

데이터마이닝

60152465 김민선
60152476 김지수
60152487 방예나
60152528 한유리

A shopping cart is positioned in a hallway with a tiled floor and a concrete wall. The cart is empty and has a metal frame with a basket. The word 'CONTENTS' is overlaid on the image in a large, bold, black font, underlined.

CONTENTS

1. 선택이유
2. 영수증 데이터
3. 데이터 분석
4. 분석 결과

1. 선정이유

한국의 대형마트 소비 패턴 분석

한국의 대형 마트에서 판매되는 실제 데이터에 대한
장바구니 조사가 많지 않았다.
따라서 가장 주변에서 쉽게 접할 수 있는
대형 마트의 실제 고객이 구입한 품목들을 대상으로
장바구니 조사를 실시하게 되었다.



4차산업혁명의 중요 분야인 빅데이터를 이용하여 물건 품목의 연관성, 규칙을 파악하는 과제. 예를 들어 기저귀를 사면 맥주를 산다. 라는 규칙을 발견하여 마트내 물건 진열시 기저귀와 맥주를 근처에 두어 판매량 상승효과 기대.

협조문

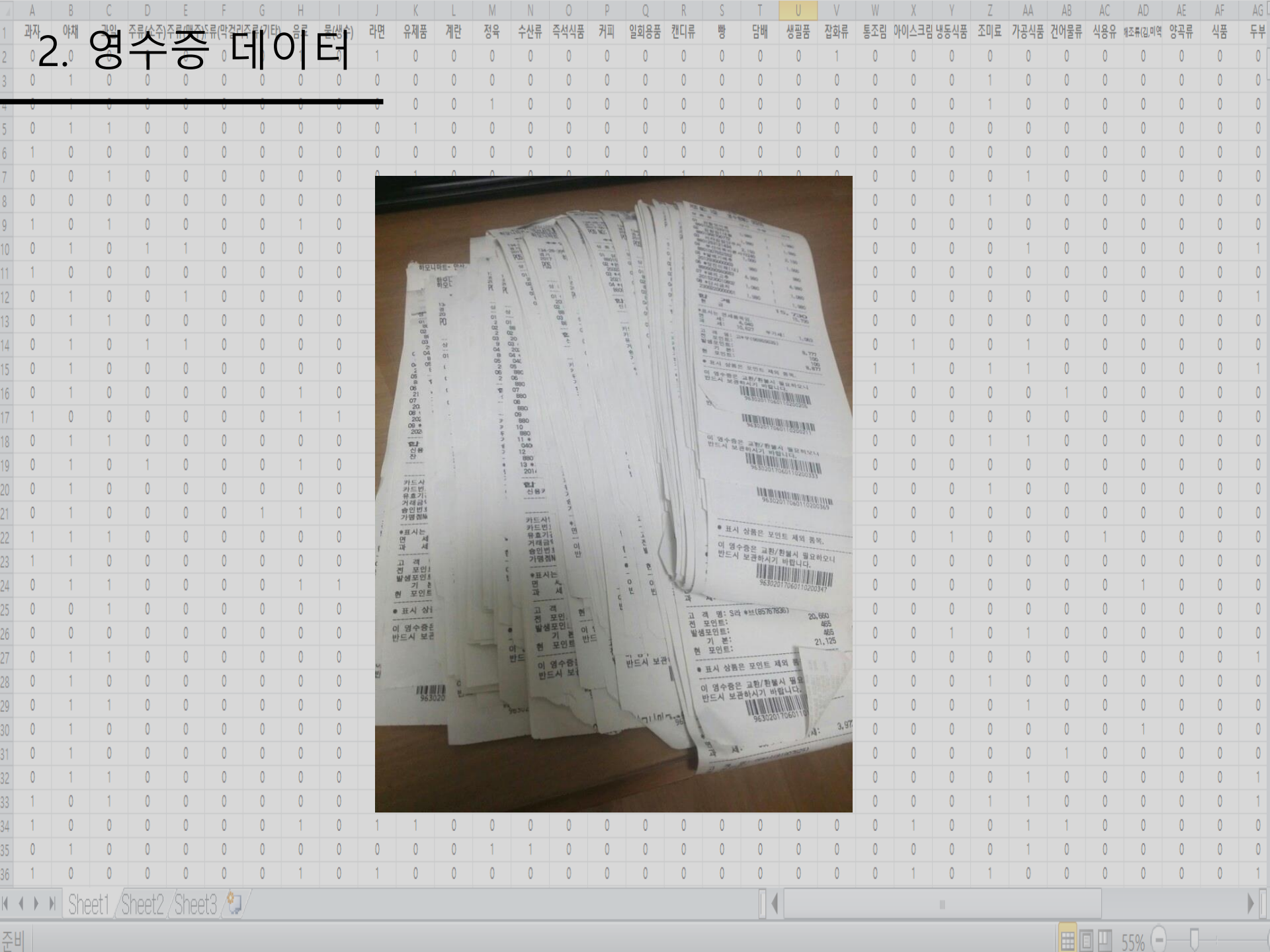
안녕하십니까. 저희는 산업경영공학과 3학년 김지수, 김민선, 방예나, 한유리입니다.

저희는 데이터 마이닝이라는 전공 수업에서 실시하는 프로젝트의 주제로 월마트의 장바구니 분석 사례와 같이 한국 마트의 장바구니 분석을 하고자 합니다. 이는 4차 산업 혁명의 중요 분야인 빅데이터를 이용하여 물건 품목의 연관성과 규칙을 파악하려 합니다.

제품 판매 영수증을 데이터화 하여 데이터를 분석한 뒤 소비자의 소비 패턴을 분석 및 예측하여 상품 진열, 제품의 홍보, 상품 간 교차 판매를 용이하게 하고자 합니다.

따라서 귀하의 마트의 영수증을 통하여 저희의 프로젝트인 장바구니 분석을 실시하고자 합니다.
양해 부탁드립니다.

※마트의 영수증을 통하여 신상 정보 취득, 사익 추구 등은 일절하지 않을 것을 약속합니다.

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1	과자	야채	과일	주류(소주)	주류(맥주)	주류(막걸리)	주류(기타)	음료	물(생수)	라면	유제품	계란	정육	수산물	즉석식품	커피	일회용품	캔디류	빵	담배	생필품	잡화류	통조림	아이스크림	냉동식품	조미료	가공식품	건어물류	식용유	세제류(김/미역)	양곡류	식품	두부
2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	1
16	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
17	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
19	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
21	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
23	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
25	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
27	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
28	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
29	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
31	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
32	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
33	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1
34	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
35	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
36	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1

데이터 : 실제 마트를 이용한 고객의 영
수증

데이터 크기 : 1000개

변수: 35개

Sheet1 / Sheet2 / Sheet3

준비

55%

데이터 : 실제 마트를 이용한 고객의 영
수증

데이터 크기 : 1000개

변수: 35개

3. 데이터 분석(엑셀)

Minimum Support	100
Minimum Confidence	50.00%

Row ID	Confidence %	Antecedent (A)	Consequent (C)	Support for A	Support for C	Support for A & C	Lift Ratio
1	81.6964286	beancurd	vegetable	224	677	183	1.20070822
2	80.5263158	seasining	vegetable	190	677	153	1.18351085
3	80.3212851	meat	vegetable	249	677	200	1.18049747
4	54.72440945	dairygoods	fruite	254	491	139	1.10897734
5	73.88535032	food	vegetable	157	677	116	1.085907291
6	73.72262774	processedfood	vegetable	137	677	101	1.083515725
7	68.83910387	fruite	vegetable	491	677	338	1.01174163
8	65.7480315	dairygoods	vegetable	254	677	167	0.966311541
9	53.53535354	cookies	vegetable	198	677	106	0.78681945

Minimum Support	50
Minimum Confidence	50.00%

Row ID	Confidence %	Antecedent (A)	Consequent (C)	Support for A	Support for C	Support for A & C	Lift Ratio
1	86.11111111	meat & beancurd	vegetable	72	677	62	1.26559166
2	85.5263158	fruite & seasining	vegetable	76	677	65	1.25699681
3	84.61538462	dairygoods & meat	vegetable	65	677	55	1.243608681
4	83.5820896	laver	vegetable	67	677	56	1.22842214
5	83.16831683	fruite & beancurd	vegetable	101	677	84	1.222340846
6	82.69230769	fish	vegetable	104	677	86	1.215344847

Minimum Support	60
Minimum Confidence	50.00%

Row ID	Confidence %	Antecedent (A)	Consequent (C)	Support for A	Support for C	Support for A & C	Lift Ratio
1	86.11111111	meat & beancurd	vegetable	72	677	62	1.26559166
2	85.5263158	fruite & seasining	vegetable	76	677	65	1.25699681
3	83.1683168	fruite & beancurd	vegetable	101	677	84	1.22234085
4	82.6923077	fish	vegetable	104	677	86	1.21534485
5	81.69642857	beancurd	vegetable	224	677	183	1.200708219

3. 데이터 분석(R)

Untitled1* x mart *		Filter																			
lakgeolli	Ect.Beer	Drinks	Water	Ramen	MilkProduct	Egg	Meat	Seafood	Instant	Coffee	Disposable	Candys	Bread	Tobacco	Necessaries	Goods	Can	IceCream	FrozenFood	Seasoning	Processe
0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

[16] {Veg}	=> {Food}	0.1163829	0.1713442	1.0639073
[17] {Snack}	=> {Veg}	0.1065327	0.5353535	0.7868195
[18] {Veg}	=> {Snack}	0.1065327	0.1565731	0.7868195
[19] {Seasoning}	=> {Veg}	0.1537688	0.8052632	1.1835108
[20] {Veg}	=> {Seasoning}	0.1537688	0.2259970	1.1835108
[21] {Tofu}	=> {Fruit}	0.1015075	0.4549550	0.9219556
[22] {Fruit}	=> {Tofu}	0.1015075	0.2057026	0.9219556
[23] {Tofu}	=> {Veg}	0.1819095	0.8153153	1.1982847
[24] {Veg}	=> {Tofu}	0.1819095	0.2673560	1.1982847
[25] {Meat}	=> {Veg}	0.2010050	0.8032129	1.1804975
[26] {Veg}	=> {Meat}	0.2010050	0.2954210	1.1804975
[27] {MilkProduct}	=> {Fruit}	0.1396985	0.5472441	1.1089773
[28] {Fruit}	=> {MilkProduct}	0.1396985	0.2830957	1.1089773
[29] {MilkProduct}	=> {Veg}	0.1678392	0.6574803	0.9663115
[30] {Veg}	=> {MilkProduct}	0.1678392	0.2466765	0.9663115
[31] {Fruit}	=> {Veg}	0.3396985	0.6883910	1.0117416
[32] {Veg}	=> {Fruit}	0.3396985	0.4992614	1.0117416

3. 데이터 분석(R)

Environment

History

Global Environment

Data

mart 995 obs. of 36 variables

mart1 995 obs. of 28 variables

trans int [1:995, 1:28] 0 0 0 0 1 0 0 1 0 1 ...

Values

rules Formal class rules

Files

Plots

Packages

Help

Viewer

Mining Associations with Apriori

R Documentation

Mining Associations with Apriori

Description

Mine frequent itemsets, association rules or association hyperedges using the Apriori algorithm. The Apriori algorithm employs level-wise search for frequent itemsets. The implementation of Apriori used includes some improvements (e.g., a prefix tree and item sorting).

Usage

apriori(data, parameter = NULL, appearance = NULL, control = NULL)

Arguments

data object of class [transactions](#) or any data structure which can be coerced into [transactions](#) (e.g., a binary matrix or data frame).

parameter object of class [AprioriParameter](#) or named list. The default behavior is to mine rules with minimum support of 0.1, minimum confidence of 0.8, maximum of 10 items (maxlen), and a maximal time for subset checking of 5 seconds (maxtime).

appearance object of class [AprioriAppearance](#) or named list. With this argument item appearance can be restricted (implements rule templates). By default all items can appear unrestricted.

control object of class [AprioriControl](#) or named list. Controls the algorithmic performance of the mining algorithm (item sorting, report progress (verbose), etc.)

Console

~/

creating S4 object ... done [0.00s].

> inspect(rules)

lhs rhs support confidence lift

[1] {} => {Seafood} 0.1045226 0.1045226 1.0000000

[2] {} => {Egg} 0.1055276 0.1055276 1.0000000

[3] {} => {Drinks} 0.1396985 0.1396985 1.0000000

[4] {} => {Processed} 0.1366834 0.1366834 1.0000000

[5] {} => {Food} 0.1577889 0.1577889 1.0000000

[6] {} => {Snack} 0.1989950 0.1989950 1.0000000

[7] {} => {Seasoning} 0.1909548 0.1909548 1.0000000

[8] {} => {Tofu} 0.2231156 0.2231156 1.0000000

[9] {} => {Meat} 0.2502513 0.2502513 1.0000000

[10] {} => {MilkProduct} 0.2552764 0.2552764 1.0000000

[11] {} => {Fruit} 0.4934673 0.4934673 1.0000000

[12] {} => {veg} 0.6804020 0.6804020 1.0000000

[13] {Processed} => {veg} 0.1005025 0.7352941 1.0806760

[14] {veg} => {Processed} 0.1005025 0.1477105 1.0806760

[15] {Food} => {veg} 0.1165829 0.7388535 1.0859073

[16] {veg} => {Food} 0.1165829 0.1713442 1.0859073

[17] {Snack} => {veg} 0.1065327 0.5353535 0.7868195

[18] {veg} => {Snack} 0.1065327 0.1565731 0.7868195

[19] {Seasoning} => {veg} 0.1537688 0.8052632 1.1835108

[20] {veg} => {Seasoning} 0.1537688 0.2259970 1.1835108

[21] {Tofu} => {Fruit} 0.1015075 0.4549550 0.9219556

[22] {Fruit} => {Tofu} 0.1015075 0.2057026 0.9219556

[23] {Tofu} => {veg} 0.1819095 0.8153153 1.1982847

[24] {veg} => {Tofu} 0.1819095 0.2673560 1.1982847

[25] {Meat} => {veg} 0.2010050 0.8032129 1.1804975

[26] {veg} => {Meat} 0.2010050 0.2954210 1.1804975

[27] {MilkProduct} => {Fruit} 0.1396985 0.5472441 1.1089773

[28] {Fruit} => {MilkProduct} 0.1396985 0.2830957 1.1089773

[29] {MilkProduct} => {veg} 0.1678392 0.6574803 0.9663115

[30] {veg} => {MilkProduct} 0.1678392 0.2466765 0.9663115

[31] {Fruit} => {veg} 0.3396985 0.6883910 1.0117416

[32] {veg} => {Fruit} 0.3396985 0.4992614 1.0117416

> rules<- apriori(trans, parameter=list(supp=0.2,conf=0.2,target="rules"))

apriori

Parameter specification:

confidence minval smax arem aval originalSupport maxtime support minlen maxlen target ext

0.2 0.1 1 none FALSE TRUE 5 0.2 1 10 rules FALSE

Algorithmic control:

mart

Filter

lakgeolli	Ect.Beer	Drinks	Water	Ramen	MilkProduct	Egg	Meat	Seafood	Instant	Coffee	Disposable	Candys	Bread	Tobacco	Necessaries	Goods	Can	IceCream	FrozenFood	Seasoning	Processed
0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

Showing 1 to 8 of 995 entries

부, 버섯, 조미료

세분화

[illegible]

3. 데이터 분석(엑셀)

Minimum Support	10
Minimum Confidence	50.00%

Row ID	Confidence %	Antecedent (A)	Consequent (C)	Support for A	Support for C	Support for A & C	Lift Ratio
1	57.14285714	crab flash	food	21	44	12	5.298701299
2	55.5555556	cookie & meat	dairy goods	18	95	10	2.38596491
3	83.33333333	life goods & mushroom	fruit	12	180	10	1.888888889
4	67.85714286	dairy goods & mushroom	vegetable & fruit	28	147	19	1.883381924
5	75	dairy goods & mushroom	fruit	28	180	21	1.7
6	55.55555556	cookie & dairy goods	meat	18	136	10	1.666666667
7	60	icecream	vegetable & fruit	20	147	12	1.665306122
8	73.07692308	vegetable & dairy goods & mushroom	fruit	26	180	19	1.656410256
9	57.57575758	vegetable & fruit & seasoning	mushroom	33	143	19	1.642720915
10	70.58823529	vegetable & icecream	fruit	17	180	12	1.6
11	73.33333333	meat & food	vegetable & tofu	15	187	11	1.6
12	55.55555556	fruit & life goods	mushroom	18	143	10	1.585081585

3. 데이터 분석(엑셀)

Minimum Support	15
Minimum Confidence	50.00%

Row ID	Confidence %	Antecedent (A)	Consequent (C)	Support for A	Support for C	Support for A & C	Lift Ratio
1	67.8571429	dairy goods & mushroom	vegetable & fruit	28	147	19	1.88338192
2	75	dairy goods & mushroom	fruit	28	180	21	1.7
3	73.07692308	vegetable & dairy goods & mushroom	fruit	26	180	19	1.656410256
4	57.57575758	vegetable & fruit & seasoning	mushroom	33	143	19	1.642720915
5	54.28571429	mushroom & seasoning	vegetable & fruit	35	147	19	1.506705539
6	65.51724138	vegetable & mushroom & seasoning	fruit	29	180	19	1.485057471
7	68	fruit & fish	vegetable & tofu	25	187	17	1.483636364
8	51.28205128	fruit & seasoning	mushroom	39	143	20	1.463152232
9	51.2195122	fruit & dairy goods	mushroom	41	143	21	1.4613679
10	50	vegetable & fruit & dairy goods	mushroom	38	143	19	1.426573427
11	60	meat & fish	vegetable & tofu	25	187	15	1.309090909
12	76.19047619	vegetable & life goods	tofu	21	240	16	1.295238095
13	57.14285714	mushroom & seasoning	fruit	35	180	20	1.295238095

3. 데이터 분석(엑셀)

Minimum Support	30
Minimum Confidence	50.00%

	A	B	C	D	E	F	G	H	I
4	3	92.68293	fruit & dair	vegetable	41	314	38	1.204288	
5	4	52.44755	mushroom	fruit	143	180	75	1.188811	
6	5	69.23077	egg	tofu	52	240	36	1.176923	
7	6	89.28571	fish	vegetable	56	314	50	1.160146	
8	7	89.09091	processed	vegetable	55	314	49	1.157614	
9	8	51.66667	fruit	vegetable &	180	187	93	1.127273	
10	9	86.11111	fish & tofu	vegetable	36	314	31	1.118896	
11	10	85.33333	fruit & mus	vegetable	75	314	64	1.10879	
12	11	85.18519	dairy good	vegetable	54	314	46	1.106865	
13	12	84.61538	fruit & seas	vegetable	39	314	33	1.099461	
14	13	84.21053	dairy good	vegetable	95	314	80	1.0942	
15	14	84.21053	seaweed	vegetable	38	314	32	1.0942	
16	15	64.28571	fish	tofu	56	240	36	1.092857	
17	16	83.91608	mushroom	vegetable	143	314	120	1.090375	
18	17	64	fruit & mea	tofu	50	240	32	1.088	
19	18	83.33333	meat & mu	vegetable	60	314	50	1.082803	
20	19	83.03571	fruit & tofu	vegetable	112	314	93	1.078935	
21	20	63.26531	vegetable &	tofu	147	240	93	1.07551	
22	21	82.69231	egg	vegetable	52	314	43	1.074473	
23	22	82	fruit & mea	vegetable	50	314	41	1.065478	
24	23	81.66667	fruit	vegetable	180	314	147	1.061146	
25	24	62.22222	fruit	tofu	180	240	112	1.057778	
26	25	62	cookie	tofu	50	240	31	1.054	
27	26	62	vegetable &	tofu	50	240	31	1.054	

3. 데이터 분석(R)

```
1 a<-read.transactions("data.csv",format = "basket", sep=",")
2 as (a,"data.frame")
3 library(arules)
4 mart<-data
5 mart
6 mart<-read.table("C:/Users/bong9/Desktop/data.csv",header=T)
7 mart
8 mart<-read.table("C:/Users/bong9/Desktop/data.xlsx",header=T)
9 mart
10 data<-read.table("C:/Users/bong9/Desktop/mart.txt",header=T
11 )
12 data
13 data<-read.table("C:/Users/bong9/Desktop/mart.txt",header=F
14 )
15 data
16 mart<-read.csv("C:/Users/bong9/Desktop/mart.csv")
17 data<-read.table("C:/Users/bong9/Desktop/data.csv",header=T)|
18 mart<-read.table("C:/Users/bong9/Desktop/data.csv",header=T)
19 data<-read.table('C:/Users/bong9/Desktop/English.csv',header=T)
20 mart<-read.csv("C:/Users/bong9/Desktop/mart.csv")
```


17:61

(Top Level) ↕

R Script ↕

[20] {채소}	=> {수산물}	0.1225490	0.1592357	1.1801456
[21] {가공식품}	=> {채소}	0.1200980	0.8909091	1.1576144
[22] {채소}	=> {가공식품}	0.1200980	0.1580510	1.1576144
[23] {간장}	=> {채소}	0.1274510	0.7647059	0.9936306
[24] {채소}	=> {간장}	0.1274510	0.1858051	0.9936306
[25] {양념}	=> {채소}	0.2058824	0.8155340	1.0596747
[26] {채소}	=> {양념}	0.2058824	0.2675159	1.0596747
[27] {유제품}	=> {과일}	0.1004902	0.4315789	0.9782456
[28] {과일}	=> {유제품}	0.1004902	0.2277778	0.9782456
[29] {유제품}	=> {두부}	0.1323529	0.5684211	0.9663158

4.분석 결과

- 
- A silver metal shopping cart with a blue handle and yellow grips is positioned on a light-colored tiled floor. The cart is empty and its shadow is cast on the tiles to the right.
1. 조미료-> 채소
 2. 라면-> 조미료
 3. 계란-> 두부
 4. 과자&고기 -> 유제품
 5. 유제품&버섯->과일



THANK YOU