EXPERIMENT 6

Title :	Demonstration of Decision Tree Classifier using WEKA.
Theory:	A decision tree is a tree in which each branch node represents a choice between a number of alternatives, and each leaf node represents a decision. Decision tree are commonly used for gaining information for the purpose of decision - making. Decision tree starts with a root node on which it is for users to take actions. From this node, users split each node recursively according to decision tree learning algorithm. Thefinal result is a decision tree in which each branch represents a possible scenario of decision and its outcome. ID3 is a simple decision tree learning algorithm developed by Ross Quinlan (1983). The basic idea of ID3 algorithm is to construct the decision tree by employing a top-down, greedy search through the given sets to test each attribute at every tree node. In order to selectthe attribute that is most useful for classifying a given sets, we introduce a metric--- information gain. To find an optimal way to classify a learning set, what we need to do is to minimize the questions asked (i.e. minimizing the depth of the tree). Thus, we need some function which can measure which questions provide the most balanced splitting. The information gain metric is such a function.
Performance:	1. Load the data set (diabetes, Credit) 2. Use J48 classifier (C4.5) to classify the data 3. Evaluate the generated tree in terms of accuracy, Recall, Specificity 4. Identify the root node and its corresponding branches 5. Write down the generated rules
Deliverables:	Screen shot for every performance step along with suitable explanation.
Conclusion:	Summarize understanding in your own words.