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| --- | --- | --- | --- |
| **Sr No.** | **Title of Experiment** | **Performance Date** | **Completion Date** |
| **1** | Download the Iris flower dataset or any other dataset into a Data Frame. (eg https://archive.ics.uci.edu/ml/datasets/Iris ). Use Python/R and Perform the following – How many features are there and what are their types (e.g., numeric, nominal)?  Compute and display summary statistics for each feature available in the dataset. (eg. minimum value, maximum value, mean, range, standard deviation, variance, and percentiles  Data Visualization-Create a histogram for each feature in the dataset to illustrate the feature distributions. Plot each histogram.  Create a boxplot for each feature in the dataset. All of the boxplots should be combined into a single plot. Compare distributions and identify outliers |  |  |
| **2** | Download Pima Indians Diabetes dataset. Use Naive Bayes Algorithm for classification Load the data from CSV file and split it into training and test datasets. Summarize the properties in the training dataset so that we can calculate probabilities and make predictions. Classify samples from a test dataset and a summarized training dataset. |  |  |
| **3** | Bigmart Sales Analysis: For data comprising of transaction records of a sales store. The data has 8523 rows of 12 variables. Predict the sales of a store.Sample Test data set available here: https://datahack.analyticsvidhya.com/contest/practice-problem-big-mart-sales-iii/ |  |  |
| **4** | Twitter Data Analysis: Use Twitter data for sentiment analysis. The dataset is 3MB in size and has 31,962 tweets. Identify the tweets which are hate tweets and which are not. |  |  |
| **5** | **Mini Project :** |  |  |
| **6** | Implement Parallel Reduction using Min, Max, Sum, and Average operations. |  |  |
| **7** | Vector and Matrix Operations Design parallel algorithm to  1. Add two large vectors  2. Multiply Vector and Matrix  3. Multiply two N × N arrays using n2 processors |  |  |
| **8** | Parallel Sorting Algorithms For Bubble Sort and Merge Sort, based on existing sequential algorithms, design and implement parallel algorithms utilizing all resources available. |  |  |
| **9** | Parallel Search Algorithm Design and implement parallel algorithm utilizing all resources available. for Binary Search for Sorted Array Depth-First Search ( tree or an undirected graph ) OR Breadth-First Search ( tree or an undirected graph) OR Best-First Search that ( traversal of the graph to reach a target in the shortest possible path) |  |  |
| **10** | **Mini Project :** |  |  |
| **11** | Implement Tic-Tac-Toe using A\* algorithm |  |  |
| **12** | Solve the 8-puzzle problem using the A\* algorithm. Assume any initial configuration and define goal configuration clearly |  |  |
| **13** | Develop an elementary chatbot for suggesting investment as per the customer’s need. |  |  |
| **14** | Implement goal stack planning for the following configurations from the blocks world/Monkeys-Banana Problem |  |  |
| **15** | **Mini Project:** |  |  |
| **16** | **Beyond Syllabus:** Virtual Lab Assignment (Fuzzy Logic) |  |  |

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