B.E / B.Tech. PRACTICAL END SEMESTER EXAMINATIONS, NOVEMBER/DECEMBER 2022

Third Semester

AD3301 - DATA EXPLORATION AND VISUALIZATION

(Regulations 2021)

Time : 3 Hours Answer any one Question Max. Marks 100

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	**30**	**30**	**10**	**10**	**100**

1. i) Install the standalone R script.

   ii) Use R program to find the factorial of a given number.

2. For the data given below, perform the following

   i) Bar plot

   ii) Vertical Bar plot

   iii) Scatter plot

   iv) Histogram

OZONE	SOLAR	TEMP	WIND	MONTH	DAY
41	190	7.4	67	5	1
36	118	8.0	72	5	2
12	149	12.6	74	5	3
na	313	11.5	62	5	4
18	na	14.3	56	5	5
28	na	14.9	66	5	6

3. Perform exploratory data analysis (EDA) on with datasets like email data set. Export all your emails as a dataset, import them inside a pandas data frame, visualize them and get different insights from the data.

4. Using the below data, perform the following:

	Rank	Major_code	Major	Total	Men	Women	Major_category	ShareWomen	Sample_size	Employed	...	Part_time	Full_time_year_rou
0	1	2419	PETROLEUM ENGINEERING	2339.0	2057.0	282.0	Engineering	0.120564	36	1976	...	270	12
1	2	2416	MINING AND MINERAL ENGINEERING	756.0	679.0	77.0	Engineering	0.101852	7	640	...	170	3
2	3	2415	METALLURGICAL ENGINEERING	856.0	725.0	131.0	Engineering	0.153037	3	648	...	133	3
3	4	2417	NAVAL ARCHITECTURE AND MARINE ENGINEERING	1258.0	1123.0	135.0	Engineering	0.107313	16	758	...	150	6
4	5	2405	CHEMICAL ENGINEERING	32260.0	21239.0	11021.0	Engineering	0.341631	289	25694	...	5180	166

   i) Create a plot displaying the median (is the median earnings of full-time, year-round workers).

   ii) "P25th" is the 25th percentile of earnings.

   iii) "P75th" is the 75th percentile of earnings.

   iv) "Rank" is the major's rank by median earnings.

5. Use the array processing package perform the following.

   i) Create a numpy array.

   ii) Demonstrate Indexing in numpy array.

   iii) Perform basic operations on a single array.

6. Perform Time series data visualization using Python.

7. Create geo spatial visual of the world map.

8. The below link provides the land side details that have happened within India. Build a cartographic visualization for the same.

   https://github.com/shankhanil007/Landslide-Analysis

9. Perform Exploratory Data Analysis on Wine Quality Data Set.

10. https://github.com/BuzzFeedNews/2022-04-registries/blob/main/data/national/table-5-1.csv

    Apply the various EDA and visualization techniques and present an analysis report.

11. i) Write a python program to determine the distance between two points (x1,y1) and (x2,y2).

    ii) Write a python program to arrange the given numbers/words in ascending/Descending order.

12. Write a python program to find the area of shapes.

13. Perform the following using Pandas Data frame:

    i) Create a data frame using list

    ii) Create DataFrame from dict of narray/list

    iii) Indexing a DataFrame using .loc[]

14. Perform exploratory data analysis (EDA) on with datasets given in the below link. Export all your emails as a dataset, import them inside a pandas data frame, visualize them and get different insights from the data.

    https://data.world/alexandra/generic-food-database

15. Visualize the Geographic Data with Basemap using Zomato geographic data.

16. i) Write a python program to generate Armstrong number.

    ii) Write a python program to check the given string is palindrome or not.

17. Use a case study on the given data set and apply the various EDA and visualization techniques and present an analysis report.

https://www.stats.govt.nz/large-datasets/csv-files-for-download/

18. Use a case study on the given data set and apply the various EDA and visualization techniques and present an analysis report.

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19. Use a case study on the given data set and apply the various EDA and visualization techniques and present an analysis report.

https://media.githubusercontent.com/media/datablist/sample-csv-files/main/files/organizations/organizations-100.csv

20. i) Write a python program to generate Armstrong number.

ii) Write a python program to find the greatest common divisor between two numbers.