



INDIAN SCHOOL AL WADI AL KABIR  
Worksheet, 2024-25

<b>Class: XII</b>	<b>SUB: INFORMATICS PRACTICES</b>	<b>Date of Completion:</b>
No:3	<b>TOPIC : Practical Questions</b>	<b>To be written in the record book</b>

1. Write a program to create series from a list of numbers, numpy array with range( ) to generate numbers 0 to 5 and a dict with 4 subject names and marks
2. Write a Program in Pandas to create series using User-defined Dictionary that contains stock details like itemname and qty of different items.
3. Given a series that stores the marks of 10 students in a class. Write code to find out the biggest and the smallest 3 marks from the given series.
4. Create a Series that stores the salary of 10 employees. Write a program to display the salary of those employees who are getting more than 5000.
5. Create a Series **AirticketSer** that stores the 5 Airfare as values and Airways as index. Write a program to display the Airfare of those airways which are priced less than 5000.
6. Create a series **DataSeries** with the scalar value 50 for the indices S1, S2, S3, S4 and S5. Also write the coding to remove the element from the index S3.
7. Create two series **S2** and **S3** with the following elements:  
**S2**  
1 25  
2 15  
3 10  
4 30  
5 12  
**S3**  
2 5  
3 2  
4 3  
5 3  
6 8  
Perform the following operations:  
i) Perform the division operation  $S2 // S3$   
ii) Perform the multiplication operation by using `mul()` method.  
iii) Use `fill_value` property to add two series with the default value 100.  
iv) To display all the elements of series **S2** more than 10.

8. Create the following series **COMPUTER** with the following elements and write the statements to perform the operations given below:

**COMPUTER**

DELL	1300
HP	4250
APPLE	3280
LENOVO	9375
ACER	7890

- i) Give a Name “Computer Devices” to the series COMPUTER.
- ii) Give a Name to the index as “BRAND”.
- iii) Display the no. elements of the series.
- iv) Display the data type of the given series.
- v) Display the dimension of the given series.

9. Create the following series **Mobile** with the following elements and write the statements to perform the operations given below:

**MobilePhone**

Mob1	Redmi Note 11Pro
Mob2	Apple 14
Mob3	Samsung Galaxy
Mob4	Realme 50A
Mob5	Nokia G10

- i) Display the values of the given indices Mob1 to Mob4 using loc.
- ii) Display the values of the given indices Mob1, Mob3, Mob5 using iloc.
- iii) Display the values of the series in reverse order .

10. Create the following series **TV** with the elements and write the statements to perform the operations given below:

**TV**

Ikon	47.900
Samsung	138.390
Sony	145.200
LG	124.300
PHILIPS	98.375

- i) Display the values of Samsung, Sony and LG using loc method.
- ii) Display the values of Ikon and Samsung using iloc method.

11. Write a program to create 2 series S1 and S2 , where S1 contains the name and mark of students and S2 contains name and age of students. Create a dataframe from S1 and S2.

12. Write a program to create a dataframe containing empno, ename and salary of 5 employees. Change the index as [a,b,c,d,e] and display the first two and the last two records.

13. Write a Program to enter multiple values based data in multiple columns/rows to represent cityname highest temp and lowest temp as list of lists and create a dataframe from this list. Display the highest temperature of the second , third and fourth city using iloc.

14. Write a program to create a dataframe with the help of a dictionary of list that represents name , salary and commissison of 5 employees and sort the dataframe in descending order of their salary.
15. Write a program to create dataframe for 5 students including name and 3 subject marks using dictionary of series and add new columns Total that contains the total marks obtained by each student .
16. Write a Program to read CSV file that contains itemno,itemname, qty and price and show its data in python using dataFrames and pandas.

17.

Plot two-line graphs to compare the heights in (cm) of Class 11 A and Class 11 B

<b>Class 11 A</b>	155	160	145	149	151	147	152	144	148
<b>Class 11 B</b>	165	170	162	169	155	172	168	164	158

- 1) Give label for X and Y Axis.
- 2) Give a suitable title for the graph.
- 3) Colors of graph: Class 11 A- Blue Class 11 B- Green.
- 4) Line Style for Class 11 A -Solid Class 11 B - Dotted.

18.

Plot bar chart using the following data

<b>Blood Group</b>	<b>A+</b>	<b>A-</b>	<b>B+</b>	<b>B-</b>	<b>AB+</b>	<b>AB-</b>	<b>O+</b>	<b>O-</b>
<b>PERCENTAGE</b>	<b>15</b>	<b>25</b>	<b>10</b>	<b>15</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>10</b>

- 1) Give Label with blood groups
- 2) Add x and y labels.
- 3) Give suitable Title for the plot.
- 4) Add suitable legends to the plot.

19.

Plot a horizontal bar graph for the following data:-

Product = ['Computer','Monitor','Laptop','Printer','Tablet']

Quantity = [320,450,300,120,280]

- Add 'quantity' , 'product' as x and y label respectively.
- Title of the plot is 'Store Inventory'.
- Border color of the bar is red with dotted line style.

20.

A restaurant manager recorded the number of people in different age groups who attended her food festival. age in years=[1,3,27,32,5,63,26,25,18,16,4,45,29,19,22,51,58,9,42,6] .Plot a histogram to see number of people in each category of age

- The title of the plot is 'Food Festival Participants'.
  - horizontal axis labeled 'Age Group (year)' with bins 0-9,10-19,20-29,30-39,40-49,50-59,60-69.
  - Vertical axis labeled 'Number of People' with values from 0 to 70 at intervals of 10.
  - Color of histogram is Green and edge color is Red.
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