EXPERIMENT 10

Title :	Demonstration of association rule mining using Apriori algorithm in WEKA
Theory:	Apriori is an algorithm for frequent item set mining and association rule learning over transactional databases. It proceeds by identifying the frequent individual items in the database and extending them to larger and larger item sets as long as those item sets appear sufficiently often in the database. The frequent item sets determined by Apriori can be used to determine association rules which highlight general trends in the database: this has applications in domains such as market basket analysis. The Apriori algorithm was proposed by Agrawal and Srikant in 1994. Apriori is designed to operate on databases containing transactions.Apriori uses a "bottom up" approach, where frequent subsets are extended one item at a time and groups of candidates are tested against the data. The algorithm terminates when no further successful extensions are found. Apriori uses breadth-first search and a Hash tree structure to count candidate item sets efficiently. It generates candidate item sets of length k {\displaystyle k} k from item sets of length k − 1 {\displaystyle k-1} k-1. Then it prunes the candidates which have an infrequent sub pattern.
Performance:	1. Use contact-lenses.arff file from the sample datasets of weka. 2. Select Associate tab. 3. Choose Apriori Algorith to generate association rules 4. Choose confidence value as 0.9 5. What is the size of large itemset – k-itemset – identify the value of k 6. How many association rules have been generated 7. List any 5 strong association rules.
Deliverables:	Screen shot for every performance step along with suitable explanation.
Conclusion:	Summarize understanding in your own words.