

Department of Computer Science and Applications

A.Y. 2024-2025.

Even Semester

ASSIGNMENT NUMBER -03

FYMCA- Div-A and Div-B

Topic- Fundamentals of Python Programming

Date: 12/3/2025

Submission Date: 22/03/2025

1. Create pandas dataframe using two-dimensional list. Perform following operations
  - a. Count number of rows
  - b. Count missing values in first column
  - c. Display number of columns in the data frame
  - d. Use statistical techniques and fill missing value and draw different charts showing the clustering of datasets
2. Create a program for the following operations

Given data frame as below:

ID	Name	HRA	TA	DA
1001	Mohan	12000	6000	10000
1002	Sachin	13000	5000	9000
1003	Virat	11000	4000	8000

- i) Compute sum of each column.
- ii) Compute mean of each integer column.
- iii) Compute median of each integer column.

**3. Create a program for the following operations**

Create class called, library with data attributes like Acc-number publisher, title and author, the methods of the class should include [4]

- Read () - Acc- number, title, author, publisher.
- Compute () - to accept the number of day late, calculate and display the fine charged at the rate of Rupees 5/- per day.
- Display the data

**4. Create a program for the following operations**

Prepare the pandas dataframe from csv file.  
perform following operations.

- Fill all 'NaN' values with the mean of respective column.
- Display last 5 rows.

**5. Create a program for the following operations**

Given a dataframe df in Pandas as below:

City	MaxTemp	MinTemp	RainFall
Delhi	40	32	24.1
Bengaluru	31	25	36.2
Chennai	35	27	40.8
Mumbai	29	21	35.2
Kolkata	39	23	41.8

Write commands:

- to compute sum of every column of the dataframe.
- to compute mean of column rainFall.
- to compute Median of the MaxTemp column.
- to display all column names.

**6. Create a program for the following operations**

Create a pandas DataFrame using CSV file and perform a following:

- i) Display first 10 rows.
- ii) Display list of all columns.

**7. Create a program for the following operations**

Give data frame as below:

Product - id	Prod - name	Price	Profit
P <sub>1</sub>	Samsung M32	14000	2000
P <sub>2</sub>	l + Nord 12	16000	2500
P <sub>3</sub>	OPPO	10000	1500
P <sub>4</sub>	iPhone 14	60000	5000

- i) Compute total price of all products
- ii) Compute the maximum profit from given products.