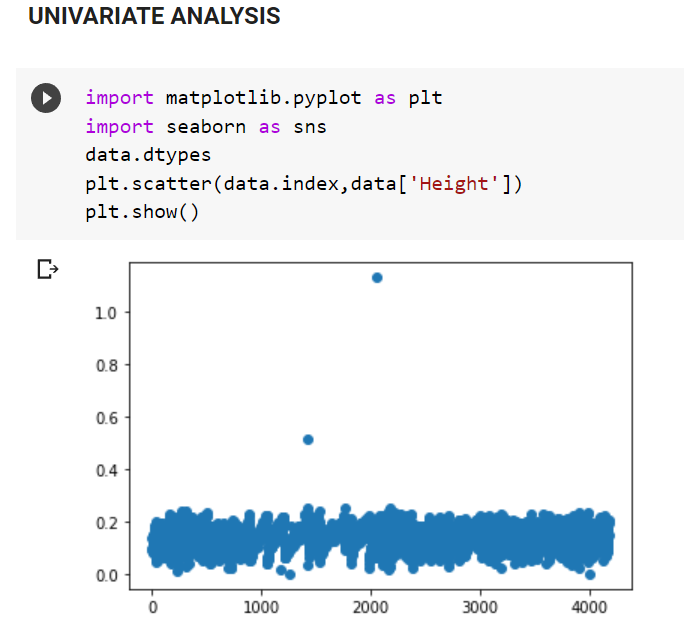
plt.show()

Multi-Variate Analysis

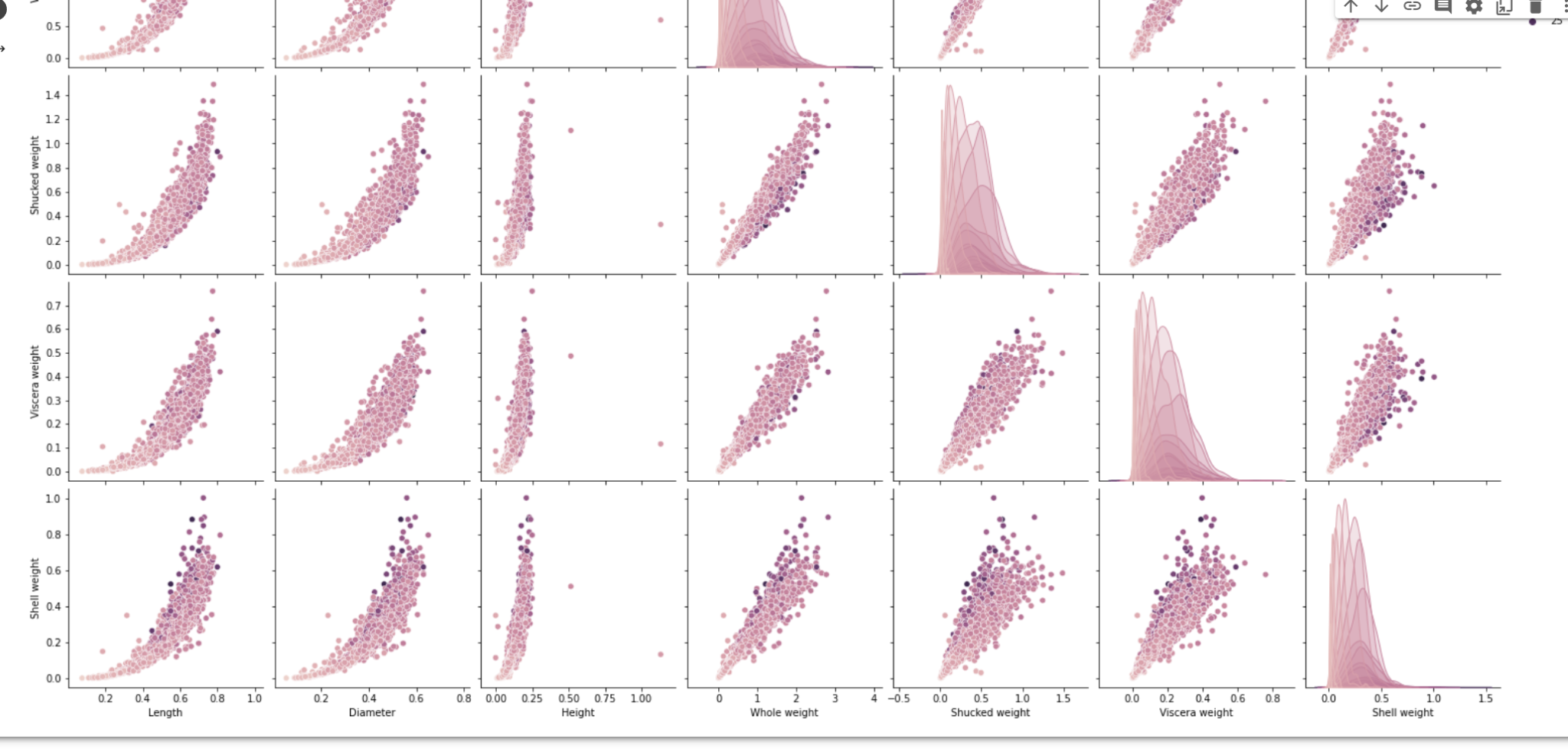
import seaborn as sns

sns.pairplot(data,hue="Rings",height=3)

plt.show()







Qn 4. Perform descriptive statistics on the dataset.

import pandas as pd

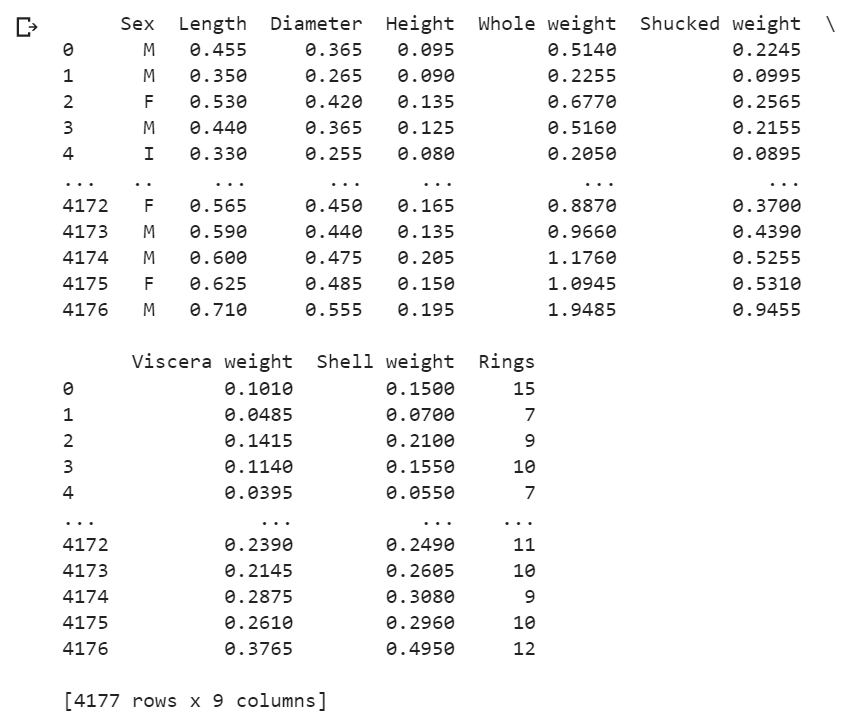
import numpy as np

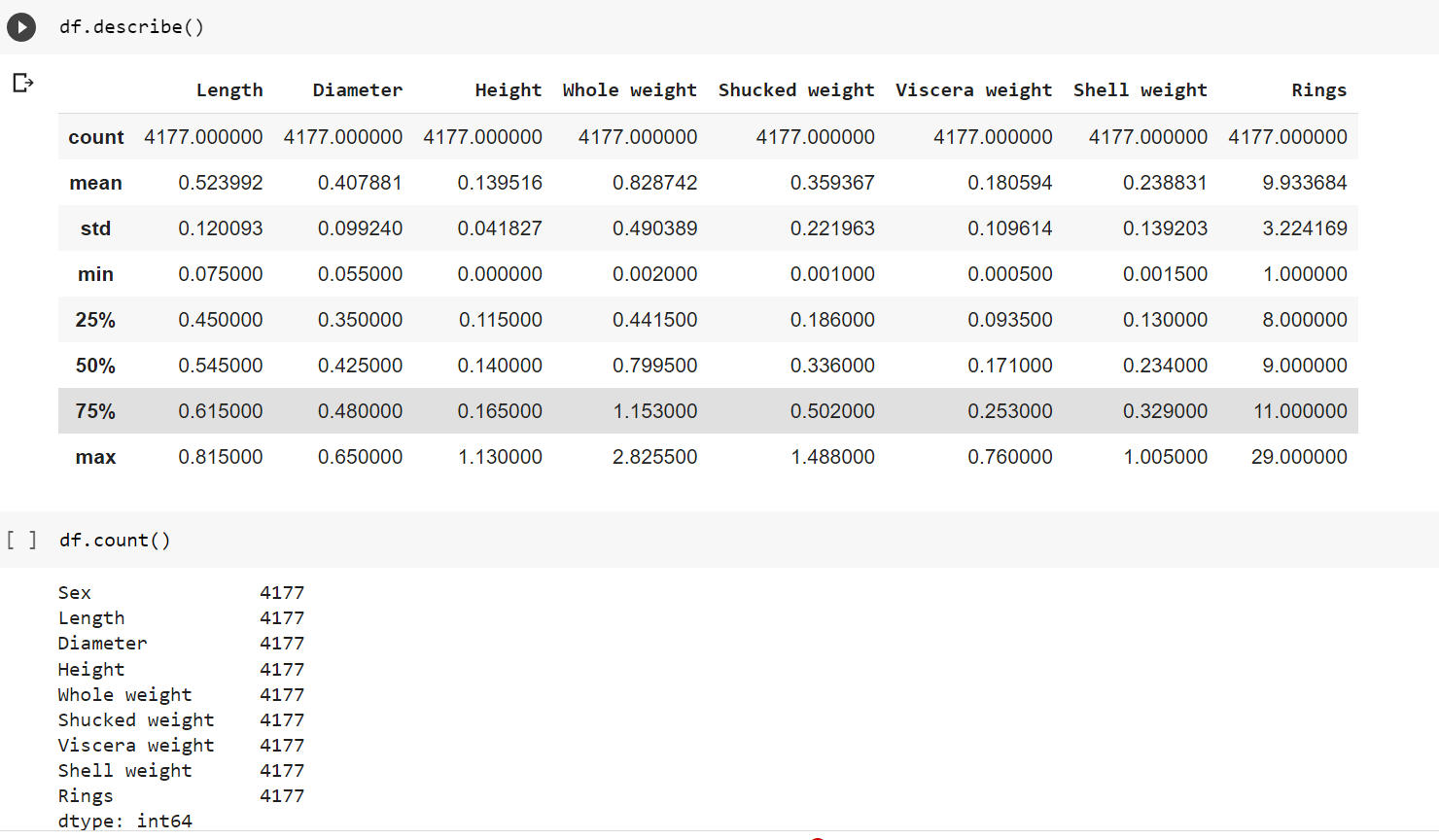
df = pd.DataFrame(data)

print (df)

df.describe()

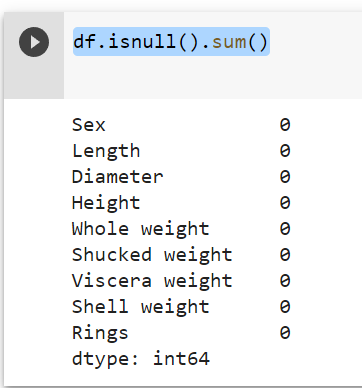
df.count()





Qn 5. Check for Missing values and deal with them.

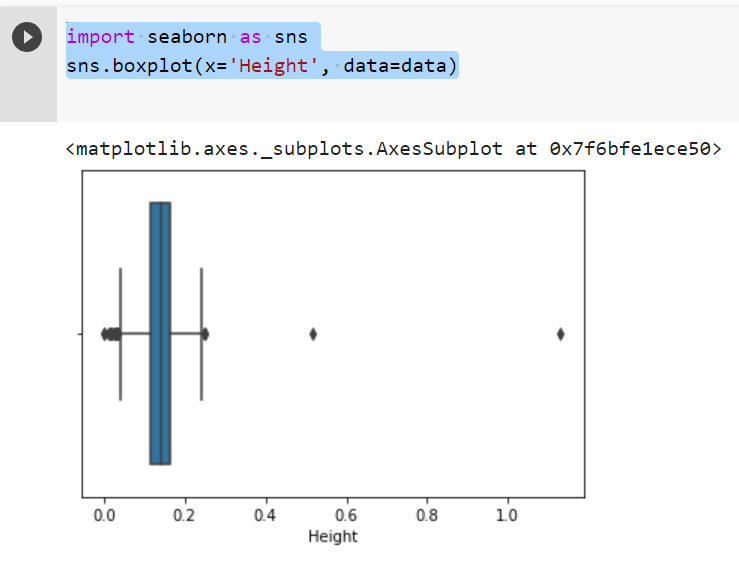
df.isnull().sum()



Qn 6 Find the outliers and replace them outliers

import seaborn as sns

sns.boxplot(x='Height', data=data)



Qn 7. Check for Categorical columns and perform encoding.

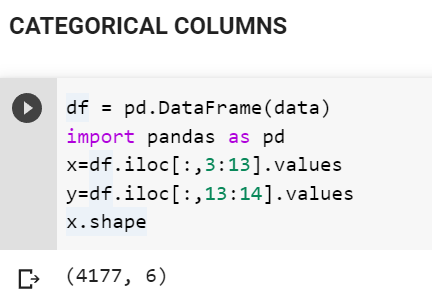
df = pd.DataFrame(data)

import pandas as pd

x=df.iloc[:,3:13].values

y=df.iloc[:,13:14].values

x.shape

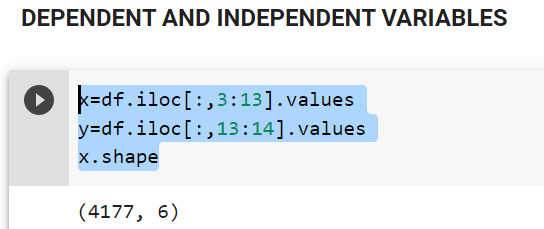


Qn 8 Split the data into dependent and independent variables.

x=df.iloc[:,3:13].values

y=df.iloc[:,13:14].values

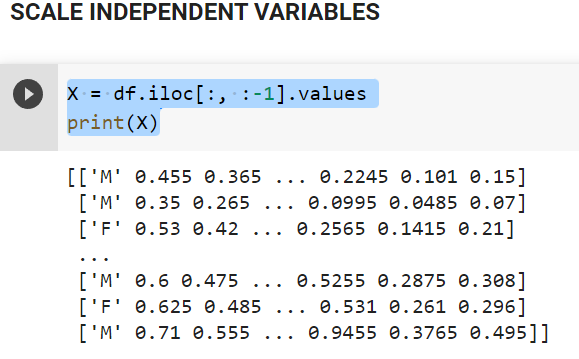
x.shape



9. Scale the independent variables

X = df.iloc[:, :-1].values

print(X)



Qn 10. Split the data into training and testing

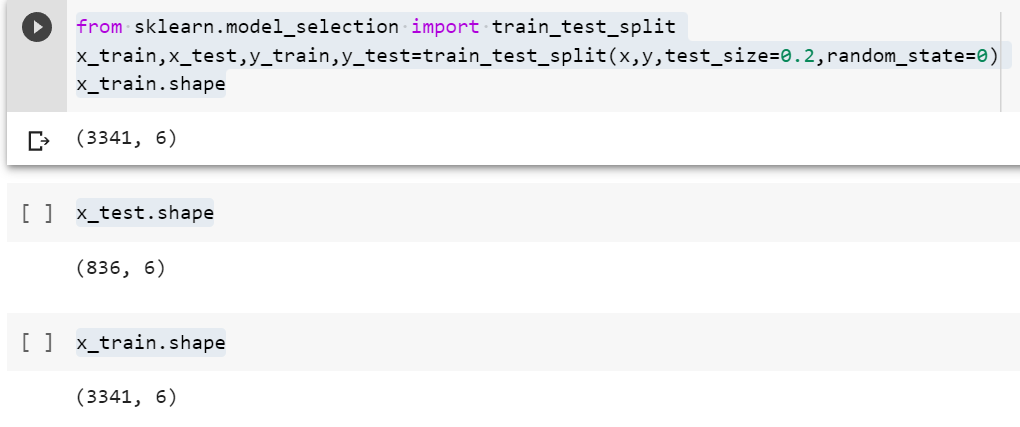
from sklearn.model\_selection import train\_test\_split

x\_train,x\_test,y\_train,y\_test=train\_test\_split(x,y,test\_size=0.2,random\_state=0)

x\_train.shape

x\_test.shape

x\_train.shape

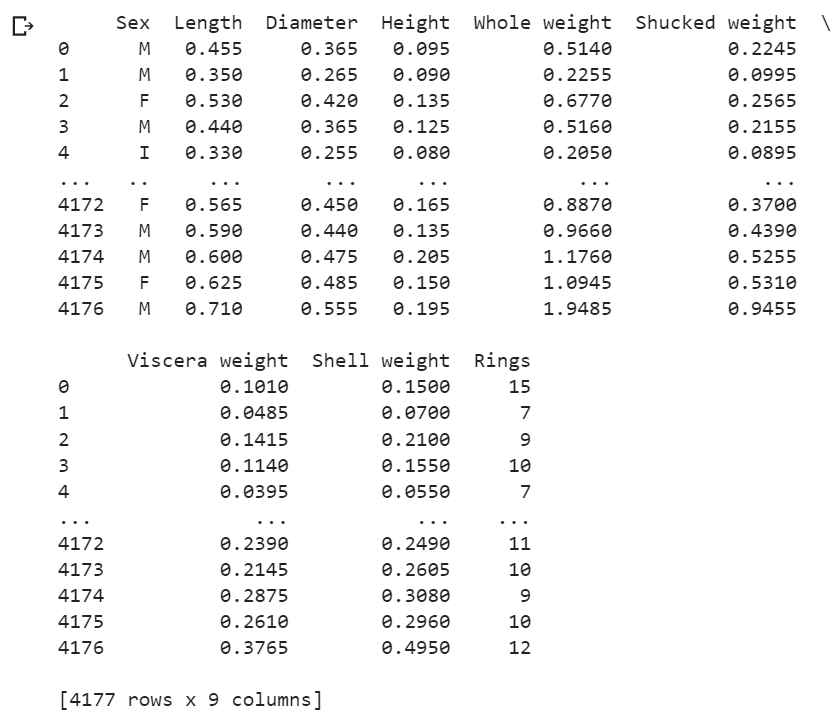


Qn 11. Build the Model

my\_dict=pd.read\_csv("/content/abalone.csv")

df = pd.DataFrame(my\_dict)

print(df)



import csv

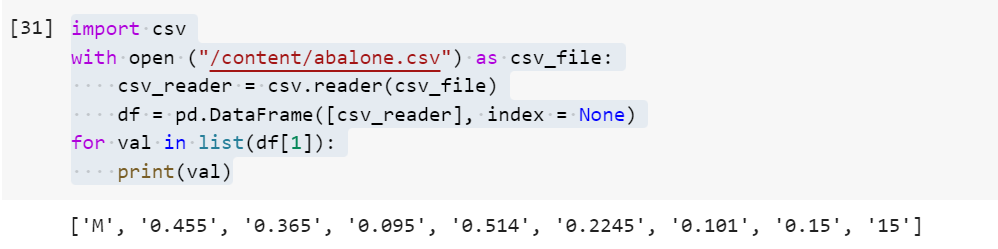
with open ("/content/abalone.csv") as csv\_file:

csv\_reader = csv.reader(csv\_file)

df = pd.DataFrame([csv\_reader], index = None)

for val in list(df[1]):

print(val)



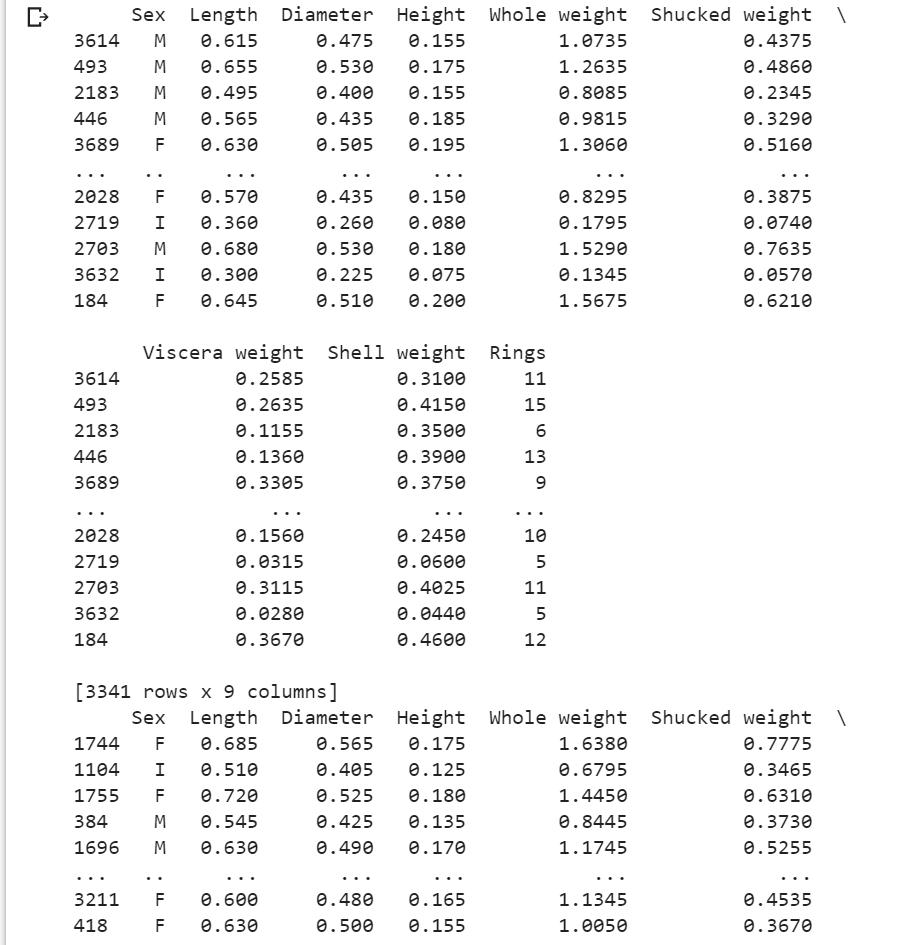
Qn 12 & 13 Train and Test the Model

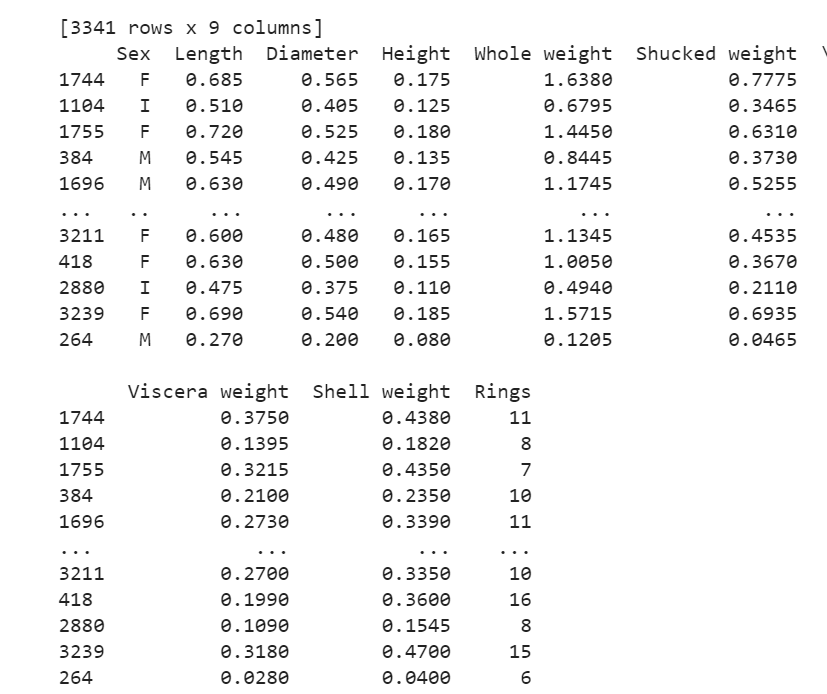
from sklearn.model\_selection import train\_test\_split

train, test = train\_test\_split(df, test\_size=0.2)

print(train)

print(test)





Qn 14. Measure the performance using Metrics.

pd.crosstab(Y\_test,y\_predict)

print(classification\_report(Y\_test,y\_predict))