



BRAIN INTERNATIONAL SCHOOL

SESSION 2024-25

CLASS: XII

TERM 1 REVISION SHEET

SUBJECT: IP

UNIT-1 Data Handling using Pandas and Data Visualization, CSV Files

Q1. Consider the Dataframe Classframe

	Rollno	Name	Clas s	Section	CGPA	Stream
St1	1	Aman	IX	E	8.7	Science
St2	2	Preeti	X	F	8.9	Arts
St3	3	Kartikey	IX	D	9.2	Science
St4	4	Lakshay	X	A	9.4	Commerce

Write commands to :

1. Add a new column 'Activity' to the Dataframe
2. Add a new row with values (5 , Mridula ,X, F , 9.8,Science)

Q2. Consider the following Dataframe **df**.

Names	Bio	Chemistry	Physics
Pranav	70	80	90
Mansi	80	70	80
Pritam	90	60	70
Anita	60	50	60

Write a **Python program** using **Pandas** for the following :

1. To create and display the dataframe '**df**' with the above given details.
And Insert the row indexes as I,II,III,IV.
2. To delete row with IV index
3. To insert a new column **Total** with values as [240,230,220,170]

Q3. Plot a Histogram for the dataframe df showing Student's names, marks in 3 subjects with following specifications:

1. x-axis label as 'Names'
2. y-axis label as 'Marks'
3. Title of the chart is 'Student's Marks Sheet'

Q4. Write the code in pandas to create the following dataframes :

	df1		df2		
	mark1	mark2	mark1	mark2	
0	10	15	0	30	20
1	40	45	1	20	25
2	15	30	2	20	30
3	40	70	3	50	30

Write the commands to do the following operations on the dataframes given

(i) To add dataframes df1 and df2.

(ii) To subtract df2 from df1

(iii) To rename column mark1 as marks1 in both the dataframes df1 and df2.

(iv) To change index label of df1 from 0 to zero and from 1 to one.

Q5. Write the code to read the data from the CSV file

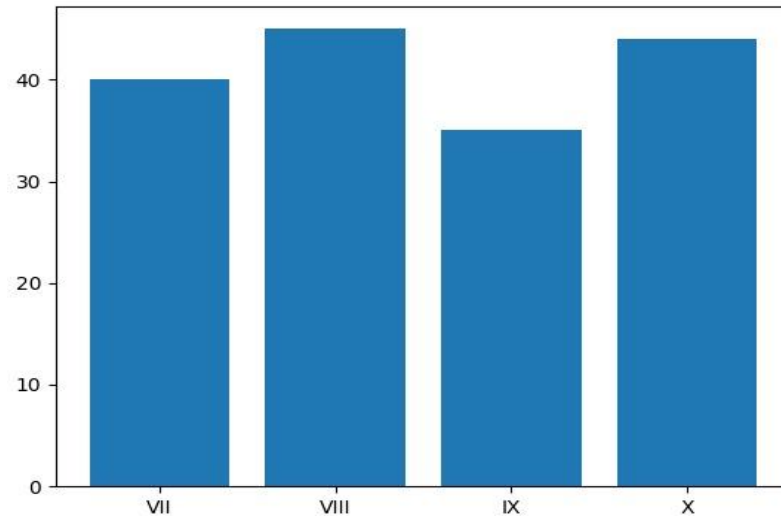
Q6. The command used to give a heading to a graph is _____

- a. plt.show()
- b. plt.plot()
- c. plt.xlabel()
- d. plt.title()

Q7. Using Python Matplotlib can be used to count how many values fall into each interval

- a. line plot
- b. bar graph
- c. histogram

Q8. Write the code to draw the following bar graph representing the number of students in each class.



Q9. Ms. Sharma, the class teacher wants to add a new column, the scores of Gradewith the values, 'A', 'B', 'A', 'A', 'B', 'A', to the DataFrame. Help her choose the command to do so:

- a. `df.column=['A','B','A','A','B','A']`
- b. `df['Grade']=['A','B','A','A','B','A']`
- c. `df.loc['Grade']=['A','B','A','A','B','A']`
- d. Both (b) and (c) are correct

Q10. To display last five rows of a series object 'S', you may write:

- a) `S.Head()`
- b) `S.Tail(5)`
- c) `S.Head(5)`
- d) `S.tail()`

Q11. What will be the output of the following code:

```
import pandas as pd
A=pd.Series(data=[35,45,55,40])
print(A>45)
```

Q12 and 13 are ASSERTION AND REASONING based questions. Mark the correct choice as

- i. Both A and R are true and R is the correct explanation for A
- ii. Both A and R are true and R is not the correct explanation for A
- iii. A is True but R is False
- iv. A is false but R is True

Q12. Assertion (A): - Internet cookies are text files that contain small pieces of data, like a username, password and user's preferences while surfing the internet.

Reasoning (R):- To make browsing the Internet faster & easier, its required tostore certain information on the server's computer.

Q13. Assertion (A):- DataFrame has both a row and column index.

Reasoning (R): - A DataFrame is a two-dimensional labelled data structure like a table of MySQL.

UNIT-3 Introduction to Computer Networks

Q1. I:

- a) am a small text file
- b) created on a user's computer
- c) contain small pieces of data — like a username, password and user's browsing history as well as preferences
- d) may help to improve user's web browsing experience.

i. Who am I?

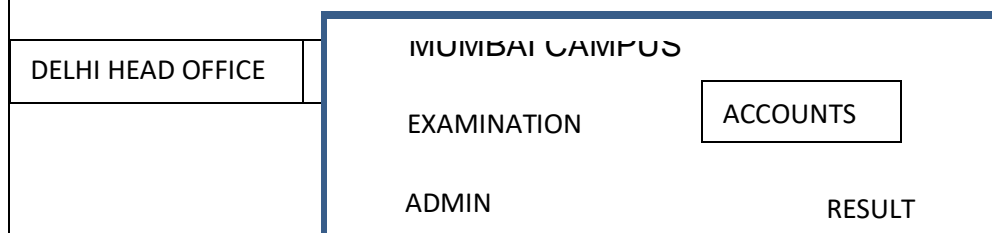
Q2. Name any two popular web browsers.

Q3. Expand the following terms related to Computer Networks:

- i. SMTP
- ii. POP
- iii. FTP
- iv. VoIP

Q4. Prime Computer services Ltd. is an international educational organization. It is planning to set up its India campus at Mumbai with its head office in Delhi. The Mumbai office campus has four main buildings-ADMIN, ACCOUNTS, EXAMINATION and RESULT.

You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (v), keeping in mind the distances between the buildings and other given parameters.



Shortest distances between various buildings:

ADMIN TO ACCOUNTS	55 m
ADMIN TO EXAMINATION	90 m
ADMIN TO RESULT	50 m
ACCOUNTS TO EXAMINATION	55m
ACCOUNTS TO RESULT	50 m
EXAMINATION TO RESULT	45 m
DELHI Head Office to MUMBAI	2150 m

Number of computers installed at various buildings are as follows:

ADMIN	110
ACCOUNTS	75
EXAMINATION	40
RESULT	12
DELHI HEAD OFFICE	20

- (i) Suggest the most appropriate location of the server inside the MUMBAI campus (out of the four buildings) to get the best connectivity for maximum number of computers. Justify your answer.
- (ii) Suggest and draw cable layout to efficiently connect various buildings within the MUMBAI campus for a wired connectivity.
- (iii) Which networking device will you suggest to be procured by the company to interconnect all the computers of various buildings of MUMBAI campus?
- (iv) Company is planning to get its website designed which will allow students to see their results after registering themselves on its server. Out of the static or dynamic, which type of website will you suggest?
- (v) Which of the following will you suggest to establish the online face to face communication between the people in the ADMIN office of Mumbai campus and Delhi head office?
 - a) Cable TV
 - b) Email
 - c) Video conferencing
 - d) Text chat

UNIT-3 Societal Impacts

Q1. State whether True or False :

- i. A copyright is automatically granted to authors or creators of content.
- ii. In FOSS source code is usually hidden from the users.

Q2. _____ is the unauthorized use or distribution of software.

Q3. _____ is an unlawful activity where fake websites or emails that look original or authentic are presented to the user.

- Q4. IPR stands for _____
- Q5. A mail or message sent to a large number of people indiscriminately without their consent is called _____
- Q6. _____ network device is known as an intelligent hub .
- Q7. Priyanka is using her internet connection to book a flight ticket. This is a classic example of leaving a trail of web activities carried by her. What do we call this type of activity? What is the risk involved by such kind of activity?
- Q8. List any two health hazards related to excessive use of Technology.
- Q9. Mention any four netiquettes.