SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD- 580002, Karnataka State- INDIA

Department of Computer Science and Engineering

Artif ... ence and Machine Learning Laboratory (22UCSL604)	6ᵗʰ Sem CSE

Term Works ... ollowing **is the list of activities to be done for Laboratory work**

1. Write a program to design a TIC TAC TOE game, a game in which two players alternately put 0s and 1s in 3 X 3 matrix and each player tries to get a row/column/diagonal of three 1s or three 0s before the opponent does.

2. Consider 8-puzzle problem, a by 3 board with 8 tiles (each tile has a number from 1 to 8) and a single empty space is provided. The goal is to use the vacant space to arrange the numbers on the tiles such that they match the final arrangement. Four neighboring (left, right, above, and below) tiles can be moved into the available area. Write a program to solve a 8-puzzle problem and display the way from the root node to the final destination node using A* algorithm.

3. Given two empty jugs of quantity m and n litres respectively. The jugs don't have any measurement markings to allow measuring smaller quantities. The task is to find the minimum number of operations to be performed to obtain d litres of water in m litres jug Write a program to solve water jug problem using BFS and DFS technique.

4. Write a program to implement 6 X 6 Sudoku game.

5. 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.

6. Write a program to implement simple linear regression and multiple linear regressions.

7. Write a program to implement the naïve Bayesian classifier for a given data set. Compute the accuracy of the classifier.

8. Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set

9. Write a program to compare Support Vector Machine (SVM) and Artificial Neural Network(ANN) on a given dataset

10. Write a program to implement k-means clustering algorithm

Course Teacher
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