**Collaborative Filtering**

Assumption that personal tastes are correlated.

Used to recommend the best items based on the user’s previous purchases and the opinions of like-minded user whose purchase patterns are similar.

Typical Algorithms:

Nearest Neighbor CF Algorithm  
Cosine distance  
Cluster Analysis

**Association Rules**

Frequently called “Market Basket Analysis” – Unsupervised learning algorithm  
Detects associations between variables  
IE – If a customer purchased bread anad bananas, she has an 80% probability to purchase milk during the same trip.  
Multiple applications:  
Cross Sell / Up-Sell  
Targeted Promotions  
Product Bundling (Printer and ink)  
Store Planograms (What most profitable customers are buying)  
Assortment Optimization

**Clustering With Knime**

The standard method for partition based clustering is via the k-means node.

The most important options are the selection of numerical   
- columns and the number of clusters to be used, as well as the maximum number of iterations

The K-means node has two outports: one carrying the input  
-data together with cluster labels and a second one holding the cluster model