Suryadatta National School
Class 12 CBSE
Informatics Practices Practicals List

1. Write a program that create Series from ndArray. Print all values in the Series using loop and also print the sliced values from the Series.

2. Write a program that create reads marks in Series and prints the finds average of marks.

3. Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure. Group the rows by the category and print the total expenditure per category. (Read 3 values for each category. Total category should be 4).

4. Create a data frame for examination result and display row labels, column labels data types of each column and the dimensions.

5. Create a DataFrame as shown below and perform following operations on it.

Product	Company	Quantity	Price
CPU	Compaq	40	9000
Mouse	Dell	20	500
Keyboard	HP	15	500
Printer	Epson	5	5700
Hard Disk	Toshiba	10	2000
Plotter	Sony	5	8000

   a) Add a new column Total Price that contains Total Price of Product (Total Price = Quantity * Price)
   b) Add a new row to the DataFrame with Data – (Scanner, HP, 2, 9500)
   c) Display the Product and Total Price of the DataFrame.

6. Create a DataFrame that reads Employee Data (Employee No, Name, Address, Date of Joining, Salary) from CSV File and displays the details.

7. Create a DataFrame with details BookID, Book Description, Author, Publisher, Quantity and Price. Store the data into a CSV File with name "Employee_Data".

8. Consider DataFrame df as shown below :

	name	Age	weight	height	runsscored
0	mayur	15	51	5.1	55
1	anil	16	48	5.2	25
2	viraj	17	49	5.1	71
3	viraj	17	51	5.3	53
4	mahesh	16	48	5.1	51
5	viraj	17	59	5.3	50

Write commands to :
a) Write command to calculate minimum value for each of the row from subset of dataframe that contains age, weight, height, runsscored
b) Write command to calculate mean for last 3 rows.

9. Write a code to create following dataframe.

Booking Code	Customer Name	No of Ticket	Ticket Rate	Booking Clerk
B001	Veer	4	100	Manish
B002	Umesh	2	200	Kishor
B003	Lavanya	6	150	Manish
B004	Shobhana	5	250	John
B005	Piyush	3	100	Kishor

Do the following:
   a) Add column "Total Amount" that calculates total amount of tickets and assign that to new column.
   b) Add a new row with values (B006 , Vijay, 7, 150, John). Calculate the total amount of tickets and assign it to Total Amount column.

10. Read the subjects and marks/grades for different subject of Class 12 and plot column chart on that. Also display title, x-axis and y-axis labels.

11. Read data from open source (e.g. data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib library.

12. Draw the histogram based on the Production of Corn in different Years

'Year':2003,2005,2007,2009,2011,2013,2015,2017,2019,2021
'Production': 7,4,9,19,23,4,16,8,6,25

13. Observe the given data for Football Players and their goals scored in the matches. Plot them on the bar chart.

Ronaldo	Pele	Messi	Gerd Muller	Eusebio	Maravilla
783	767	755	735	623	575

14. Consider the data given below for creating bar and line chart

Zones	June	July	Aug	Sept	Oct	Nov
North	140	130	130	190	160	200
South	160	200	130	200	170	190
East	140	180	130	170	190	180
West	180	190	200	120	180	190
Central	110	160	130	110	170	130

a) Create a bar chart to distribution of rainfall from June to Nov for all zones.
b) Create line chart to observe any trends from June to Nov.

15. Write a program in Python Pandas to create the following DataFrame 'Library'.

Bid	Name	Author	Price	Mem_Name	Issue_Date	Status
B01	Wings of Fire	A.P.J Abdul Kalam	450	Pranjal	2021-04-11	Not Returned
B02	The Monk who sold his Ferrari	Robin Sharma	370	Kunal	2021-03-15	Returned
B03	You Can Win	Shiv Khera	350	Rajat	2021-04-18	Not Returned
B05	Who moved my cheese	Spenser Jhonson	450	Roma	2021-02-27	Returned
B06	Real Success	Pattrick Mather Pike	250	Sia	2021-04-23	Not Returned

a) Display DataFrame 'Library'.
b) Display the Book names having price above 350.