**Assignment 4 Association Rules 2020**

# Exercise 1:

Perform an association analysis by using the Apriori algorithm on the weather data (weather.nominal.arff) in Weka. Consider the results of the association rules and frequent item sets of the algorithm.

1. Explain two selected rules using IF – THEN format

b) For the first rule, what are the values of the support and confidence measures of this rule based on the results? Explain how it is calculated.

In the “Asscociator” section, click on the name of the Apriori algorithm and change the Metric Type from Confidence to Lift and perform the association analysis again.

1. Is the output different from the previous output with metric type confidence? Which are different and explain these differences.

Set the Metric Type back to Confidende and change the value of “lowerBoundMinSupport” option to “0.2”. Start again the Apriori algorithm.

d). The results show that Apriori algorithm finds four large three-item sets, which have minimal support 0.2 (See the output – "Size of set of large itemsets L(3): 4"). Using only the results, derive these itemsets and explain how the displayed rules are obtained from them?

# Exercise 2:

Perform an association analysis by using the Apriori algorithm on the data which are captured buying behavior of cosmetic products (cosmetic.arff available in the on Blackboard).

1. What can you say about the buying behavior of cosmetic products?