LABORATORY FILE (IV YEAR) **B.E.** - Electrical and Computer Engineering Submitted by: Aryan Sharma (102119058) EM₂ **BE Fourth Year** Submitted to -: DR. AMIT KUMAR THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, (A DEEMED TO BE UNIVERSITY), PATIALA, PUNJAB **INDIA** July-Dec 2024 LIST OF EXPERIMENTS: 1. To study and explore the Pandas Python library for data framing, manipulation, and accessing data from Excel sheets. 2. Study of Openpyxl Library and its application for data accessing from Excel Sheets. 3. Study of NumPy python library and various functions defined in it. 4. Study of NumPy python library and various functions defined in it. 5. Write a program in python for addition/ subtraction of two numbers. 6. Write a program in python to find out the area of a circle using math functions from python library and user defined function. 1. Write a python program to print the Fibonacci series. 2. Write a program in python to check whether a number is prime or not. 1. Study of Matplotlib Python library and its application for data visualization (plot, bar chart, box plot, multiple plots, etc.) 2. Hypothesis Testing Using Z-Test and F-Test for a Given Problem. 3. Finding the coefficients of simple linear regression and multivariate linear regression for a given dataset. 4. Study of logistic regression for a given dataset. 5. Utilization of K-means clustering for classification applications. **ASA** SIGNATURE OF DATE THE **PAGE** NAME OF THE EXPERIMENTS REMARKS S. NO. **FACULTY** NO To study and explore the Pandas Python library for data framing, manipulation, and accessing data from 1. Excel sheets. 2. Study of Openpyxl Library and its application for data accessing from Excel Sheets. 3-4 5-6 3. Study of NumPy python library and various functions defined in it. Study of NumPy python library and various functions defined in it. 1. Write a program in python for addition/ subtraction of two numbers. 2. Write a program in python to find out the area of a circle using math functions from python 4. 7-9 library and user defined function. 3. Write a python program to print the Fibonacci series. 4. Write a program in python to check whether a number is prime or not. Study of Matplotlib Python library and its application for data visualization (plot, bar chart, box plot, 5. 10-12 multiple plots, etc.) Hypothesis Testing Using Z-Test and F-Test for a Given Problem. 13-14 6. 7. Finding the coefficients of simple linear regression and multivariate linear regression for a given dataset. 15-17 Study of logistic regression for a given dataset 18-19 8. 9. Utilization of K-means clustering for classification applications. 20-22 **INDEX**

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