Assessment 2-MACHINE LEARNING WINTER SEMESTER 2022 - 23, CSE4020

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. A XYZ company has conducting the research for tracking the real estate investments carried out on last year to reveal the sales figures of new houses of different prices. Plot the data and check for the linear relationship between attributes if any? and find the least square regression line.

price $(xi)	160	280	180	200	260	240	220	170
Sales quantity (yi)	125	120	104	85	40	80	75	79

4. 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.
5. Write a program to demonstrate the working of the decision tree based CART algorithm using GINI index calculation. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.