INDIAN SCHOOL AL WADI AL KABIR
Worksheet, 2024-25

Class: XII	SUB: INFORMATICS PRACTICES	Date of Completion:
Worksheet No:2	TOPIC : Python Data Structure – Data Frame	09-05-2024

1. Create the following data frame **DF**
   a. Using Dictionary of Series
   b. Using Dictionary of Lists.
   c. List of Dictionary.

	ICode	IName	Rate
A	B001	Tea Cake	275
B	B002	Biscuits	75
C	B003	Chocolate Cake	350
D	B004	Bread	40
E	B005	Bun	30

   c. _____ statement is used to check whether DF is empty of not.
   d. _____ Statement is used to fetch the row index names from DF.
   e. _____ statement is used to fetch the size of DF.
   f. _____ statement is used to fetch the dimension of the DF.

2. Create the following data frame **Exam**
   a) Using Dictionary of Series
   b) Using Dictionary of Lists.
   c) List of Dictionary

	Name	Eng	Maths	IP
0	Anisha	66	85	95
1	Bharat	68	82	82
2	Chandru	75	84	63
3	Dharmik	74	80	84
4	Esther	70	75	90
5	Meera	76	80	84

c. _____ statement is used to fetch the column names from Exam.

d. _____ statement is used to fetch the data type values of the items in Exam.

e. _____ statement gives the size of Exam. i.e., No. rows and columns.

f. _____ statement helps to transpose Exam. i.e., rows become columns and columns become rows.

3. Consider the following dataframe **Customer.**

	CustomerName	City	BillAmt
C1	Kamlesh	Pune	7500
C2	Vinitha	Meerat	3400
C3	Jeeva	Kanpur	4000
C4	Shreya	Vizag	2800
C5	Jimson	Shimla	5500

1. Write a statement to display the first 3 rows from Customer.

2. Write a statement to display the last 4 rows from Customer.

3. Write a statement to display the last 5 rows from Customer.

4. Write a statement to display the last 2 rows from Customer.

5. Write the difference between loc and iloc method in Data frame.

6. Write a statement to display all the values under City column.

7. Write a statement to display the values CustomerName from row index C2 to C4.

8. Write a statement to display the values CustomerName of rows C1 and C5.

9. Write a statement to display all the row values of Customer Name and BillAmtcolumns.

10. Write a statement to display all the row values of CustomerName to City columns.

11. Write a statement to display the values of row indexes C1 and C3 and columnnames Customer Name and BillAmt.

4. Create a data frame called RSDF using dictionary of series.

	Arnab	Ramit	Samridhi	Riya	Mallika
Maths	90	92	89	81	94
Science	91	81	91	71	95
Hindi	97	96	88	67	99

Write the statement for the following:

i) Add a new column called Raj with the marks as 90,91,92.

ii) Add a record with subject as Info and marks are 95,96,97,98,99,100.

iii) Increase the marks of Arnab by 2.

iv) Drop the column Raj permanently.

v) Drop the row of Hindi subject temporarily.

vi) Rename the Arnab and Riya as stud1 and stud2.

vii) Change the subject name to Sub1 and sub2 for Maths and Science.

viii) Use loc to display the all subject marks of Ramit ,Samridhi and Riya .

ix) Display Ramit and Mallika's marks in Science and Info using loc and iloc.

x) Transpose the dataframe.

xi) Display the column names and index names.

xii) Show the total number of elements in the dataframe.

xiii) Display number of rows and columns.

xiv) Display top 2 records and last 5 records.

xv) Show the datatype of each column and dimension of the dataframe rsdf.