

Data Mining, Big Data and Analytics. Association Rule Mining

Requirement (1):

Hint: Use the help to know what you don't know! It is called help for a reason.

1.	First of all, start by cleaning the workspace and setting the working directory.
2.	Load the libraries arules and arulesViz
3.	Load the transactions in the file AssociationRules.csv using the function read.transactions . Make sure you don't include the header line in the dataset.
4.	Display the transactions in a readable format using the function inspect . Display only the first 100 transactions.
5.	What are the most frequent two items in the dataset? What are their frequencies? Hint: use the function itemFrequency or use the function summary.
6.	Plot the 5 most frequent items of the transactions using the function itemFrequencyPlot
7.	Generate the association rules from the transactions using the apriori algorithm. Set the minimum support = 0.01, minimum confidence = 0.5, minimum cardinality (number of items in the rule) = 2. Use the function apriori
8.	Now, sort the generated rules by support. Search the function sort found in the arules package. Show only the first 6 rules.
9.	Sort the generated rules by confidence. Show only the first 6 rules.
10.	Sort the generated rules by lift. Show only the first 6 rules.
11.	Plot the generated rules with support as x-axis, confidence as y-axis and lift as shading. Use the function plot in arules package.
12.	Based on (8-11), Can you tell now what are the most interesting rules that are really useful and provide a real business value and an insight to the concerned corporate?