SHIVAJI COLLEGE, UNIVERSITY OF DELHI

DEPARTMENT OF COMPUTER SCIENCE

INTERNAL TEST (Academic Year 2023-24)

Name of the Course	: GE-2	Semester	: II
Name of the Paper	: DAVP	Faculty Name	: Dr. K.K.S. Gautam
Duration	: 1 Hour	Maximum Marks: 24	
Date of Test	: 03.04.2024		

SET A

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. To search an array, use the where () method and values is 4.
   a = np.array([1, 2, 3, 4, 5, 4, 4])
4. Create an array of all zeros, all ones and a constant array.
5. Explain NumPy data types. Who was created numpy and in which year?
6. What is data cleaning and what are the methods for data cleaning?

SET B

1. Differentiate between Series and DataFrame with suitable example. Who was created pandas and in which year?
2. How to Increase the maximum number of rows to display the entire DataFrame?
3. CSV, JSON stands for. How to load Files into a DataFrame?
4. Explain reshape (), concatenate () and stack arrays (vstack () & hstack ()).
5. Find the indexes where the values are even and odd:
   a = np.array([1, 2, 3, 4, 5, 6, 7, 8])
6. Explain the EDA. How to handle (NA handling methods) missing data?

SET C

1. Consider the given arr= [1,2,8,9,3,4,7,5,10,6]. What will be the resulting array of these operations are performed arr[2:5], arr[-5:-1] ,arr[::2] and get the third and fourth elements from the array and add them. Change data type from int to float.
2. Create an array num of size (2,3) filled with all zeros then insert [[1,2,3], [4,5,6]] into array. Identify the shape of the array num. and flattening the arrays.
3. Explain the term data collection.
4. Consider the following arrays:

   arr1=np.array([[1,1,0], [9,8,7], [6,8,4]])

   arr2=np.array([[[5,2,1], [2,1,8], [1,2,3], [4,5,6]]])

   a. arr2[0] b. arr1[1,1] c. arr1[:2, -1] d. arr1[:2:]

Faculty Signature:

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5. Consider the following list:

   X1=[32,21,65,89,33,23,22,40,21,32,56,45,44,38,52]

   a. From x1 create a ndarray x2 with 5 rows and 3 columns.
   b. Find mean, median, variance of data in x2 along the rows.
   c. Find cumulative sum of rows in x2
   d. Sort the data in x2 along the columns.
   e. Replace values greater than 40 in x2.
6. Difference between copy and view with suitable example. What is Vectorization? And Add two Elements without using ufuncs.

SET D

1. Create a constant array, a 2x2 identity matrix and create an array filled with random values
2. What are ufuncs? Why use ufuncs? What is pandas and why use pandas?
3. To create a Series with an index identifying each data point with a label.
4. Explain Hierarchical indexing with example.
5. Differentiate between correlation and covariance with suitable example.
6. How to convert an array of strings to numeric form as using astype?

Faculty Signature: