SHIVAJI COLLEGE, UNIVERSITY OF DELHI
DEPARTMENT OF COMPUTER SCIENCE
INTERNAL ASSIGNMENT/PROJECTS/PRESENTATIONS
(Academic Year 2023-24)

Name of the Course : GE-2   Semester   : II

Name of the Paper   : Data Analysis and Visualization Using Python   Max. Marks : 30

Faculty Name   : Dr. K.K.S. Gautam   Last Date of Submission:**04.04.2024**

1. Explain data analysis with diagram.
2. Explain Turkey box plot. And find out the outliers of given values: -
   91 95 54 69 80 85 88 73 71 70 66 90 86 84 73
3. What is Matplotlib? Matplotlib Pyplot.
4. Add a plot title and labels for the x- and y-axis: using linewidth, line color, dash dot.
   x = np.array([80, 85, 90, 95, 100, 105, 110, 115, 120, 125])
   y = np.array([240, 250, 260, 270, 280, 290, 300, 310, 320, 330]).
5. What is title and super title? Explain with example.
6. Explain scatter diagram with example. Color each dot differently.
7. What is the difference between summation and addition?
8. To search an array, use the where () method and values is 4.
   a = np.array([1, 2, 3, 4, 5, 4, 4])
9. Create an array of all zeros, all ones and a constant array.
10. Differentiate between Series and DataFrame with suitable example.
11. How to Increase the maximum number of rows to display the entire DataFrame?
12. CSV, JSON stands for. How to load Files into a DataFrame?
13. Explain reshape (), concatenate () and stack arrays (vstack () & hstack ()).
14. What is Vectorization? And Add two Elements without using ufuncs.
15. Find the indexes where the values are even and odd:
    a = np.array([1, 2, 3, 4, 5, 6, 7, 8])
16. Who was created pandas and which year?
17. Explain pie diagram with example and all methods.
18. Differentiate between correlation and covariance.
19. Explain NumPy data types.
20. Explain inferential statistics.
21. What is data transformation?
22. Explain Discretization and binning with example.
23. What is data cleaning and what are the methods for data cleaning?
24. Create a constant array, a 2x2 identity matrix and create an array filled with random values
25. What are ufuncs? Why use ufuncs?
26. Who was created numpy and in which year?
27. How to convert an array of strings to numeric form as using astype?
28. What is pandas and why use pandas?
29. To create a Series with an index identifying each data point with a label.

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30. How to handle (NA handling methods) missing data?
31. Explain Hierarchical indexing with example.
32. Explain bar diagram with example. With color, width size, both directions.
33. Explain histograms with example and all methods.
34. Explain data wrangling.
35. Explain the EDA.

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