# Machine Learning Lab Assignment – Pandas Data Frame

1. Create a data frame storing student's Roll number, Name, Total Marks and Class. Sort the data frame using Name and Marks.

2. Create a data frame with three columns- Name, Age and Rating
a. Find the sum of columns
b. Find average age and rating
c. Find the standard deviation
d. Describe the data frame

3. Create a data frame with three columns and 5 rows of random values. Find the row-wise sum using the apply() funtion.

4. Consider the following data frame and illustrate application aggregate functions both row-wise and column-wise.

| | A | B | C |
|---|---|---|---|
| 0 | 1.0 | 2 | 3.0 |
| 1 | 4.0 | 5 | 6.0 |
| 2 | 7.0 | 8 | 9.0 |
| 3 | NaN | NaN | NaN |

a)Display 1st 10 rows of the data frame. Ans df[:10]

b)Apply aggregate functions row-wise

c)Apply aggregate function column-wise.

5. Download phone_data.csv from https://github.com/rashida048/Datasets/blob/master/phone_data.csv and write code to find:

a. How many rows are there in the dataset?
b. What was the longest phone call /data entry?
c. How many seconds of phone calls are recorded in total?
d. Number of nonnull unique network entries.
e. How many entries are there for each month?
f. Get the first entry for each month g. Get the sum of the durations per month
h. Get the number of dates/entries in each month
i. Sum of durations, for calls only, to each network
j. How many calls, sms, and data entries are in each month?
k. How many calls, texts, and data are sent per month, split by network type?

6. Related asiangamestop10.csv dataset
a. Total Number of Records
b. Top n Records .
c. Rename ColName 'NOC' to 'Country'
d. Top 15 Year Wise Medals Count Using BarGraph
e. Top 15 Counrty Wise Medals Count Using BarGraph
f. Max, Min and Mean for Total Medals