**15CSL76**

**MACHINE LEARNING LABORATORY**

**USN:**

**NAME:**

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| **SL N** | **NAME OF THE PROGRAM** | **DATE** | **MARKS** | | | **SIGN** |
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| **1.** | Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file. |  |  |  |  |  |
| **2.** | For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples. |  |  |  |  |  |
| **3.** | Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample. |  |  |  |  |  |
| **4.** | Build an Artificial Neural Network by implementing the Backpropagation algorithm and test the same using appropriate data sets. |  |  |  |  |  |
| **5.** | Write a program to implement the naïve Bayesian classifier for a sample training data set stored as a .CSV file. Compute the accuracy of the classifier, considering few test data sets. |  |  |  |  |  |
| **6.** | Assuming a set of documents that need to be classified, use the naïve Bayesian Classifier model to perform this task. Built-in Java classes/API can be used to write the program. Calculate the accuracy, precision, and recall for your data set. |  |  |  |  |  |
| **7.** | Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease Data Set. You can use Java/Python ML library classes/API. |  |  |  |  |  |
| **8.** | Apply EM algorithm to cluster a set of data stored in a .CSV file. Use the same data set for clustering using k-Means algorithm. Compare the results of these two algorithms and comment on the quality of clustering. You can add Java/Python ML library classes/API in the program. |  |  |  |  |  |
| **9.** | Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions. Java/Python ML library classes can be used for this problem. |  |  |  |  |  |
| **10.** | Implement the non-parametric Locally Weighted Regression algorithm in order to fit data points. Select appropriate data set for your experiment and draw graphs. |  |  |  |  |  |

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