**Market basket analysis using Apriori algorithm.**

The process of analyzing the shopping trends of customers is called ‘Market Basket Analysis’. The idea here is to analyze and find patterns, which would reveal that if someone buys an item then they are bound to buy or not-buy an item.

There are certain metrics available for measure how superior an association rule is,

**Support**: Less frequently occurring items can be filtered out using support, as it tells us about the combination of items bought together frequently.

*Support(I) =*

**Confidence**: It reveals how frequently two items A and B are bought together, for the number of times A is bought.

*Confidence(A→B) =*

**Lift**: Strength of an association rule is determined by Lift, more the lift more is the strength of the rule.

*Lift =*

One of the ways to perform Market Basket Analysis is using Apriori Algorithm which uses frequently bought item sets to generate association rules. The idea here is that the subset of a frequent itemset is also frequent and the frequent item sets are decided based on minimum support threshold.

Below lines sum up the Apriori Algorithm.

* Use k-1 itemsets to generate k itemsets
* Getting C[k] by joining L[k-1] and L[k-1]
* Prune C[k] with subset testing
* Generate L[k] by extracting the itemsets in C[k] that satisfy minSup