

Enterprise Analytics – Lab 4

Rapid Miner Design as explained in the tutorial video and Screenshots of the results generated are attached below.

Process Design:

- Retrieve Extended B...
- Set Role
- Numerical to Binom...
- FP-Growth
- Create Association Rules

Parameters for Create Association Rules:

- criterion: confidence
- min confidence: 0.4
- gain theta: 2.0
- laplace k: 1.0

Help for Create Association Rules:

Synopsis
This operator generates a set of association rules from the given set of frequent itemsets.

Description
Association rules are if/then statements that help uncover relationships between seemingly unrelated data. An example of an association rule would be "If a customer buys eggs, he is 80% likely to also purchase milk." An association rule has two parts, an

Result History:

- ExampleSet (Numerical to Binominal)
- ExampleSet (/Enterprise Analytics/data/Extended Bakery Dataset)
- FrequentItemSets (FP-Growth)
- AssociationRules (Create Association Rules)

FrequentItemSets (FP-Growth) Results:

Size	Support	Item 1	Item 2	Item 3	Item 4
1	0.109	Food-Coffee Eclair			
1	0.103	Drink-Hot Coffee			
1	0.101	Food-Tulle Cookie			
1	0.093	Food-Cherry Tart			
1	0.093	Food-Strawberry Cake			
1	0.093	Food-Apricot Danish			
1	0.092	Drink-Orange Juice			
1	0.090	Food-Gongola's Cookie			
1	0.090	Food-Marzipan Cookie			
1	0.085	Food-Berry Tart			
1	0.084	Food-Apricot Croissant			
1	0.084	Food-Lemon Cake			
1	0.084	Food-Chocolate Cake			
1	0.083	Drink-Chocolate Coffee			
1	0.083	Food-Blueberry Tart			
1	0.083	Food-Napoleon Cake			
1	0.082	Food-Truffle Cake			
1	0.082	Food-Cheese Croissant			

No.	Premises	Conclusion	Support	Confidence
38	Drink-Vanilla Frappuccino	Food-Chocolate Tart	0.036	0.464
39	Food-Apricot Danish	Food-Opera Cake	0.043	0.465
40	Food-Cherry Tart	Food-Opera Cake	0.043	0.466
41	Food-Strawberry Cake	Food-Napoleon Cake	0.043	0.466
42	Food-Casino Cake	Drink-Chocolate Coffee	0.035	0.470
43	Drink-Orange Juice	Food-Cheese Croissant	0.043	0.470
44	Food-Casino Cake	Food-Chocolate Cake	0.036	0.474
45	Food-Almond Twist	Food-Apple Pie	0.037	0.475
46	Food-Apple Pie	Food-Almond Twist	0.037	0.476
47	Food-Blackberry Tart	Food-Coffee Eclair	0.036	0.480
48	Food-Almond Twist	Food-Coffee Eclair	0.037	0.481
49	Food-Apple Pie	Food-Coffee Eclair	0.037	0.483
50	Food-Gongolais Cookie	Food-Truffle Cake	0.044	0.486
51	Food-Lemon Tart	Food-Lemon Cake	0.037	0.486
52	Food-Chocolate Tart	Drink-Vanilla Frappuccino	0.036	0.488
53	Food-Opera Cake	Food-Cherry Tart, Food-Apricot Danish	0.041	0.501
54	Drink-Bottled Water	Food-Berry Tart	0.038	0.503

Market Basket Analysis for Top 3 Rules that is observed after running the analysis again with a confidence to 50% and min. support to 2%.

Top 3 Support Rules.

People who buy Cherry Tart have a confidence of 57.0% to also buy Apricot Danish, with a support of 5.3%.

People who buy Apricot Danish have a confidence of 57.4% to also buy Cherry Tart, with a support of 5.3%.

People who buy Marzipan Cookie have a confidence of 56.7% to also buy Tuile Cookie, with a support of 5.1%.

Top 3 Confidence Rules.

People who buy Lemon Lemonade, Lemon Cookie, Raspberry Lemonade, Green Tea have a confidence of 100% to also buy Raspberry Cookie, with a support of 2.1%.

People who buy Lemon Lemonade, Lemon Cookie, Raspberry Cookie, Green Tea have a confidence of 100% to also buy Raspberry Lemonade, with a support of 2.1%.

People who buy Lemon Cookie, Raspberry Lemonade, Raspberry Cookie, Green Tea have a confidence of 100% to also buy Lemon Lemonade, with a support of 2.1%.

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File Edit Process View Connections Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

Repository

- Import Data
- Training Resources (connected)
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Operators

assoc

- Modeling (7)
 - Associations (6)
 - FP-Growth
 - Create Association Rule
 - Apply Association Rules
 - Generalized Sequential F
 - Item Sets to Data
 - Unify Item Sets
 - Correlations (1)

No results were found.

Process

Process

75%

Retrieve Extended B... Set Rule Numerical to Binom... FP-Growth Create Association R...

Leverage the Wisdom of Crowds to get operator recommendations based on your process design!

Activate Wisdom of Crowds

Parameters

FP-Growth

input format items in dummy coded columns

positive value

min requirement support

min support 0.02

Hide advanced parameters

Change compatibility (10.1.002)

Help

FP-Growth

Concurrency

Tags: Associations, Market, Basket, Upselling, Up-selling, Cross-selling, Cross-selling, Itemset, Item-set, Item-set, Mining, Frequent, Patterns

Synopsis

This Operator efficiently calculates all frequently-occurring itemsets in an ExampleSet, using the FP-tree data structure.

[Jump to Tutorial Process](#)

Description

When online shopping, you will sometimes get a suggestion of the following form: "Customers who bought item X also bought item Y." This suggestion is an example of an association rule. To derive it, you first have to know which items on the market most

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Find data, operators, etc. All Studio

ExampleSet (Numerical to Binominal)

ExampleSet (/Enterprise Analytics/data/Extended Bakery Dataset)

Result History

FrequentItemSets (FP-Growth)

AssociationRules (Create Association Rules)

Data

No. of Sets: 124

Total Max. Size: 5

Min. Size: 1

Max. Size: 5

Contains Item:

Update View

Annotations

Size	Support	Item 1	Item 2	Item 3	Item 4	Item 5
1	0.109	Food-Coffee Eclair				
1	0.103	Drink-Hot Coffee				
1	0.101	Food-Tulle Cookie				
1	0.093	Food-Cherry Tart				
1	0.093	Food-Strawberry Cake				
1	0.093	Food-Apricot Danish				
1	0.092	Drink-Orange Juice				
1	0.090	Food-Gongolais Cook...				
1	0.090	Food-Marzipan Cookie				
1	0.085	Food-Berry Tart				
1	0.084	Food-Apricot Croissa...				
1	0.084	Food-Lemon Cake				
1	0.084	Food-Chocolate Cake				
1	0.083	Drink-Chocolate Coff...				
1	0.083	Food-Blueberry Tart				
1	0.083	Food-Napoleon Cake				
1	0.082	Food-Truffle Cake				
1	0.082	Food-Cheese Croiss...				

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ExampleSet (Numerical to Binominal) ExampleSet (/Enterprise Analytics/data/Extended Bakery Dataset)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules)

Show rules matching
all of these conclusions: ▼

Food-Coffee Eclair
Drink-Hot Coffee
Food-Tule Cookie
Food-Cherry Tart
Food-Strawberry Cake
Food-Apricot Danish
Drink-Orange Juice
Food-Gongolais Cookie
Food-Marzipan Cookie
Food-Berry Tart
Food-Apricot Croissant
Food-Chocolate Cake
Drink-Chocolate Coffee
Food-Blueberry Tart
Food-Opera Cake
Drink-Vanilla Frappuccino
Food-Almond Twist
Food-Apple Pie
Food-Blackberry Tart
Food-Casino Cake
Food-Chocolate Tart
Drink-Lemon Lemonade
Food-Apple Tart
Food-Lemon Cookie

Min. Criterion:
confidence ▼
Min. Criterion Value: 0.0

No.	Premises	Conclusion	Support	Confidence	L
14	Food-Cherry Tart	Food-Apricot Danish	0.053	0.570	0
15	Food-Apricot Danish	Food-Cherry Tart	0.053	0.574	0
13	Food-Marzipan Cookie	Food-Tule Cookie	0.051	0.567	0
56	Food-Cherry Tart, Food-Apricot Danish	Food-Opera Cake	0.041	0.774	0
146	Food-Cherry Tart, Food-Opera Cake	Food-Apricot Danish	0.041	0.948	0
147	Food-Apricot Danish, Food-Opera Cake	Food-Cherry Tart	0.041	0.955	0
125	Food-Coffee Eclair, Food-Apple Pie	Food-Almond Twist	0.034	0.921	0
133	Food-Coffee Eclair, Food-Almond Twist	Food-Apple Pie	0.034	0.925	0
140	Food-Almond Twist, Food-Apple Pie	Food-Coffee Eclair	0.034	0.936	0
53	Food-Chocolate Cake, Drink-Chocolate Coffee	Food-Casino Cake	0.033	0.758	0
143	Food-Chocolate Cake, Food-Casino Cake	Drink-Chocolate Coffee	0.033	0.940	0
145	Drink-Chocolate Coffee, Food-Casino Cake	Food-Chocolate Cake	0.033	0.947	0
51	Food-Apricot Croissant, Food-Blueberry Tart	Drink-Hot Coffee	0.033	0.755	0
138	Drink-Hot Coffee, Food-Apricot Croissant	Food-Blueberry Tart	0.033	0.928	0
141	Drink-Hot Coffee, Food-Blueberry Tart	Food-Apricot Croissant	0.033	0.937	0
52	Food-Coffee Eclair, Food-Almond Twist	Drink-Hot Coffee	0.028	0.758	0
71	Food-Coffee Eclair, Drink-Hot Coffee	Food-Almond Twist	0.028	0.891	0

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Search

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ExampleSet (Numerical to Binominal) ExampleSet (/Enterprise Analytics/data/Extended Bakery Dataset)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules)

Show rules matching
all of these conclusions: ▼

Food-Coffee Eclair
Drink-Hot Coffee
Food-Tule Cookie
Food-Cherry Tart
Food-Strawberry Cake
Food-Apricot Danish
Drink-Orange Juice
Food-Gongolais Cookie
Food-Marzipan Cookie
Food-Berry Tart
Food-Apricot Croissant
Food-Chocolate Cake
Drink-Chocolate Coffee
Food-Blueberry Tart
Food-Opera Cake
Drink-Vanilla Frappuccino
Food-Almond Twist
Food-Apple Pie
Food-Blackberry Tart
Food-Casino Cake
Food-Chocolate Tart
Drink-Lemon Lemonade
Food-Apple Tart
Food-Lemon Cookie

Min. Criterion:
confidence ▼
Min. Criterion Value: 0.0

No.	Premises	Conclusion	Support	Confidence	L
177	Drink-Lemon Lemonade, Food-Lemon Cookie, Dri	Food-Raspberry Cookie	0.021	1	1
178	Drink-Lemon Lemonade, Food-Lemon Cookie, Fo	Drink-Raspberry Lemonade	0.021	1	1
179	Food-Lemon Cookie, Drink-Raspberry Lemonade,	Drink-Lemon Lemonade	0.021	1	1
176	Drink-Lemon Lemonade, Drink-Raspberry Lemon.	Food-Lemon Cookie	0.021	0.999	1
173	Food-Lemon Cookie, Food-Raspberry Cookie, Dri	Drink-Lemon Lemonade	0.021	0.998	1
174	Food-Lemon Cookie, Food-Raspberry Cookie, Dri	Drink-Raspberry Lemonade	0.021	0.998	1
175	Food-Lemon Cookie, Food-Raspberry Cookie, Dri	Drink-Lemon Lemonade, Drink-Raspberry Lemonade	0.021	0.998	1
172	Drink-Lemon Lemonade, Drink-Raspberry Lemon.	Food-Raspberry Cookie	0.021	0.997	1
171	Drink-Lemon Lemonade, Food-Lemon Cookie, Dri	Food-Raspberry Cookie	0.026	0.997	1
169	Drink-Lemon Lemonade, Drink-Raspberry Lemon.	Food-Lemon Cookie	0.021	0.997	1
170	Drink-Lemon Lemonade, Drink-Raspberry Lemon.	Food-Lemon Cookie, Food-Raspberry Cookie	0.021	0.997	1
168	Food-Lemon Cookie, Drink-Raspberry Lemonade,	Drink-Lemon Lemonade	0.026	0.995	1
167	Drink-Hot Coffee, Food-Almond Twist, Food-Apple	Food-Coffee Eclair	0.028	0.995	1
166	Drink-Raspberry Lemonade, Food-Raspberry Co.	Drink-Lemon Lemonade	0.021	0.995	1
165	Drink-Lemon Lemonade, Food-Raspberry Cookie,	Drink-Raspberry Lemonade	0.021	0.994	1
160	Drink-Lemon Lemonade, Food-Lemon Cookie, Dri	Drink-Raspberry Lemonade	0.021	0.994	1
161	Drink-Lemon Lemonade, Food-Lemon Cookie, Dri	Food-Raspberry Cookie	0.021	0.994	1

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