

1.- Document with Rapid Miner screenshots showing the generation of association rules where pairs of books have been bought together

Process

MARKET BASKET ANALYSIS

Model associations between products by determining sets of items frequently purchased together and building association rules to derive recommendations.

Step 1:

Load transaction data containing a transaction id, a product id and a quantifier. The data denotes how many times a certain product has been purchased as part of a transactions.

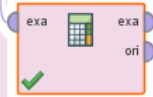
Load Transactions



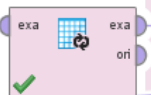
Step 2:

Edit, transform & load (ETL) - Aggregate transaction data to account for multiple occurrences of the same product in a transaction. Pivot the data so that each transaction is represented by a row. Transform purchase amounts to binary "product purchased yes/no" indicators.

Aggregate



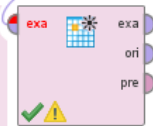
Pivot



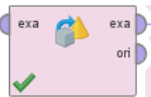
Rename by Replacing



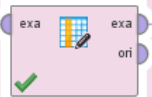
Replace Missing Val...



Numerical to Binomi...



Set Role



Step 3:

Using FP-Growth, determine frequent item sets. A frequent item sets denotes that the items (products) in the set have been purchased together frequently, i.e. in a certain ratio of transactions. This ratio is given by the support of the item set.

FP-Growth



Create Association ...



Step 4:

Create association rules which can be used for product recommendations depending on the confidences of the rules.

Outputs: association rules, frequent item set

Size	Support	Item 1	Item 2
1	0.062	Book 16 for the Nigh Charter	
1	0.062	Book 14 for the spy and the traitor	
1	0.062	Book 13 for you	
1	0.062	Book 12 for Crazy Rich Asians	
1	0.062	Book 10 for Texas	
1	0.062	A Gentleman Never Keeps Score	
2	0.062	warehouse_The spy and the traitor	The spy and the traitor
2	0.062	warehouse_Texas Glory	Texas Glory
2	0.062	warehouse_Tell me you are mine	Tell me you are mine
2	0.062	warehouse_Paradise Sky by Jose Lansdale	Paradise Sky by Jose Lansdale
2	0.062	warehouse_Crazy Rich Asians	Crazy Rich Asians
2	0.062	warehouse_Book 21 for the Bible	Book 21 for the Bible
2	0.062	warehouse_Book 20 Asians	Book 20 Asians
2	0.062	warehouse_Book 19 day friends	Book 19 day friends
2	0.062	warehouse_Book 18 Glory	Book 18 Glory
2	0.062	warehouse_Book 17 Keeps Score	Book 17 Keeps Score
2	0.062	warehouse_Book 16 for the Nigh Charter	Book 16 for the Nigh Charter
2	0.062	warehouse_Book 14 for the spy and the traitor	Book 14 for the spy and the traitor
2	0.062	warehouse_Book 13 for you	Book 13 for you
2	0.062	warehouse_Book 12 for Crazy Rich Asians	Book 12 for Crazy Rich Asians