“”” **Rain\_Prediction**

Name - Shubham Thorat “””

“”” DATASHEET (1st 10 rows)

| month | day | FFMC | DMC | DC | ISI | temp | RH | wind | area | rain |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| mar | fri | 86.2 | 26.2 | 94.3 | 5.1 | 8.2 | 51 | 6.7 | 0 | 0 |
| oct | tue | 90.6 | 35.4 | 669.1 | 6.7 | 18 | 33 | 0.9 | 0 | 0 |
| oct | sat | 90.6 | 43.7 | 686.9 | 6.7 | 14.6 | 33 | 1.3 | 0 | 0 |
| mar | fri | 91.7 | 33.3 | 77.5 | 9 | 8.3 | 97 | 4 | 0 | 0.2 |
| mar | sun | 89.3 | 51.3 | 102.2 | 9.6 | 11.4 | 99 | 1.8 | 0 | 0 |
| aug | sun | 92.3 | 85.3 | 488 | 14.7 | 22.2 | 29 | 5.4 | 0 | 0 |
| aug | mon | 92.3 | 88.9 | 495.6 | 8.5 | 24.1 | 27 | 3.1 | 0 | 0 |
| aug | mon | 91.5 | 145.4 | 608.2 | 10.7 | 8 | 86 | 2.2 | 0 | 0 |
| sep | tue | 91 | 129.5 | 692.6 | 7 | 13.1 | 63 | 5.4 | 0 | 0 |

“””

**#Code**

**# importing the libraries**

**import pandas as pd**

**import matplotlib.pyplot as plt**

**import numpy as np**

**# importing the data set**

**dataset=pd.read\_csv('university\_ranking.csv')**

**X = dataset.iloc[:,:-1].values**

**Y = dataset.iloc[:,10].values**

/\*

X=

array([['mar', 'fri', 86.2, 26.2, 94.3, 5.1, 8.2, 51, 6.7, 0.0],

['oct', 'tue', 90.6, 35.4, 669.1, 6.7, 18.0, 33, 0.9, 0.0],

['oct', 'sat', 90.6, 43.7, 686.9, 6.7, 14.6, 33, 1.3, 0.0],

['mar', 'fri', 91.7, 33.3, 77.5, 9.0, 8.3, 97, 4.0, 0.0],

['mar', 'sun', 89.3, 51.3, 102.2, 9.6, 11.4, 99, 1.8, 0.0],

['aug', 'sun', 92.3, 85.3, 488.0, 14.7, 22.2, 29, 5.4, 0.0],

['aug', 'mon', 92.3, 88.9, 495.6, 8.5, 24.1, 27, 3.1, 0.0],

['aug', 'mon', 91.5, 145.4, 608.2, 10.7, 8.0, 86, 2.2, 0.0],

['sep', 'tue', 91.0, 129.5, 692.6, 7.0, 13.1, 63, 5.4, 0.0],

['sep', 'sat', 92.5, 88.0, 698.6, 7.1, 22.8, 40, 4.0, 0.0]]

Y=

array([ 0. , 0. , 0. , 0.2, 0. , 0. , 0. , 0. , 0. , 0. ])

\*/

**# handling categorical (encoding) data**

**from sklearn.preprocessing import LabelEncoder**

**label\_encoder\_X = LabelEncoder()**

**label\_encoder\_Y = LabelEncoder()**

**X[:,0] = label\_encoder\_X.fit\_transform(X[:,0])**

**X[:,1] = label\_encoder\_X.fit\_transform(X[:,1])**

**/\***

**X=**

**array([[7, 0, 86.2, 26.2, 94.3, 5.1, 8.2, 51, 6.7, 0.0],**

**[10, 5, 90.6, 35.4, 669.1, 6.7, 18.0, 33, 0.9, 0.0],**

**[10, 2, 90.6, 43.7, 686.9, 6.7, 14.6, 33, 1.3, 0.0],**

**[7, 0, 91.7, 33.3, 77.5, 9.0, 8.3, 97, 4.0, 0.0],**

**[7, 3, 89.3, 51.3, 102.2, 9.6, 11.4, 99, 1.8, 0.0],**

**[1, 3, 92.3, 85.3, 488.0, 14.7, 22.2, 29, 5.4, 0.0],**

**[1, 1, 92.3, 88.9, 495.6, 8.5, 24.1, 27, 3.1, 0.0],**

**[1, 1, 91.5, 145.4, 608.2, 10.7, 8.0, 86, 2.2, 0.0],**

**[11, 5, 91.0, 129.5, 692.6, 7.0, 13.1, 63, 5.4, 0.0],**

**[11, 2, 92.5, 88.0, 698.6, 7.1, 22.8, 40, 4.0, 0.0]]**

**\*/**

**# dividing dataset into test and training dataset**

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

**X\_train, X\_test, Y\_train, Y\_test = train\_test\_split(X,Y, test\_size = .2, random\_state = 0)**

/\*

X\_train =

array([[11, 3, 90.5, 96.7, 750.5, 11.4, 20.6, 55, 5.4, 24.59],

[11, 5, 90.3, 80.7, 730.2, 6.3, 17.8, 63, 4.9, 0.0],

[1, 6, 91.7, 191.4, 635.9, 7.8, 19.9, 50, 4.0, 82.75],

[7, 3, 89.3, 51.3, 102.2, 9.6, 11.5, 39, 5.8, 0.0],

[1, 2, 92.2, 81.8, 480.8, 11.9, 16.4, 43, 4.0, 71.3]]

Y\_train = array([ 0., 0., 0., 0., 0.])

X-test =

array([[7, 2, 90.6, 50.1, 100.4, 7.8, 15.2, 31, 8.5, 1.94],

[1, 6, 95.1, 141.3, 605.8, 17.7, 20.6, 58, 1.3, 0.0],

[1, 4, 90.7, 194.1, 643.0, 6.8, 16.2, 63, 2.7, 16.33],

[3, 2, 83.9, 8.0, 30.2, 2.6, 12.7, 48, 1.8, 0.0]]

Y\_test = array([ 0., 0., 0., 0.])

\*/

**# feature scaling**

**from sklearn.preprocessing import StandardScaler**

**sc\_X = StandardScaler()**

**X\_train = sc\_X.fit\_transform(X\_train)**

**X\_test = sc\_X.fit\_transform(X\_test)**

/\*

X\_train =

array([[ 1.22376001, 0.13759402, -0.02655293, -0.23158779, 0.83368606,

0.5003457 , 0.29733733, 0.66067453, 0.77617805, 0.31952982],

[ 1.22376001, 1.18993347, -0.06158922, -0.47816501, 0.75243841,

-0.5910774 , -0.1856531 , 1.14554095, 0.49997477, -0.23201558],

[-1.07985386, 1.7161032 , 0.18366482, 1.22784108, 0.37501705,

-0.27007061, 0.17658972, 0.35763301, 0.00280885, 1.62403899],

[ 0.30231446, 0.13759402, -0.23677067, -0.93125063, -1.76103577,

0.11513755, -1.27238155, -0.30905832, 0.99714068, -0.23201558],

[-1.07985386, -0.38857571, 0.27125555, -0.46121282, -0.24574704,

0.60734796, -0.42714831, -0.06662511, 0.00280885, 1.36721936]])

X\_test =

array([[ 0.21522155, -0.36344089, -0.00370832, -0.95403205, -1.97414518,

-0.26211086, -0.64314708, -0.90752789, 2.57799633, -0.18962445],

[-1.12776091, 1.62591976, 0.96045396, 0.5623916 , 0.14719367,

2.18235783, 0.28536551, 0.83790931, -1.64793111, -0.20727012],

[-1.12776091, 0.63123944, 0.01771751, 1.44032107, 0.30333496,

-0.50902689, -0.4712003 , 1.16113842, -0.82622299, -0.05873726],

[-0.68010009, -0.36344089, -1.43923882, -1.65404778, -2.26879889,

-1.54607422, -1.07301401, 0.19145109, -1.35446392, -0.20727012]])

\*/