

# Assignment 8 - Association Mining

2024-08-15

```
# Load necessary libraries
```

```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
```

```
## v dplyr      1.1.4      v readr      2.1.5
```

```
## v forcats    1.0.0      v stringr   1.5.1
```

```
## v ggplot2    3.5.1      v tibble    3.2.1
```

```
## v lubridate  1.9.3      v tidyr     1.3.1
```

```
## v purrr      1.0.2
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag()     masks stats::lag()
```

```
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(igraph)
```

```
##
```

```
## Attaching package: 'igraph'
```

```
##
```

```
## The following objects are masked from 'package:lubridate':
```

```
##
```

```
##    %--%, union
```

```
##
```

```
## The following objects are masked from 'package:dplyr':
```

```
##
```

```
##    as_data_frame, groups, union
```

```
##
```

```
## The following objects are masked from 'package:purrr':
```

```
##
```

```
##    compose, simplify
```

```
##
```

```
## The following object is masked from 'package:tidyr':
```

```
##
```

```
##    crossing
```

```
##
```

```
## The following object is masked from 'package:tibble':
```

```
##
```

```
##    as_data_frame
```

```
##
```

```
## The following objects are masked from 'package:stats':
```

```
##
```

```
##    decompose, spectrum
```

```
##
```

```
## The following object is masked from 'package:base':
##
##     union
```

```
library(arules)
```

```
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
##
## The following objects are masked from 'package:tidyr':
##
##     expand, pack, unpack
##
## Attaching package: 'arules'
##
## The following object is masked from 'package:dplyr':
##
##     recode
##
## The following objects are masked from 'package:base':
##
##     abbreviate, write
```

```
library(arulesViz)
```

```
# Read in grocery data
baskets <- read.transactions("groceries.txt",
                             format = "basket", sep = ",")
```

```
# Check the structure and summary of the transaction data
str(baskets)
```

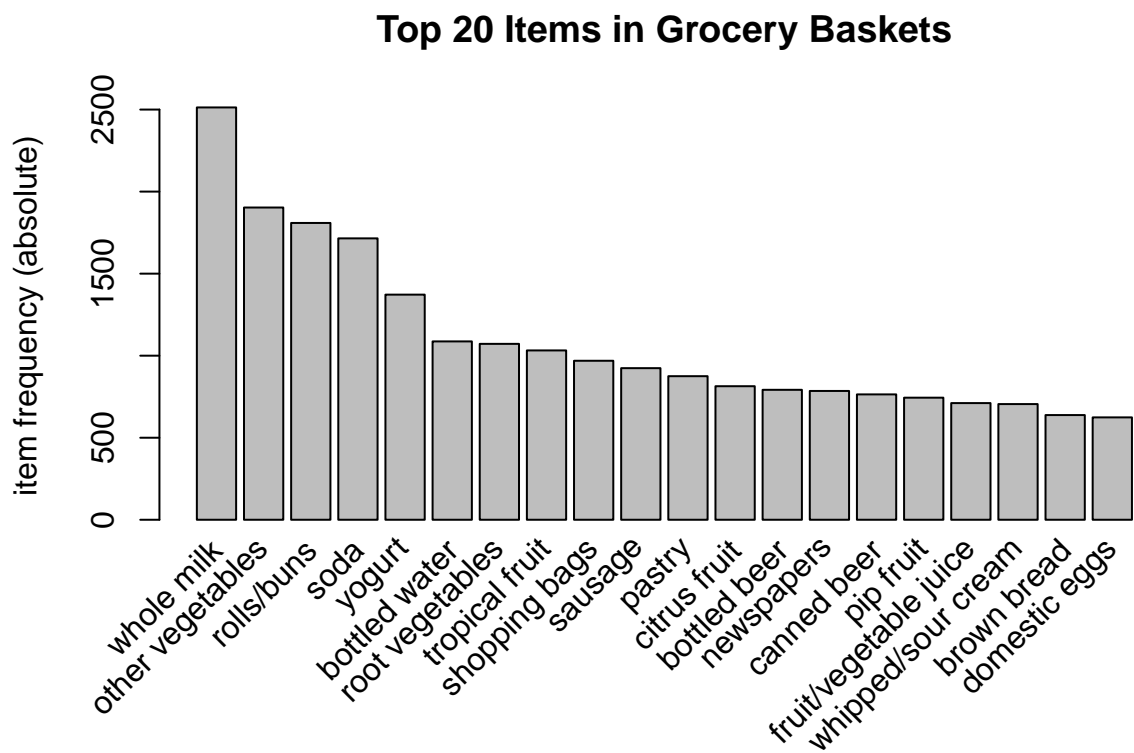
```
## Formal class 'transactions' [package "arules"] with 3 slots
##   ..@ data      :Formal class 'ngCMatrix' [package "Matrix"] with 5 slots
##   .. .. ..@ i    : int [1:43367] 29 88 118 132 33 157 167 166 38 91 ...
##   .. .. ..@ p    : int [1:9836] 0 4 7 8 12 16 21 22 27 28 ...
##   .. .. ..@ Dim   : int [1:2] 169 9835
##   .. .. ..@ Dimnames:List of 2
##   .. .. .. ..$ : NULL
##   .. .. .. ..$ : NULL
##   .. .. ..@ factors : list()
##   ..@ itemInfo    :'data.frame': 169 obs. of 1 variable:
##   .. ..$ labels: chr [1:169] "abrasive cleaner" "artif. sweetener" "baby cosmetics" "baby food" ...
##   ..@ itemsetInfo:'data.frame': 0 obs. of 0 variables
```

```
summary(baskets)
```

```
## transactions as itemMatrix in sparse format with
## 9835 rows (elements/itemsets/transactions) and
```

```
## 169 columns (items) and a density of 0.02609146
##
## most frequent items:
##      whole milk other vegetables      rolls/buns      soda
##      2513      1903      1809      1715
##      yogurt      (Other)
##      1372      34055
##
## element (itemset/transaction) length distribution:
## sizes
##      1      2      3      4      5      6      7      8      9      10     11     12     13     14     15     16
## 2159 1643 1299 1005  855  645  545  438  350  246  182  117  78  77  55  46
##      17     18     19     20     21     22     23     24     26     27     28     29     32
##      29     14     14      9     11      4      6      1      1      1      1      3      1
##
##      Min. 1st Qu.  Median      Mean 3rd Qu.      Max.
##      1.000  2.000   3.000   4.409   6.000  32.000
##
## includes extended item information - examples:
##      labels
## 1 abrasive cleaner
## 2 artif. sweetener
## 3  baby cosmetics
```

```
# Barplot of the top 20 items
itemFrequencyPlot(baskets, topN = 20, type = "absolute", main = "Top 20 Items in Grocery Baskets")
```



```
# Now run the 'apriori' algorithm
# Look at rules with support > 0.005 & confidence > 0.1 & length (# items) <= 4
grocery_rules <- apriori(baskets,
                        parameter = list(support = 0.005, confidence = 0.1, maxlen = 4))
```

```
## Apriori
##
## Parameter specification:
## confidence minval smax arem aval originalSupport maxtime support minlen
##      0.1      0.1      1 none FALSE          TRUE      5   0.005      1
## maxlen target  ext
##      4   rules TRUE
##
## Algorithmic control:
## filter tree heap memopt load sort verbose
##    0.1 TRUE TRUE  FALSE TRUE    2    TRUE
##
## Absolute minimum support count: 49
##
## set item appearances ...[0 item(s)] done [0.00s].
## set transactions ...[169 item(s), 9835 transaction(s)] done [0.00s].
## sorting and recoding items ... [120 item(s)] done [0.00s].
## creating transaction tree ... done [0.00s].
## checking subsets of size 1 2 3 4

## Warning in apriori(baskets, parameter = list(support = 0.005, confidence = 0.1,
## : Mining stopped (maxlen reached). Only patterns up to a length of 4 returned!

## done [0.00s].
## writing ... [1582 rule(s)] done [0.00s].
## creating S4 object ... done [0.00s].
```

```
inspect(grocery_rules)
```

	lhs	rhs	support	confidence	coverage
## [1]	{}	=> {bottled water}	0.110523640	0.1105236	1.000000000
## [2]	{}	=> {tropical fruit}	0.104931368	0.1049314	1.000000000
## [3]	{}	=> {root vegetables}	0.108998475	0.1089985	1.000000000
## [4]	{}	=> {soda}	0.174377224	0.1743772	1.000000000
## [5]	{}	=> {yogurt}	0.139501779	0.1395018	1.000000000
## [6]	{}	=> {rolls/buns}	0.183934926	0.1839349	1.000000000
## [7]	{}	=> {other vegetables}	0.193492628	0.1934926	1.000000000
## [8]	{}	=> {whole milk}	0.255516014	0.2555160	1.000000000
## [9]	{cake bar}	=> {whole milk}	0.005592272	0.4230769	0.013218099
## [10]	{dishes}	=> {other vegetables}	0.005998983	0.3410405	0.017590239
## [11]	{dishes}	=> {whole milk}	0.005287239	0.3005780	0.017590239
## [12]	{mustard}	=> {whole milk}	0.005185562	0.4322034	0.011997966
## [13]	{pot plants}	=> {whole milk}	0.006914082	0.4000000	0.017285206
## [14]	{chewing gum}	=> {soda}	0.005388917	0.2560386	0.021047280
## [15]	{chewing gum}	=> {whole milk}	0.005083884	0.2415459	0.021047280
## [16]	{canned fish}	=> {other vegetables}	0.005083884	0.3378378	0.015048297
## [17]	{pasta}	=> {whole milk}	0.006100661	0.4054054	0.015048297

## [18]	{herbs}	=> {root vegetables}	0.007015760	0.4312500	0.016268429
## [19]	{herbs}	=> {other vegetables}	0.007727504	0.4750000	0.016268429
## [20]	{herbs}	=> {whole milk}	0.007727504	0.4750000	0.016268429
## [21]	{processed cheese}	=> {soda}	0.005287239	0.3190184	0.016573462
## [22]	{processed cheese}	=> {other vegetables}	0.005490595	0.3312883	0.016573462
## [23]	{processed cheese}	=> {whole milk}	0.007015760	0.4233129	0.016573462
## [24]	{semi-finished bread}	=> {other vegetables}	0.005185562	0.2931034	0.017691917
## [25]	{semi-finished bread}	=> {whole milk}	0.007117438	0.4022989	0.017691917
## [26]	{beverages}	=> {yogurt}	0.005490595	0.2109375	0.026029487
## [27]	{beverages}	=> {rolls/buns}	0.005388917	0.2070312	0.026029487
## [28]	{beverages}	=> {other vegetables}	0.005185562	0.1992188	0.026029487
## [29]	{beverages}	=> {whole milk}	0.006812405	0.2617188	0.026029487
## [30]	{ice cream}	=> {soda}	0.006100661	0.2439024	0.025012710
## [31]	{ice cream}	=> {other vegetables}	0.005083884	0.2032520	0.025012710
## [32]	{ice cream}	=> {whole milk}	0.005897306	0.2357724	0.025012710
## [33]	{detergent}	=> {other vegetables}	0.006405694	0.3333333	0.019217082
## [34]	{detergent}	=> {whole milk}	0.008947636	0.4656085	0.019217082
## [35]	{pickled vegetables}	=> {other vegetables}	0.006405694	0.3579545	0.017895272
## [36]	{pickled vegetables}	=> {whole milk}	0.007117438	0.3977273	0.017895272
## [37]	{baking powder}	=> {other vegetables}	0.007320793	0.4137931	0.017691917
## [38]	{baking powder}	=> {whole milk}	0.009252669	0.5229885	0.017691917
## [39]	{flour}	=> {other vegetables}	0.006304016	0.3625731	0.017386884
## [40]	{flour}	=> {whole milk}	0.008439248	0.4853801	0.017386884
## [41]	{soft cheese}	=> {yogurt}	0.005998983	0.3511905	0.017081851
## [42]	{soft cheese}	=> {rolls/buns}	0.005388917	0.3154762	0.017081851
## [43]	{soft cheese}	=> {other vegetables}	0.007117438	0.4166667	0.017081851
## [44]	{soft cheese}	=> {whole milk}	0.007524148	0.4404762	0.017081851
## [45]	{specialty bar}	=> {soda}	0.007219115	0.2639405	0.027351296
## [46]	{specialty bar}	=> {rolls/buns}	0.005592272	0.2044610	0.027351296
## [47]	{specialty bar}	=> {other vegetables}	0.005592272	0.2044610	0.027351296
## [48]	{specialty bar}	=> {whole milk}	0.006507372	0.2379182	0.027351296
## [49]	{misc. beverages}	=> {bottled water}	0.005287239	0.1863799	0.028368073
## [50]	{misc. beverages}	=> {soda}	0.007320793	0.2580645	0.028368073
## [51]	{misc. beverages}	=> {other vegetables}	0.005592272	0.1971326	0.028368073
## [52]	{misc. beverages}	=> {whole milk}	0.007015760	0.2473118	0.028368073
## [53]	{grapes}	=> {tropical fruit}	0.006100661	0.2727273	0.022369090
## [54]	{grapes}	=> {other vegetables}	0.009049314	0.4045455	0.022369090
## [55]	{grapes}	=> {whole milk}	0.007320793	0.3272727	0.022369090
## [56]	{cat food}	=> {yogurt}	0.006202339	0.2663755	0.023284189
## [57]	{cat food}	=> {other vegetables}	0.006507372	0.2794760	0.023284189
## [58]	{cat food}	=> {whole milk}	0.008845958	0.3799127	0.023284189
## [59]	{specialty chocolate}	=> {soda}	0.006304016	0.2073579	0.030401627
## [60]	{specialty chocolate}	=> {rolls/buns}	0.005592272	0.1839465	0.030401627
## [61]	{specialty chocolate}	=> {other vegetables}	0.006100661	0.2006689	0.030401627
## [62]	{specialty chocolate}	=> {whole milk}	0.008032537	0.2642140	0.030401627
## [63]	{meat}	=> {sausage}	0.005287239	0.2047244	0.025826131
## [64]	{meat}	=> {root vegetables}	0.005083884	0.1968504	0.025826131
## [65]	{meat}	=> {soda}	0.005490595	0.2125984	0.025826131
## [66]	{meat}	=> {yogurt}	0.005287239	0.2047244	0.025826131
## [67]	{meat}	=> {rolls/buns}	0.006914082	0.2677165	0.025826131
## [68]	{meat}	=> {other vegetables}	0.009964413	0.3858268	0.025826131
## [69]	{meat}	=> {whole milk}	0.009964413	0.3858268	0.025826131
## [70]	{frozen meals}	=> {tropical fruit}	0.005490595	0.1935484	0.028368073
## [71]	{frozen meals}	=> {soda}	0.006202339	0.2186380	0.028368073

## [72]	{frozen meals}	=> {yogurt}	0.006202339	0.2186380	0.028368073
## [73]	{frozen meals}	=> {other vegetables}	0.007524148	0.2652330	0.028368073
## [74]	{frozen meals}	=> {whole milk}	0.009862735	0.3476703	0.028368073
## [75]	{hard cheese}	=> {sausage}	0.005185562	0.2116183	0.024504321
## [76]	{hard cheese}	=> {root vegetables}	0.005592272	0.2282158	0.024504321
## [77]	{hard cheese}	=> {yogurt}	0.006405694	0.2614108	0.024504321
## [78]	{hard cheese}	=> {rolls/buns}	0.005897306	0.2406639	0.024504321
## [79]	{hard cheese}	=> {other vegetables}	0.009456024	0.3858921	0.024504321
## [80]	{hard cheese}	=> {whole milk}	0.010066090	0.4107884	0.024504321
## [81]	{butter milk}	=> {pip fruit}	0.005083884	0.1818182	0.027961362
## [82]	{butter milk}	=> {tropical fruit}	0.005490595	0.1963636	0.027961362
## [83]	{butter milk}	=> {root vegetables}	0.005083884	0.1818182	0.027961362
## [84]	{butter milk}	=> {yogurt}	0.008540925	0.3054545	0.027961362
## [85]	{butter milk}	=> {rolls/buns}	0.007625826	0.2727273	0.027961362
## [86]	{butter milk}	=> {other vegetables}	0.010371124	0.3709091	0.027961362
## [87]	{butter milk}	=> {whole milk}	0.011591256	0.4145455	0.027961362
## [88]	{candy}	=> {tropical fruit}	0.005388917	0.1802721	0.029893238
## [89]	{candy}	=> {soda}	0.008642603	0.2891156	0.029893238
## [90]	{candy}	=> {yogurt}	0.005490595	0.1836735	0.029893238
## [91]	{candy}	=> {rolls/buns}	0.007117438	0.2380952	0.029893238
## [92]	{candy}	=> {other vegetables}	0.006914082	0.2312925	0.029893238
## [93]	{candy}	=> {whole milk}	0.008235892	0.2755102	0.029893238
## [94]	{ham}	=> {white bread}	0.005083884	0.1953125	0.026029487
## [95]	{white bread}	=> {ham}	0.005083884	0.1207729	0.042094560
## [96]	{ham}	=> {tropical fruit}	0.005388917	0.2070312	0.026029487
## [97]	{ham}	=> {yogurt}	0.006710727	0.2578125	0.026029487
## [98]	{ham}	=> {rolls/buns}	0.006914082	0.2656250	0.026029487
## [99]	{ham}	=> {other vegetables}	0.009150991	0.3515625	0.026029487
## [100]	{ham}	=> {whole milk}	0.011489578	0.4414062	0.026029487
## [101]	{sliced cheese}	=> {sausage}	0.007015760	0.2863071	0.024504321
## [102]	{sliced cheese}	=> {tropical fruit}	0.005287239	0.2157676	0.024504321
## [103]	{sliced cheese}	=> {root vegetables}	0.005592272	0.2282158	0.024504321
## [104]	{sliced cheese}	=> {soda}	0.005083884	0.2074689	0.024504321
## [105]	{sliced cheese}	=> {yogurt}	0.008032537	0.3278008	0.024504321
## [106]	{sliced cheese}	=> {rolls/buns}	0.007625826	0.3112033	0.024504321
## [107]	{sliced cheese}	=> {other vegetables}	0.009049314	0.3692946	0.024504321
## [108]	{sliced cheese}	=> {whole milk}	0.010777834	0.4398340	0.024504321
## [109]	{UHT-milk}	=> {bottled water}	0.007320793	0.2188450	0.033451957
## [110]	{UHT-milk}	=> {soda}	0.007625826	0.2279635	0.033451957
## [111]	{UHT-milk}	=> {yogurt}	0.007422471	0.2218845	0.033451957
## [112]	{UHT-milk}	=> {rolls/buns}	0.006405694	0.1914894	0.033451957
## [113]	{UHT-milk}	=> {other vegetables}	0.008134215	0.2431611	0.033451957
## [114]	{oil}	=> {root vegetables}	0.007015760	0.2500000	0.028063040
## [115]	{oil}	=> {yogurt}	0.005287239	0.1884058	0.028063040
## [116]	{oil}	=> {rolls/buns}	0.005083884	0.1811594	0.028063040
## [117]	{oil}	=> {other vegetables}	0.009964413	0.3550725	0.028063040
## [118]	{oil}	=> {whole milk}	0.011286223	0.4021739	0.028063040
## [119]	{onions}	=> {whipped/sour cream}	0.005083884	0.1639344	0.031011693
## [120]	{onions}	=> {citrus fruit}	0.005592272	0.1803279	0.031011693
## [121]	{onions}	=> {bottled water}	0.005897306	0.1901639	0.031011693
## [122]	{onions}	=> {tropical fruit}	0.005693950	0.1836066	0.031011693
## [123]	{onions}	=> {root vegetables}	0.009456024	0.3049180	0.031011693
## [124]	{onions}	=> {soda}	0.005287239	0.1704918	0.031011693
## [125]	{onions}	=> {yogurt}	0.007219115	0.2327869	0.031011693

## [126]	{onions}	=> {rolls/buns}	0.006812405	0.2196721	0.031011693
## [127]	{onions}	=> {other vegetables}	0.014234875	0.4590164	0.031011693
## [128]	{onions}	=> {whole milk}	0.012099644	0.3901639	0.031011693
## [129]	{berries}	=> {whipped/sour cream}	0.009049314	0.2721713	0.033248602
## [130]	{whipped/sour cream}	=> {berries}	0.009049314	0.1262411	0.071682766
## [131]	{berries}	=> {citrus fruit}	0.005388917	0.1620795	0.033248602
## [132]	{berries}	=> {tropical fruit}	0.006710727	0.2018349	0.033248602
## [133]	{berries}	=> {root vegetables}	0.006609049	0.1987768	0.033248602
## [134]	{berries}	=> {soda}	0.007320793	0.2201835	0.033248602
## [135]	{berries}	=> {yogurt}	0.010574479	0.3180428	0.033248602
## [136]	{berries}	=> {rolls/buns}	0.006609049	0.1987768	0.033248602
## [137]	{berries}	=> {other vegetables}	0.010269446	0.3088685	0.033248602
## [138]	{berries}	=> {whole milk}	0.011794611	0.3547401	0.033248602
## [139]	{hamburger meat}	=> {sausage}	0.005185562	0.1559633	0.033248602
## [140]	{hamburger meat}	=> {root vegetables}	0.006202339	0.1865443	0.033248602
## [141]	{hamburger meat}	=> {soda}	0.005795628	0.1743119	0.033248602
## [142]	{hamburger meat}	=> {yogurt}	0.006507372	0.1957187	0.033248602
## [143]	{hamburger meat}	=> {rolls/buns}	0.008642603	0.2599388	0.033248602
## [144]	{hamburger meat}	=> {other vegetables}	0.013828165	0.4159021	0.033248602
## [145]	{hamburger meat}	=> {whole milk}	0.014743264	0.4434251	0.033248602
## [146]	{hygiene articles}	=> {napkins}	0.006100661	0.1851852	0.032943569
## [147]	{napkins}	=> {hygiene articles}	0.006100661	0.1165049	0.052364006
## [148]	{hygiene articles}	=> {citrus fruit}	0.005287239	0.1604938	0.032943569
## [149]	{hygiene articles}	=> {shopping bags}	0.005185562	0.1574074	0.032943569
## [150]	{hygiene articles}	=> {bottled water}	0.005693950	0.1728395	0.032943569
## [151]	{hygiene articles}	=> {tropical fruit}	0.006710727	0.2037037	0.032943569
## [152]	{hygiene articles}	=> {root vegetables}	0.005388917	0.1635802	0.032943569
## [153]	{hygiene articles}	=> {soda}	0.007015760	0.2129630	0.032943569
## [154]	{hygiene articles}	=> {yogurt}	0.007320793	0.2222222	0.032943569
## [155]	{hygiene articles}	=> {rolls/buns}	0.005897306	0.1790123	0.032943569
## [156]	{hygiene articles}	=> {other vegetables}	0.009557702	0.2901235	0.032943569
## [157]	{hygiene articles}	=> {whole milk}	0.012811388	0.3888889	0.032943569
## [158]	{salty snack}	=> {fruit/vegetable juice}	0.005998983	0.1586022	0.037824098
## [159]	{salty snack}	=> {whipped/sour cream}	0.005185562	0.1370968	0.037824098
## [160]	{salty snack}	=> {pastry}	0.005185562	0.1370968	0.037824098
## [161]	{salty snack}	=> {shopping bags}	0.005998983	0.1586022	0.037824098
## [162]	{salty snack}	=> {sausage}	0.005287239	0.1397849	0.037824098
## [163]	{salty snack}	=> {tropical fruit}	0.005592272	0.1478495	0.037824098
## [164]	{salty snack}	=> {soda}	0.009354347	0.2473118	0.037824098
## [165]	{salty snack}	=> {yogurt}	0.006202339	0.1639785	0.037824098
## [166]	{salty snack}	=> {other vegetables}	0.010777834	0.2849462	0.037824098
## [167]	{salty snack}	=> {whole milk}	0.011184545	0.2956989	0.037824098
## [168]	{sugar}	=> {margarine}	0.005490595	0.1621622	0.033858668
## [169]	{sugar}	=> {pastry}	0.005185562	0.1531532	0.033858668
## [170]	{sugar}	=> {root vegetables}	0.006405694	0.1891892	0.033858668
## [171]	{sugar}	=> {soda}	0.007320793	0.2162162	0.033858668
## [172]	{sugar}	=> {yogurt}	0.006914082	0.2042042	0.033858668
## [173]	{sugar}	=> {rolls/buns}	0.007015760	0.2072072	0.033858668
## [174]	{sugar}	=> {other vegetables}	0.010777834	0.3183183	0.033858668
## [175]	{sugar}	=> {whole milk}	0.015048297	0.4444444	0.033858668
## [176]	{waffles}	=> {chocolate}	0.005795628	0.1507937	0.038434164
## [177]	{chocolate}	=> {waffles}	0.005795628	0.1168033	0.049618709
## [178]	{waffles}	=> {whipped/sour cream}	0.005083884	0.1322751	0.038434164
## [179]	{waffles}	=> {pastry}	0.007015760	0.1825397	0.038434164

## [180]	{waffles}	=> {shopping bags}	0.005490595	0.1428571	0.038434164
## [181]	{waffles}	=> {tropical fruit}	0.006100661	0.1587302	0.038434164
## [182]	{waffles}	=> {root vegetables}	0.006609049	0.1719577	0.038434164
## [183]	{waffles}	=> {soda}	0.009557702	0.2486772	0.038434164
## [184]	{waffles}	=> {yogurt}	0.007524148	0.1957672	0.038434164
## [185]	{waffles}	=> {rolls/buns}	0.009150991	0.2380952	0.038434164
## [186]	{waffles}	=> {other vegetables}	0.010066090	0.2619048	0.038434164
## [187]	{waffles}	=> {whole milk}	0.012709710	0.3306878	0.038434164
## [188]	{long life bakery product}	=> {chocolate}	0.005287239	0.1413043	0.037417387
## [189]	{chocolate}	=> {long life bakery product}	0.005287239	0.1065574	0.049618709
## [190]	{long life bakery product}	=> {fruit/vegetable juice}	0.006202339	0.1657609	0.037417387
## [191]	{long life bakery product}	=> {whipped/sour cream}	0.005795628	0.1548913	0.037417387
## [192]	{long life bakery product}	=> {pastry}	0.005897306	0.1576087	0.037417387
## [193]	{long life bakery product}	=> {shopping bags}	0.005388917	0.1440217	0.037417387
## [194]	{long life bakery product}	=> {sausage}	0.005388917	0.1440217	0.037417387
## [195]	{long life bakery product}	=> {tropical fruit}	0.006304016	0.1684783	0.037417387
## [196]	{long life bakery product}	=> {root vegetables}	0.005287239	0.1413043	0.037417387
## [197]	{long life bakery product}	=> {soda}	0.007625826	0.2038043	0.037417387
## [198]	{long life bakery product}	=> {yogurt}	0.008744281	0.2336957	0.037417387
## [199]	{long life bakery product}	=> {rolls/buns}	0.007930859	0.2119565	0.037417387
## [200]	{long life bakery product}	=> {other vegetables}	0.010676157	0.2853261	0.037417387
## [201]	{long life bakery product}	=> {whole milk}	0.013523132	0.3614130	0.037417387
## [202]	{dessert}	=> {curd}	0.005185562	0.1397260	0.037112354
## [203]	{dessert}	=> {fruit/vegetable juice}	0.005998983	0.1616438	0.037112354
## [204]	{dessert}	=> {pastry}	0.005388917	0.1452055	0.037112354
## [205]	{dessert}	=> {shopping bags}	0.006202339	0.1671233	0.037112354
## [206]	{dessert}	=> {sausage}	0.005897306	0.1589041	0.037112354
## [207]	{dessert}	=> {bottled water}	0.005185562	0.1397260	0.037112354
## [208]	{dessert}	=> {tropical fruit}	0.006304016	0.1698630	0.037112354
## [209]	{dessert}	=> {root vegetables}	0.005795628	0.1561644	0.037112354
## [210]	{dessert}	=> {soda}	0.009862735	0.2657534	0.037112354
## [211]	{dessert}	=> {yogurt}	0.009862735	0.2657534	0.037112354
## [212]	{dessert}	=> {rolls/buns}	0.006812405	0.1835616	0.037112354
## [213]	{dessert}	=> {other vegetables}	0.011591256	0.3123288	0.037112354
## [214]	{dessert}	=> {whole milk}	0.013726487	0.3698630	0.037112354
## [215]	{canned beer}	=> {shopping bags}	0.011387900	0.1465969	0.077681749
## [216]	{shopping bags}	=> {canned beer}	0.011387900	0.1155831	0.098525674
## [217]	{canned beer}	=> {bottled water}	0.008032537	0.1034031	0.077681749
## [218]	{canned beer}	=> {soda}	0.013828165	0.1780105	0.077681749
## [219]	{canned beer}	=> {rolls/buns}	0.011286223	0.1452880	0.077681749
## [220]	{canned beer}	=> {other vegetables}	0.009049314	0.1164921	0.077681749
## [221]	{canned beer}	=> {whole milk}	0.008845958	0.1138743	0.077681749
## [222]	{cream cheese}	=> {curd}	0.005083884	0.1282051	0.039654296
## [223]	{cream cheese}	=> {domestic eggs}	0.005083884	0.1282051	0.039654296
## [224]	{cream cheese}	=> {fruit/vegetable juice}	0.005693950	0.1435897	0.039654296
## [225]	{cream cheese}	=> {whipped/sour cream}	0.006405694	0.1615385	0.039654296
## [226]	{cream cheese}	=> {pip fruit}	0.006100661	0.1538462	0.039654296
## [227]	{cream cheese}	=> {citrus fruit}	0.005693950	0.1435897	0.039654296
## [228]	{cream cheese}	=> {shopping bags}	0.005592272	0.1410256	0.039654296
## [229]	{cream cheese}	=> {sausage}	0.005592272	0.1410256	0.039654296
## [230]	{cream cheese}	=> {bottled water}	0.005897306	0.1487179	0.039654296
## [231]	{cream cheese}	=> {tropical fruit}	0.007219115	0.1820513	0.039654296
## [232]	{cream cheese}	=> {root vegetables}	0.007524148	0.1897436	0.039654296
## [233]	{cream cheese}	=> {soda}	0.006812405	0.1717949	0.039654296



## [234]	{cream cheese}	=> {yogurt}	0.012404677	0.3128205	0.039654296
## [235]	{cream cheese}	=> {rolls/buns}	0.009964413	0.2512821	0.039654296
## [236]	{cream cheese}	=> {other vegetables}	0.013726487	0.3461538	0.039654296
## [237]	{cream cheese}	=> {whole milk}	0.016471784	0.4153846	0.039654296
## [238]	{chicken}	=> {frozen vegetables}	0.006710727	0.1563981	0.042907982
## [239]	{frozen vegetables}	=> {chicken}	0.006710727	0.1395349	0.048093543
## [240]	{chicken}	=> {pork}	0.005795628	0.1350711	0.042907982
## [241]	{pork}	=> {chicken}	0.005795628	0.1005291	0.057651246
## [242]	{chicken}	=> {butter}	0.005795628	0.1350711	0.042907982
## [243]	{butter}	=> {chicken}	0.005795628	0.1045872	0.055414337
## [244]	{chicken}	=> {newspapers}	0.005185562	0.1208531	0.042907982
## [245]	{chicken}	=> {domestic eggs}	0.006202339	0.1445498	0.042907982
## [246]	{chicken}	=> {whipped/sour cream}	0.007219115	0.1682464	0.042907982
## [247]	{whipped/sour cream}	=> {chicken}	0.007219115	0.1007092	0.071682766
## [248]	{chicken}	=> {citrus fruit}	0.006914082	0.1611374	0.042907982
## [249]	{chicken}	=> {sausage}	0.005287239	0.1232227	0.042907982
## [250]	{chicken}	=> {bottled water}	0.005287239	0.1232227	0.042907982
## [251]	{chicken}	=> {tropical fruit}	0.006405694	0.1492891	0.042907982
## [252]	{chicken}	=> {root vegetables}	0.010879512	0.2535545	0.042907982
## [253]	{chicken}	=> {soda}	0.008337570	0.1943128	0.042907982
## [254]	{chicken}	=> {yogurt}	0.008337570	0.1943128	0.042907982
## [255]	{chicken}	=> {rolls/buns}	0.009659380	0.2251185	0.042907982
## [256]	{chicken}	=> {other vegetables}	0.017895272	0.4170616	0.042907982
## [257]	{chicken}	=> {whole milk}	0.017590239	0.4099526	0.042907982
## [258]	{white bread}	=> {frankfurter}	0.005185562	0.1231884	0.042094560
## [259]	{white bread}	=> {domestic eggs}	0.005795628	0.1376812	0.042094560
## [260]	{white bread}	=> {fruit/vegetable juice}	0.007422471	0.1763285	0.042094560
## [261]	{fruit/vegetable juice}	=> {white bread}	0.007422471	0.1026723	0.072292832
## [262]	{white bread}	=> {whipped/sour cream}	0.005490595	0.1304348	0.042094560
## [263]	{white bread}	=> {pip fruit}	0.006609049	0.1570048	0.042094560
## [264]	{white bread}	=> {pastry}	0.005592272	0.1328502	0.042094560
## [265]	{white bread}	=> {shopping bags}	0.007422471	0.1763285	0.042094560
## [266]	{white bread}	=> {sausage}	0.007219115	0.1714976	0.042094560
## [267]	{white bread}	=> {tropical fruit}	0.008744281	0.2077295	0.042094560
## [268]	{white bread}	=> {root vegetables}	0.007930859	0.1884058	0.042094560
## [269]	{white bread}	=> {soda}	0.010269446	0.2439614	0.042094560
## [270]	{white bread}	=> {yogurt}	0.009049314	0.2149758	0.042094560
## [271]	{white bread}	=> {rolls/buns}	0.006507372	0.1545894	0.042094560
## [272]	{white bread}	=> {other vegetables}	0.013726487	0.3260870	0.042094560
## [273]	{white bread}	=> {whole milk}	0.017081851	0.4057971	0.042094560
## [274]	{chocolate}	=> {butter}	0.006202339	0.1250000	0.049618709
## [275]	{butter}	=> {chocolate}	0.006202339	0.1119266	0.055414337
## [276]	{chocolate}	=> {newspapers}	0.005490595	0.1106557	0.049618709
## [277]	{chocolate}	=> {fruit/vegetable juice}	0.006812405	0.1372951	0.049618709
## [278]	{chocolate}	=> {pip fruit}	0.006100661	0.1229508	0.049618709
## [279]	{chocolate}	=> {pastry}	0.008032537	0.1618852	0.049618709
## [280]	{chocolate}	=> {citrus fruit}	0.006405694	0.1290984	0.049618709
## [281]	{chocolate}	=> {shopping bags}	0.008134215	0.1639344	0.049618709
## [282]	{chocolate}	=> {sausage}	0.006609049	0.1331967	0.049618709
## [283]	{chocolate}	=> {bottled water}	0.005795628	0.1168033	0.049618709
## [284]	{chocolate}	=> {tropical fruit}	0.008134215	0.1639344	0.049618709
## [285]	{chocolate}	=> {root vegetables}	0.006405694	0.1290984	0.049618709
## [286]	{chocolate}	=> {soda}	0.013523132	0.2725410	0.049618709
## [287]	{chocolate}	=> {yogurt}	0.009252669	0.1864754	0.049618709

## [288]	{chocolate}	=> {rolls/buns}	0.011794611	0.2377049	0.049618709
## [289]	{chocolate}	=> {other vegetables}	0.012709710	0.2561475	0.049618709
## [290]	{chocolate}	=> {whole milk}	0.016675140	0.3360656	0.049618709
## [291]	{coffee}	=> {fruit/vegetable juice}	0.005998983	0.1033275	0.058057956
## [292]	{coffee}	=> {whipped/sour cream}	0.006100661	0.1050788	0.058057956
## [293]	{coffee}	=> {pip fruit}	0.006914082	0.1190893	0.058057956
## [294]	{coffee}	=> {pastry}	0.006914082	0.1190893	0.058057956
## [295]	{coffee}	=> {citrus fruit}	0.006405694	0.1103327	0.058057956
## [296]	{coffee}	=> {shopping bags}	0.009354347	0.1611208	0.058057956
## [297]	{coffee}	=> {sausage}	0.006914082	0.1190893	0.058057956
## [298]	{coffee}	=> {bottled water}	0.007320793	0.1260946	0.058057956
## [299]	{coffee}	=> {tropical fruit}	0.007117438	0.1225919	0.058057956
## [300]	{coffee}	=> {root vegetables}	0.007320793	0.1260946	0.058057956
## [301]	{coffee}	=> {soda}	0.009964413	0.1716287	0.058057956
## [302]	{coffee}	=> {yogurt}	0.009761057	0.1681261	0.058057956
## [303]	{coffee}	=> {rolls/buns}	0.010981190	0.1891419	0.058057956
## [304]	{coffee}	=> {other vegetables}	0.013421454	0.2311734	0.058057956
## [305]	{coffee}	=> {whole milk}	0.018708693	0.3222417	0.058057956
## [306]	{frozen vegetables}	=> {pork}	0.006405694	0.1331924	0.048093543
## [307]	{pork}	=> {frozen vegetables}	0.006405694	0.1111111	0.057651246
## [308]	{frozen vegetables}	=> {frankfurter}	0.005083884	0.1057082	0.048093543
## [309]	{frozen vegetables}	=> {margarine}	0.005083884	0.1057082	0.048093543
## [310]	{frozen vegetables}	=> {butter}	0.005795628	0.1205074	0.048093543
## [311]	{butter}	=> {frozen vegetables}	0.005795628	0.1045872	0.055414337
## [312]	{frozen vegetables}	=> {domestic eggs}	0.005185562	0.1078224	0.048093543
## [313]	{frozen vegetables}	=> {fruit/vegetable juice}	0.007829181	0.1627907	0.048093543
## [314]	{fruit/vegetable juice}	=> {frozen vegetables}	0.007829181	0.1082982	0.072292832
## [315]	{frozen vegetables}	=> {whipped/sour cream}	0.007930859	0.1649049	0.048093543
## [316]	{whipped/sour cream}	=> {frozen vegetables}	0.007930859	0.1106383	0.071682766
## [317]	{frozen vegetables}	=> {pip fruit}	0.007320793	0.1522199	0.048093543
## [318]	{frozen vegetables}	=> {citrus fruit}	0.006609049	0.1374207	0.048093543
## [319]	{frozen vegetables}	=> {sausage}	0.005998983	0.1247357	0.048093543
## [320]	{frozen vegetables}	=> {bottled water}	0.006202339	0.1289641	0.048093543
## [321]	{frozen vegetables}	=> {tropical fruit}	0.008744281	0.1818182	0.048093543
## [322]	{frozen vegetables}	=> {root vegetables}	0.011591256	0.2410148	0.048093543
## [323]	{root vegetables}	=> {frozen vegetables}	0.011591256	0.1063433	0.108998475
## [324]	{frozen vegetables}	=> {soda}	0.008642603	0.1797040	0.048093543
## [325]	{frozen vegetables}	=> {yogurt}	0.012404677	0.2579281	0.048093543
## [326]	{frozen vegetables}	=> {rolls/buns}	0.010167768	0.2114165	0.048093543
## [327]	{frozen vegetables}	=> {other vegetables}	0.017793594	0.3699789	0.048093543
## [328]	{frozen vegetables}	=> {whole milk}	0.020437214	0.4249471	0.048093543
## [329]	{beef}	=> {pork}	0.007625826	0.1453488	0.052465684
## [330]	{pork}	=> {beef}	0.007625826	0.1322751	0.057651246
## [331]	{beef}	=> {margarine}	0.006202339	0.1182171	0.052465684
## [332]	{margarine}	=> {beef}	0.006202339	0.1059028	0.058566345
## [333]	{beef}	=> {butter}	0.005795628	0.1104651	0.052465684
## [334]	{butter}	=> {beef}	0.005795628	0.1045872	0.055414337
## [335]	{beef}	=> {newspapers}	0.006405694	0.1220930	0.052465684
## [336]	{beef}	=> {domestic eggs}	0.005998983	0.1143411	0.052465684
## [337]	{beef}	=> {whipped/sour cream}	0.006710727	0.1279070	0.052465684
## [338]	{beef}	=> {pastry}	0.006304016	0.1201550	0.052465684
## [339]	{beef}	=> {citrus fruit}	0.008439248	0.1608527	0.052465684
## [340]	{citrus fruit}	=> {beef}	0.008439248	0.1019656	0.082765633
## [341]	{beef}	=> {sausage}	0.005592272	0.1065891	0.052465684

## [342]	{beef}	=> {bottled water}	0.006202339	0.1182171	0.052465684
## [343]	{beef}	=> {tropical fruit}	0.007625826	0.1453488	0.052465684
## [344]	{beef}	=> {root vegetables}	0.017386884	0.3313953	0.052465684
## [345]	{root vegetables}	=> {beef}	0.017386884	0.1595149	0.108998475
## [346]	{beef}	=> {soda}	0.008134215	0.1550388	0.052465684
## [347]	{beef}	=> {yogurt}	0.011692933	0.2228682	0.052465684
## [348]	{beef}	=> {rolls/buns}	0.013624809	0.2596899	0.052465684
## [349]	{beef}	=> {other vegetables}	0.019725470	0.3759690	0.052465684
## [350]	{other vegetables}	=> {beef}	0.019725470	0.1019443	0.193492628
## [351]	{beef}	=> {whole milk}	0.021250635	0.4050388	0.052465684
## [352]	{curd}	=> {margarine}	0.006304016	0.1183206	0.053279105
## [353]	{margarine}	=> {curd}	0.006304016	0.1076389	0.058566345
## [354]	{curd}	=> {butter}	0.006812405	0.1278626	0.053279105
## [355]	{butter}	=> {curd}	0.006812405	0.1229358	0.055414337
## [356]	{curd}	=> {newspapers}	0.005693950	0.1068702	0.053279105
## [357]	{curd}	=> {domestic eggs}	0.006507372	0.1221374	0.053279105
## [358]	{domestic eggs}	=> {curd}	0.006507372	0.1025641	0.063446873
## [359]	{curd}	=> {whipped/sour cream}	0.010472801	0.1965649	0.053279105
## [360]	{whipped/sour cream}	=> {curd}	0.010472801	0.1460993	0.071682766
## [361]	{curd}	=> {pip fruit}	0.007829181	0.1469466	0.053279105
## [362]	{pip fruit}	=> {curd}	0.007829181	0.1034946	0.075648195
## [363]	{curd}	=> {pastry}	0.007524148	0.1412214	0.053279105
## [364]	{curd}	=> {citrus fruit}	0.007117438	0.1335878	0.053279105
## [365]	{curd}	=> {shopping bags}	0.005388917	0.1011450	0.053279105
## [366]	{curd}	=> {sausage}	0.007625826	0.1431298	0.053279105
## [367]	{curd}	=> {bottled water}	0.006100661	0.1145038	0.053279105
## [368]	{curd}	=> {tropical fruit}	0.010269446	0.1927481	0.053279105
## [369]	{curd}	=> {root vegetables}	0.010879512	0.2041985	0.053279105
## [370]	{curd}	=> {soda}	0.008134215	0.1526718	0.053279105
## [371]	{curd}	=> {yogurt}	0.017285206	0.3244275	0.053279105
## [372]	{yogurt}	=> {curd}	0.017285206	0.1239067	0.139501779
## [373]	{curd}	=> {rolls/buns}	0.010066090	0.1889313	0.053279105
## [374]	{curd}	=> {other vegetables}	0.017183528	0.3225191	0.053279105
## [375]	{curd}	=> {whole milk}	0.026131164	0.4904580	0.053279105
## [376]	{whole milk}	=> {curd}	0.026131164	0.1022682	0.255516014
## [377]	{napkins}	=> {newspapers}	0.006202339	0.1184466	0.052364006
## [378]	{napkins}	=> {domestic eggs}	0.005998983	0.1145631	0.052364006
## [379]	{napkins}	=> {fruit/vegetable juice}	0.006914082	0.1320388	0.052364006
## [380]	{napkins}	=> {whipped/sour cream}	0.007219115	0.1378641	0.052364006
## [381]	{whipped/sour cream}	=> {napkins}	0.007219115	0.1007092	0.071682766
## [382]	{napkins}	=> {pip fruit}	0.006710727	0.1281553	0.052364006
## [383]	{napkins}	=> {pastry}	0.007015760	0.1339806	0.052364006
## [384]	{napkins}	=> {citrus fruit}	0.007625826	0.1456311	0.052364006
## [385]	{napkins}	=> {shopping bags}	0.007219115	0.1378641	0.052364006
## [386]	{napkins}	=> {sausage}	0.006710727	0.1281553	0.052364006
## [387]	{napkins}	=> {bottled water}	0.008642603	0.1650485	0.052364006
## [388]	{napkins}	=> {tropical fruit}	0.010066090	0.1922330	0.052364006
## [389]	{napkins}	=> {root vegetables}	0.009964413	0.1902913	0.052364006
## [390]	{napkins}	=> {soda}	0.011997966	0.2291262	0.052364006
## [391]	{napkins}	=> {yogurt}	0.012302999	0.2349515	0.052364006
## [392]	{napkins}	=> {rolls/buns}	0.011692933	0.2233010	0.052364006
## [393]	{napkins}	=> {other vegetables}	0.014438231	0.2757282	0.052364006
## [394]	{napkins}	=> {whole milk}	0.019725470	0.3766990	0.052364006
## [395]	{pork}	=> {frankfurter}	0.005897306	0.1022928	0.057651246

## [396]	{frankfurter}	=> {pork}	0.005897306	0.1000000	0.058973055
## [397]	{pork}	=> {margarine}	0.006405694	0.1111111	0.057651246
## [398]	{margarine}	=> {pork}	0.006405694	0.1093750	0.058566345
## [399]	{pork}	=> {newspapers}	0.006609049	0.1146384	0.057651246
## [400]	{pork}	=> {whipped/sour cream}	0.008235892	0.1428571	0.057651246
## [401]	{whipped/sour cream}	=> {pork}	0.008235892	0.1148936	0.071682766
## [402]	{pork}	=> {pip fruit}	0.006100661	0.1058201	0.057651246
## [403]	{pork}	=> {pastry}	0.006304016	0.1093474	0.057651246
## [404]	{pork}	=> {citrus fruit}	0.006507372	0.1128748	0.057651246
## [405]	{pork}	=> {shopping bags}	0.006405694	0.1111111	0.057651246
## [406]	{pork}	=> {sausage}	0.006507372	0.1128748	0.057651246
## [407]	{pork}	=> {bottled water}	0.007422471	0.1287478	0.057651246
## [408]	{pork}	=> {tropical fruit}	0.008540925	0.1481481	0.057651246
## [409]	{pork}	=> {root vegetables}	0.013624809	0.2363316	0.057651246
## [410]	{root vegetables}	=> {pork}	0.013624809	0.1250000	0.108998475
## [411]	{pork}	=> {soda}	0.011896289	0.2063492	0.057651246
## [412]	{pork}	=> {yogurt}	0.009557702	0.1657848	0.057651246
## [413]	{pork}	=> {rolls/buns}	0.011286223	0.1957672	0.057651246
## [414]	{pork}	=> {other vegetables}	0.021657346	0.3756614	0.057651246
## [415]	{other vegetables}	=> {pork}	0.021657346	0.1119285	0.193492628
## [416]	{pork}	=> {whole milk}	0.022165735	0.3844797	0.057651246
## [417]	{frankfurter}	=> {brown bread}	0.007117438	0.1206897	0.058973055
## [418]	{brown bread}	=> {frankfurter}	0.007117438	0.1097179	0.064870361
## [419]	{frankfurter}	=> {margarine}	0.006405694	0.1086207	0.058973055
## [420]	{margarine}	=> {frankfurter}	0.006405694	0.1093750	0.058566345
## [421]	{frankfurter}	=> {domestic eggs}	0.007015760	0.1189655	0.058973055
## [422]	{domestic eggs}	=> {frankfurter}	0.007015760	0.1105769	0.063446873
## [423]	{frankfurter}	=> {whipped/sour cream}	0.006202339	0.1051724	0.058973055
## [424]	{frankfurter}	=> {pip fruit}	0.007219115	0.1224138	0.058973055
## [425]	{frankfurter}	=> {pastry}	0.008337570	0.1413793	0.058973055
## [426]	{frankfurter}	=> {citrus fruit}	0.006507372	0.1103448	0.058973055
## [427]	{frankfurter}	=> {shopping bags}	0.008235892	0.1396552	0.058973055
## [428]	{frankfurter}	=> {sausage}	0.010066090	0.1706897	0.058973055
## [429]	{sausage}	=> {frankfurter}	0.010066090	0.1071429	0.093950178
## [430]	{frankfurter}	=> {bottled water}	0.007320793	0.1241379	0.058973055
## [431]	{frankfurter}	=> {tropical fruit}	0.009456024	0.1603448	0.058973055
## [432]	{frankfurter}	=> {root vegetables}	0.010167768	0.1724138	0.058973055
## [433]	{frankfurter}	=> {soda}	0.011286223	0.1913793	0.058973055
## [434]	{frankfurter}	=> {yogurt}	0.011184545	0.1896552	0.058973055
## [435]	{frankfurter}	=> {rolls/buns}	0.019217082	0.3258621	0.058973055
## [436]	{rolls/buns}	=> {frankfurter}	0.019217082	0.1044776	0.183934926
## [437]	{frankfurter}	=> {other vegetables}	0.016471784	0.2793103	0.058973055
## [438]	{frankfurter}	=> {whole milk}	0.020538892	0.3482759	0.058973055
## [439]	{margarine}	=> {bottled beer}	0.006100661	0.1041667	0.058566345
## [440]	{butter}	=> {bottled beer}	0.005795628	0.1045872	0.055414337
## [441]	{bottled beer}	=> {bottled water}	0.015760041	0.1957071	0.080528724
## [442]	{bottled water}	=> {bottled beer}	0.015760041	0.1425943	0.110523640
## [443]	{bottled beer}	=> {tropical fruit}	0.008235892	0.1022727	0.080528724
## [444]	{bottled beer}	=> {root vegetables}	0.009659380	0.1199495	0.080528724
## [445]	{bottled beer}	=> {soda}	0.016980173	0.2108586	0.080528724
## [446]	{bottled beer}	=> {yogurt}	0.009252669	0.1148990	0.080528724
## [447]	{bottled beer}	=> {rolls/buns}	0.013624809	0.1691919	0.080528724
## [448]	{bottled beer}	=> {other vegetables}	0.016166751	0.2007576	0.080528724
## [449]	{bottled beer}	=> {whole milk}	0.020437214	0.2537879	0.080528724

## [450]	{brown bread}	=> {margarine}	0.006507372	0.1003135	0.064870361
## [451]	{margarine}	=> {brown bread}	0.006507372	0.1111111	0.058566345
## [452]	{butter}	=> {brown bread}	0.005795628	0.1045872	0.055414337
## [453]	{brown bread}	=> {newspapers}	0.007625826	0.1175549	0.064870361
## [454]	{brown bread}	=> {domestic eggs}	0.006812405	0.1050157	0.064870361
## [455]	{domestic eggs}	=> {brown bread}	0.006812405	0.1073718	0.063446873
## [456]	{brown bread}	=> {fruit/vegetable juice}	0.008337570	0.1285266	0.064870361
## [457]	{fruit/vegetable juice}	=> {brown bread}	0.008337570	0.1153305	0.072292832
## [458]	{brown bread}	=> {pip fruit}	0.007625826	0.1175549	0.064870361
## [459]	{pip fruit}	=> {brown bread}	0.007625826	0.1008065	0.075648195
## [460]	{brown bread}	=> {pastry}	0.009659380	0.1489028	0.064870361
## [461]	{pastry}	=> {brown bread}	0.009659380	0.1085714	0.088967972
## [462]	{brown bread}	=> {citrus fruit}	0.008337570	0.1285266	0.064870361
## [463]	{citrus fruit}	=> {brown bread}	0.008337570	0.1007371	0.082765633
## [464]	{brown bread}	=> {shopping bags}	0.009252669	0.1426332	0.064870361
## [465]	{brown bread}	=> {sausage}	0.010676157	0.1645768	0.064870361
## [466]	{sausage}	=> {brown bread}	0.010676157	0.1136364	0.093950178
## [467]	{brown bread}	=> {bottled water}	0.008235892	0.1269592	0.064870361
## [468]	{brown bread}	=> {tropical fruit}	0.010676157	0.1645768	0.064870361
## [469]	{tropical fruit}	=> {brown bread}	0.010676157	0.1017442	0.104931368
## [470]	{brown bread}	=> {root vegetables}	0.010167768	0.1567398	0.064870361
## [471]	{brown bread}	=> {soda}	0.012608033	0.1943574	0.064870361
## [472]	{brown bread}	=> {yogurt}	0.014539908	0.2241379	0.064870361
## [473]	{yogurt}	=> {brown bread}	0.014539908	0.1042274	0.139501779
## [474]	{brown bread}	=> {rolls/buns}	0.012608033	0.1943574	0.064870361
## [475]	{brown bread}	=> {other vegetables}	0.018708693	0.2884013	0.064870361
## [476]	{brown bread}	=> {whole milk}	0.025216065	0.3887147	0.064870361
## [477]	{margarine}	=> {butter}	0.006710727	0.1145833	0.058566345
## [478]	{butter}	=> {margarine}	0.006710727	0.1211009	0.055414337
## [479]	{margarine}	=> {newspapers}	0.007117438	0.1215278	0.058566345
## [480]	{margarine}	=> {domestic eggs}	0.008337570	0.1423611	0.058566345
## [481]	{domestic eggs}	=> {margarine}	0.008337570	0.1314103	0.063446873
## [482]	{margarine}	=> {fruit/vegetable juice}	0.006202339	0.1059028	0.058566345
## [483]	{margarine}	=> {whipped/sour cream}	0.006812405	0.1163194	0.058566345
## [484]	{margarine}	=> {pip fruit}	0.008540925	0.1458333	0.058566345
## [485]	{pip fruit}	=> {margarine}	0.008540925	0.1129032	0.075648195
## [486]	{margarine}	=> {pastry}	0.006812405	0.1163194	0.058566345
## [487]	{margarine}	=> {citrus fruit}	0.007930859	0.1354167	0.058566345
## [488]	{margarine}	=> {sausage}	0.007117438	0.1215278	0.058566345
## [489]	{margarine}	=> {bottled water}	0.010269446	0.1753472	0.058566345
## [490]	{margarine}	=> {tropical fruit}	0.009354347	0.1597222	0.058566345
## [491]	{margarine}	=> {root vegetables}	0.011082867	0.1892361	0.058566345
## [492]	{root vegetables}	=> {margarine}	0.011082867	0.1016791	0.108998475
## [493]	{margarine}	=> {soda}	0.010167768	0.1736111	0.058566345
## [494]	{margarine}	=> {yogurt}	0.014234875	0.2430556	0.058566345
## [495]	{yogurt}	=> {margarine}	0.014234875	0.1020408	0.139501779
## [496]	{margarine}	=> {rolls/buns}	0.014743264	0.2517361	0.058566345
## [497]	{margarine}	=> {other vegetables}	0.019725470	0.3368056	0.058566345
## [498]	{other vegetables}	=> {margarine}	0.019725470	0.1019443	0.193492628
## [499]	{margarine}	=> {whole milk}	0.024199288	0.4131944	0.058566345
## [500]	{butter}	=> {newspapers}	0.005795628	0.1045872	0.055414337
## [501]	{butter}	=> {domestic eggs}	0.009659380	0.1743119	0.055414337
## [502]	{domestic eggs}	=> {butter}	0.009659380	0.1522436	0.063446873
## [503]	{butter}	=> {fruit/vegetable juice}	0.008032537	0.1449541	0.055414337

## [504]	{fruit/vegetable juice}	=> {butter}	0.008032537	0.11111111	0.072292832
## [505]	{butter}	=> {whipped/sour cream}	0.010167768	0.1834862	0.055414337
## [506]	{whipped/sour cream}	=> {butter}	0.010167768	0.1418440	0.071682766
## [507]	{butter}	=> {pip fruit}	0.007320793	0.1321101	0.055414337
## [508]	{butter}	=> {pastry}	0.007625826	0.1376147	0.055414337
## [509]	{butter}	=> {citrus fruit}	0.009150991	0.1651376	0.055414337
## [510]	{citrus fruit}	=> {butter}	0.009150991	0.1105651	0.082765633
## [511]	{butter}	=> {sausage}	0.008642603	0.1559633	0.055414337
## [512]	{butter}	=> {bottled water}	0.008947636	0.1614679	0.055414337
## [513]	{butter}	=> {tropical fruit}	0.009964413	0.1798165	0.055414337
## [514]	{butter}	=> {root vegetables}	0.012913066	0.2330275	0.055414337
## [515]	{root vegetables}	=> {butter}	0.012913066	0.1184701	0.108998475
## [516]	{butter}	=> {soda}	0.008845958	0.1596330	0.055414337
## [517]	{butter}	=> {yogurt}	0.014641586	0.2642202	0.055414337
## [518]	{yogurt}	=> {butter}	0.014641586	0.1049563	0.139501779
## [519]	{butter}	=> {rolls/buns}	0.013421454	0.2422018	0.055414337
## [520]	{butter}	=> {other vegetables}	0.020030503	0.3614679	0.055414337
## [521]	{other vegetables}	=> {butter}	0.020030503	0.1035208	0.193492628
## [522]	{butter}	=> {whole milk}	0.027554652	0.4972477	0.055414337
## [523]	{whole milk}	=> {butter}	0.027554652	0.1078392	0.255516014
## [524]	{domestic eggs}	=> {newspapers}	0.006914082	0.1089744	0.063446873
## [525]	{newspapers}	=> {fruit/vegetable juice}	0.008235892	0.1031847	0.079816980
## [526]	{fruit/vegetable juice}	=> {newspapers}	0.008235892	0.1139241	0.072292832
## [527]	{whipped/sour cream}	=> {newspapers}	0.007219115	0.1007092	0.071682766
## [528]	{newspapers}	=> {pastry}	0.008439248	0.1057325	0.079816980
## [529]	{newspapers}	=> {citrus fruit}	0.008337570	0.1044586	0.079816980
## [530]	{citrus fruit}	=> {newspapers}	0.008337570	0.1007371	0.082765633
## [531]	{newspapers}	=> {sausage}	0.008032537	0.1006369	0.079816980
## [532]	{newspapers}	=> {bottled water}	0.011286223	0.1414013	0.079816980
## [533]	{bottled water}	=> {newspapers}	0.011286223	0.1021159	0.110523640
## [534]	{newspapers}	=> {tropical fruit}	0.011794611	0.1477707	0.079816980
## [535]	{tropical fruit}	=> {newspapers}	0.011794611	0.1124031	0.104931368
## [536]	{newspapers}	=> {root vegetables}	0.011489578	0.1439490	0.079816980
## [537]	{root vegetables}	=> {newspapers}	0.011489578	0.1054104	0.108998475
## [538]	{newspapers}	=> {soda}	0.014641586	0.1834395	0.079816980
## [539]	{newspapers}	=> {yogurt}	0.015353330	0.1923567	0.079816980
## [540]	{yogurt}	=> {newspapers}	0.015353330	0.1100583	0.139501779
## [541]	{newspapers}	=> {rolls/buns}	0.019725470	0.2471338	0.079816980
## [542]	{rolls/buns}	=> {newspapers}	0.019725470	0.1072416	0.183934926
## [543]	{newspapers}	=> {other vegetables}	0.019318760	0.2420382	0.079816980
## [544]	{newspapers}	=> {whole milk}	0.027351296	0.3426752	0.079816980
## [545]	{whole milk}	=> {newspapers}	0.027351296	0.1070434	0.255516014
## [546]	{domestic eggs}	=> {fruit/vegetable juice}	0.008032537	0.1266026	0.063446873
## [547]	{fruit/vegetable juice}	=> {domestic eggs}	0.008032537	0.11111111	0.072292832
## [548]	{domestic eggs}	=> {whipped/sour cream}	0.009964413	0.1570513	0.063446873
## [549]	{whipped/sour cream}	=> {domestic eggs}	0.009964413	0.1390071	0.071682766
## [550]	{domestic eggs}	=> {pip fruit}	0.008642603	0.1362179	0.063446873
## [551]	{pip fruit}	=> {domestic eggs}	0.008642603	0.1142473	0.075648195
## [552]	{domestic eggs}	=> {pastry}	0.009049314	0.1426282	0.063446873
## [553]	{pastry}	=> {domestic eggs}	0.009049314	0.1017143	0.088967972
## [554]	{domestic eggs}	=> {citrus fruit}	0.010371124	0.1634615	0.063446873
## [555]	{citrus fruit}	=> {domestic eggs}	0.010371124	0.1253071	0.082765633
## [556]	{domestic eggs}	=> {shopping bags}	0.009049314	0.1426282	0.063446873
## [557]	{domestic eggs}	=> {sausage}	0.009557702	0.1506410	0.063446873

## [558]	{sausage}	=> {domestic eggs}	0.009557702	0.1017316	0.093950178
## [559]	{domestic eggs}	=> {bottled water}	0.009150991	0.1442308	0.063446873
## [560]	{domestic eggs}	=> {tropical fruit}	0.011387900	0.1794872	0.063446873
## [561]	{tropical fruit}	=> {domestic eggs}	0.011387900	0.1085271	0.104931368
## [562]	{domestic eggs}	=> {root vegetables}	0.014336553	0.2259615	0.063446873
## [563]	{root vegetables}	=> {domestic eggs}	0.014336553	0.1315299	0.108998475
## [564]	{domestic eggs}	=> {soda}	0.012404677	0.1955128	0.063446873
## [565]	{domestic eggs}	=> {yogurt}	0.014336553	0.2259615	0.063446873
## [566]	{yogurt}	=> {domestic eggs}	0.014336553	0.1027697	0.139501779
## [567]	{domestic eggs}	=> {rolls/buns}	0.015658363	0.2467949	0.063446873
## [568]	{domestic eggs}	=> {other vegetables}	0.022267412	0.3509615	0.063446873
## [569]	{other vegetables}	=> {domestic eggs}	0.022267412	0.1150815	0.193492628
## [570]	{domestic eggs}	=> {whole milk}	0.029994916	0.4727564	0.063446873
## [571]	{whole milk}	=> {domestic eggs}	0.029994916	0.1173896	0.255516014
## [572]	{fruit/vegetable juice}	=> {whipped/sour cream}	0.009049314	0.1251758	0.072292832
## [573]	{whipped/sour cream}	=> {fruit/vegetable juice}	0.009049314	0.1262411	0.071682766
## [574]	{fruit/vegetable juice}	=> {pip fruit}	0.009557702	0.1322082	0.072292832
## [575]	{pip fruit}	=> {fruit/vegetable juice}	0.009557702	0.1263441	0.075648195
## [576]	{fruit/vegetable juice}	=> {pastry}	0.008540925	0.1181435	0.072292832
## [577]	{fruit/vegetable juice}	=> {citrus fruit}	0.010371124	0.1434599	0.072292832
## [578]	{citrus fruit}	=> {fruit/vegetable juice}	0.010371124	0.1253071	0.082765633
## [579]	{fruit/vegetable juice}	=> {shopping bags}	0.010676157	0.1476793	0.072292832
## [580]	{shopping bags}	=> {fruit/vegetable juice}	0.010676157	0.1083591	0.098525674
## [581]	{fruit/vegetable juice}	=> {sausage}	0.010066090	0.1392405	0.072292832
## [582]	{sausage}	=> {fruit/vegetable juice}	0.010066090	0.1071429	0.093950178
## [583]	{fruit/vegetable juice}	=> {bottled water}	0.014234875	0.1969058	0.072292832
## [584]	{bottled water}	=> {fruit/vegetable juice}	0.014234875	0.1287948	0.110523640
## [585]	{fruit/vegetable juice}	=> {tropical fruit}	0.013726487	0.1898734	0.072292832
## [586]	{tropical fruit}	=> {fruit/vegetable juice}	0.013726487	0.1308140	0.104931368
## [587]	{fruit/vegetable juice}	=> {root vegetables}	0.011997966	0.1659634	0.072292832
## [588]	{root vegetables}	=> {fruit/vegetable juice}	0.011997966	0.1100746	0.108998475
## [589]	{fruit/vegetable juice}	=> {soda}	0.018403660	0.2545710	0.072292832
## [590]	{soda}	=> {fruit/vegetable juice}	0.018403660	0.1055394	0.174377224
## [591]	{fruit/vegetable juice}	=> {yogurt}	0.018708693	0.2587904	0.072292832
## [592]	{yogurt}	=> {fruit/vegetable juice}	0.018708693	0.1341108	0.139501779
## [593]	{fruit/vegetable juice}	=> {rolls/buns}	0.014539908	0.2011252	0.072292832
## [594]	{fruit/vegetable juice}	=> {other vegetables}	0.021047280	0.2911392	0.072292832
## [595]	{other vegetables}	=> {fruit/vegetable juice}	0.021047280	0.1087756	0.193492628
## [596]	{fruit/vegetable juice}	=> {whole milk}	0.026639553	0.3684951	0.072292832
## [597]	{whole milk}	=> {fruit/vegetable juice}	0.026639553	0.1042579	0.255516014
## [598]	{whipped/sour cream}	=> {pip fruit}	0.009252669	0.1290780	0.071682766
## [599]	{pip fruit}	=> {whipped/sour cream}	0.009252669	0.1223118	0.075648195
## [600]	{whipped/sour cream}	=> {pastry}	0.007524148	0.1049645	0.071682766
## [601]	{whipped/sour cream}	=> {citrus fruit}	0.010879512	0.1517730	0.071682766
## [602]	{citrus fruit}	=> {whipped/sour cream}	0.010879512	0.1314496	0.082765633
## [603]	{whipped/sour cream}	=> {shopping bags}	0.007930859	0.1106383	0.071682766
## [604]	{whipped/sour cream}	=> {sausage}	0.009049314	0.1262411	0.071682766
## [605]	{whipped/sour cream}	=> {bottled water}	0.008744281	0.1219858	0.071682766
## [606]	{whipped/sour cream}	=> {tropical fruit}	0.013828165	0.1929078	0.071682766
## [607]	{tropical fruit}	=> {whipped/sour cream}	0.013828165	0.1317829	0.104931368
## [608]	{whipped/sour cream}	=> {root vegetables}	0.017081851	0.2382979	0.071682766
## [609]	{root vegetables}	=> {whipped/sour cream}	0.017081851	0.1567164	0.108998475
## [610]	{whipped/sour cream}	=> {soda}	0.011591256	0.1617021	0.071682766
## [611]	{whipped/sour cream}	=> {yogurt}	0.020742247	0.2893617	0.071682766

## [612]	{yogurt}	=> {whipped/sour cream}	0.020742247	0.1486880	0.139501779
## [613]	{whipped/sour cream}	=> {rolls/buns}	0.014641586	0.2042553	0.071682766
## [614]	{whipped/sour cream}	=> {other vegetables}	0.028876462	0.4028369	0.071682766
## [615]	{other vegetables}	=> {whipped/sour cream}	0.028876462	0.1492380	0.193492628
## [616]	{whipped/sour cream}	=> {whole milk}	0.032231825	0.4496454	0.071682766
## [617]	{whole milk}	=> {whipped/sour cream}	0.032231825	0.1261441	0.255516014
## [618]	{pip fruit}	=> {pastry}	0.010676157	0.1411290	0.075648195
## [619]	{pastry}	=> {pip fruit}	0.010676157	0.1200000	0.088967972
## [620]	{pip fruit}	=> {citrus fruit}	0.013828165	0.1827957	0.075648195
## [621]	{citrus fruit}	=> {pip fruit}	0.013828165	0.1670762	0.082765633
## [622]	{pip fruit}	=> {shopping bags}	0.009354347	0.1236559	0.075648195
## [623]	{pip fruit}	=> {sausage}	0.010777834	0.1424731	0.075648195
## [624]	{sausage}	=> {pip fruit}	0.010777834	0.1147186	0.093950178
## [625]	{pip fruit}	=> {bottled water}	0.010574479	0.1397849	0.075648195
## [626]	{pip fruit}	=> {tropical fruit}	0.020437214	0.2701613	0.075648195
## [627]	{tropical fruit}	=> {pip fruit}	0.020437214	0.1947674	0.104931368
## [628]	{pip fruit}	=> {root vegetables}	0.015556685	0.2056452	0.075648195
## [629]	{root vegetables}	=> {pip fruit}	0.015556685	0.1427239	0.108998475
## [630]	{pip fruit}	=> {soda}	0.013319776	0.1760753	0.075648195
## [631]	{pip fruit}	=> {yogurt}	0.017996950	0.2379032	0.075648195
## [632]	{yogurt}	=> {pip fruit}	0.017996950	0.1290087	0.139501779
## [633]	{pip fruit}	=> {rolls/buns}	0.013929842	0.1841398	0.075648195
## [634]	{pip fruit}	=> {other vegetables}	0.026131164	0.3454301	0.075648195
## [635]	{other vegetables}	=> {pip fruit}	0.026131164	0.1350499	0.193492628
## [636]	{pip fruit}	=> {whole milk}	0.030096594	0.3978495	0.075648195
## [637]	{whole milk}	=> {pip fruit}	0.030096594	0.1177875	0.255516014
## [638]	{pastry}	=> {citrus fruit}	0.009761057	0.1097143	0.088967972
## [639]	{citrus fruit}	=> {pastry}	0.009761057	0.1179361	0.082765633
## [640]	{pastry}	=> {shopping bags}	0.011896289	0.1337143	0.088967972
## [641]	{shopping bags}	=> {pastry}	0.011896289	0.1207430	0.098525674
## [642]	{pastry}	=> {sausage}	0.012506355	0.1405714	0.088967972
## [643]	{sausage}	=> {pastry}	0.012506355	0.1331169	0.093950178
## [644]	{pastry}	=> {bottled water}	0.008947636	0.1005714	0.088967972
## [645]	{pastry}	=> {tropical fruit}	0.013218099	0.1485714	0.088967972
## [646]	{tropical fruit}	=> {pastry}	0.013218099	0.1259690	0.104931368
## [647]	{pastry}	=> {root vegetables}	0.010981190	0.1234286	0.088967972
## [648]	{root vegetables}	=> {pastry}	0.010981190	0.1007463	0.108998475
## [649]	{pastry}	=> {soda}	0.021047280	0.2365714	0.088967972
## [650]	{soda}	=> {pastry}	0.021047280	0.1206997	0.174377224
## [651]	{pastry}	=> {yogurt}	0.017691917	0.1988571	0.088967972
## [652]	{yogurt}	=> {pastry}	0.017691917	0.1268222	0.139501779
## [653]	{pastry}	=> {rolls/buns}	0.020945602	0.2354286	0.088967972
## [654]	{rolls/buns}	=> {pastry}	0.020945602	0.1138751	0.183934926
## [655]	{pastry}	=> {other vegetables}	0.022572445	0.2537143	0.088967972
## [656]	{other vegetables}	=> {pastry}	0.022572445	0.1166579	0.193492628
## [657]	{pastry}	=> {whole milk}	0.033248602	0.3737143	0.088967972
## [658]	{whole milk}	=> {pastry}	0.033248602	0.1301234	0.255516014
## [659]	{citrus fruit}	=> {shopping bags}	0.009761057	0.1179361	0.082765633
## [660]	{citrus fruit}	=> {sausage}	0.011286223	0.1363636	0.082765633
## [661]	{sausage}	=> {citrus fruit}	0.011286223	0.1201299	0.093950178
## [662]	{citrus fruit}	=> {bottled water}	0.013523132	0.1633907	0.082765633
## [663]	{bottled water}	=> {citrus fruit}	0.013523132	0.1223551	0.110523640
## [664]	{citrus fruit}	=> {tropical fruit}	0.019928826	0.2407862	0.082765633
## [665]	{tropical fruit}	=> {citrus fruit}	0.019928826	0.1899225	0.104931368



## [666]	{citrus fruit}	=> {root vegetables}	0.017691917	0.2137592	0.082765633
## [667]	{root vegetables}	=> {citrus fruit}	0.017691917	0.1623134	0.108998475
## [668]	{citrus fruit}	=> {soda}	0.012811388	0.1547912	0.082765633
## [669]	{citrus fruit}	=> {yogurt}	0.021657346	0.2616708	0.082765633
## [670]	{yogurt}	=> {citrus fruit}	0.021657346	0.1552478	0.139501779
## [671]	{citrus fruit}	=> {rolls/buns}	0.016776817	0.2027027	0.082765633
## [672]	{citrus fruit}	=> {other vegetables}	0.028876462	0.3488943	0.082765633
## [673]	{other vegetables}	=> {citrus fruit}	0.028876462	0.1492380	0.193492628
## [674]	{citrus fruit}	=> {whole milk}	0.030503305	0.3685504	0.082765633
## [675]	{whole milk}	=> {citrus fruit}	0.030503305	0.1193792	0.255516014
## [676]	{shopping bags}	=> {sausage}	0.015658363	0.1589267	0.098525674
## [677]	{sausage}	=> {shopping bags}	0.015658363	0.1666667	0.093950178
## [678]	{shopping bags}	=> {bottled water}	0.010981190	0.1114551	0.098525674
## [679]	{shopping bags}	=> {tropical fruit}	0.013523132	0.1372549	0.098525674
## [680]	{tropical fruit}	=> {shopping bags}	0.013523132	0.1288760	0.104931368
## [681]	{shopping bags}	=> {root vegetables}	0.012811388	0.1300310	0.098525674
## [682]	{root vegetables}	=> {shopping bags}	0.012811388	0.1175373	0.108998475
## [683]	{shopping bags}	=> {soda}	0.024605999	0.2497420	0.098525674
## [684]	{soda}	=> {shopping bags}	0.024605999	0.1411079	0.174377224
## [685]	{shopping bags}	=> {yogurt}	0.015251652	0.1547988	0.098525674
## [686]	{yogurt}	=> {shopping bags}	0.015251652	0.1093294	0.139501779
## [687]	{shopping bags}	=> {rolls/buns}	0.019522115	0.1981424	0.098525674
## [688]	{rolls/buns}	=> {shopping bags}	0.019522115	0.1061360	0.183934926
## [689]	{shopping bags}	=> {other vegetables}	0.023182511	0.2352941	0.098525674
## [690]	{other vegetables}	=> {shopping bags}	0.023182511	0.1198108	0.193492628
## [691]	{shopping bags}	=> {whole milk}	0.024504321	0.2487100	0.098525674
## [692]	{sausage}	=> {bottled water}	0.011997966	0.1277056	0.093950178
## [693]	{bottled water}	=> {sausage}	0.011997966	0.1085557	0.110523640
## [694]	{sausage}	=> {tropical fruit}	0.013929842	0.1482684	0.093950178
## [695]	{tropical fruit}	=> {sausage}	0.013929842	0.1327519	0.104931368
## [696]	{sausage}	=> {root vegetables}	0.014946619	0.1590909	0.093950178
## [697]	{root vegetables}	=> {sausage}	0.014946619	0.1371269	0.108998475
## [698]	{sausage}	=> {soda}	0.024300966	0.2586580	0.093950178
## [699]	{soda}	=> {sausage}	0.024300966	0.1393586	0.174377224
## [700]	{sausage}	=> {yogurt}	0.019623793	0.2088745	0.093950178
## [701]	{yogurt}	=> {sausage}	0.019623793	0.1406706	0.139501779
## [702]	{sausage}	=> {rolls/buns}	0.030604982	0.3257576	0.093950178
## [703]	{rolls/buns}	=> {sausage}	0.030604982	0.1663903	0.183934926
## [704]	{sausage}	=> {other vegetables}	0.026944586	0.2867965	0.093950178
## [705]	{other vegetables}	=> {sausage}	0.026944586	0.1392538	0.193492628
## [706]	{sausage}	=> {whole milk}	0.029893238	0.3181818	0.093950178
## [707]	{whole milk}	=> {sausage}	0.029893238	0.1169916	0.255516014
## [708]	{bottled water}	=> {tropical fruit}	0.018505338	0.1674333	0.110523640
## [709]	{tropical fruit}	=> {bottled water}	0.018505338	0.1763566	0.104931368
## [710]	{bottled water}	=> {root vegetables}	0.015658363	0.1416743	0.110523640
## [711]	{root vegetables}	=> {bottled water}	0.015658363	0.1436567	0.108998475
## [712]	{bottled water}	=> {soda}	0.028978139	0.2621895	0.110523640
## [713]	{soda}	=> {bottled water}	0.028978139	0.1661808	0.174377224
## [714]	{bottled water}	=> {yogurt}	0.022979156	0.2079117	0.110523640
## [715]	{yogurt}	=> {bottled water}	0.022979156	0.1647230	0.139501779
## [716]	{bottled water}	=> {rolls/buns}	0.024199288	0.2189512	0.110523640
## [717]	{rolls/buns}	=> {bottled water}	0.024199288	0.1315644	0.183934926
## [718]	{bottled water}	=> {other vegetables}	0.024809354	0.2244710	0.110523640
## [719]	{other vegetables}	=> {bottled water}	0.024809354	0.1282186	0.193492628

## [720]	{bottled water}	=> {whole milk}	0.034367056	0.3109476	0.110523640
## [721]	{whole milk}	=> {bottled water}	0.034367056	0.1345006	0.255516014
## [722]	{tropical fruit}	=> {root vegetables}	0.021047280	0.2005814	0.104931368
## [723]	{root vegetables}	=> {tropical fruit}	0.021047280	0.1930970	0.108998475
## [724]	{tropical fruit}	=> {soda}	0.020843925	0.1986434	0.104931368
## [725]	{soda}	=> {tropical fruit}	0.020843925	0.1195335	0.174377224
## [726]	{tropical fruit}	=> {yogurt}	0.029283172	0.2790698	0.104931368
## [727]	{yogurt}	=> {tropical fruit}	0.029283172	0.2099125	0.139501779
## [728]	{tropical fruit}	=> {rolls/buns}	0.024605999	0.2344961	0.104931368
## [729]	{rolls/buns}	=> {tropical fruit}	0.024605999	0.1337756	0.183934926
## [730]	{tropical fruit}	=> {other vegetables}	0.035892222	0.3420543	0.104931368
## [731]	{other vegetables}	=> {tropical fruit}	0.035892222	0.1854966	0.193492628
## [732]	{tropical fruit}	=> {whole milk}	0.042297916	0.4031008	0.104931368
## [733]	{whole milk}	=> {tropical fruit}	0.042297916	0.1655392	0.255516014
## [734]	{root vegetables}	=> {soda}	0.018607016	0.1707090	0.108998475
## [735]	{soda}	=> {root vegetables}	0.018607016	0.1067055	0.174377224
## [736]	{root vegetables}	=> {yogurt}	0.025826131	0.2369403	0.108998475
## [737]	{yogurt}	=> {root vegetables}	0.025826131	0.1851312	0.139501779
## [738]	{root vegetables}	=> {rolls/buns}	0.024300966	0.2229478	0.108998475
## [739]	{rolls/buns}	=> {root vegetables}	0.024300966	0.1321172	0.183934926
## [740]	{root vegetables}	=> {other vegetables}	0.047381800	0.4347015	0.108998475
## [741]	{other vegetables}	=> {root vegetables}	0.047381800	0.2448765	0.193492628
## [742]	{root vegetables}	=> {whole milk}	0.048906965	0.4486940	0.108998475
## [743]	{whole milk}	=> {root vegetables}	0.048906965	0.1914047	0.255516014
## [744]	{soda}	=> {yogurt}	0.027351296	0.1568513	0.174377224
## [745]	{yogurt}	=> {soda}	0.027351296	0.1960641	0.139501779
## [746]	{soda}	=> {rolls/buns}	0.038332486	0.2198251	0.174377224
## [747]	{rolls/buns}	=> {soda}	0.038332486	0.2084024	0.183934926
## [748]	{soda}	=> {other vegetables}	0.032740214	0.1877551	0.174377224
## [749]	{other vegetables}	=> {soda}	0.032740214	0.1692065	0.193492628
## [750]	{soda}	=> {whole milk}	0.040061007	0.2297376	0.174377224
## [751]	{whole milk}	=> {soda}	0.040061007	0.1567847	0.255516014
## [752]	{yogurt}	=> {rolls/buns}	0.034367056	0.2463557	0.139501779
## [753]	{rolls/buns}	=> {yogurt}	0.034367056	0.1868436	0.183934926
## [754]	{yogurt}	=> {other vegetables}	0.043416370	0.3112245	0.139501779
## [755]	{other vegetables}	=> {yogurt}	0.043416370	0.2243826	0.193492628
## [756]	{yogurt}	=> {whole milk}	0.056024403	0.4016035	0.139501779
## [757]	{whole milk}	=> {yogurt}	0.056024403	0.2192598	0.255516014
## [758]	{rolls/buns}	=> {other vegetables}	0.042602949	0.2316197	0.183934926
## [759]	{other vegetables}	=> {rolls/buns}	0.042602949	0.2201787	0.193492628
## [760]	{rolls/buns}	=> {whole milk}	0.056634469	0.3079049	0.183934926
## [761]	{whole milk}	=> {rolls/buns}	0.056634469	0.2216474	0.255516014
## [762]	{other vegetables}	=> {whole milk}	0.074834774	0.3867578	0.193492628
## [763]	{whole milk}	=> {other vegetables}	0.074834774	0.2928770	0.255516014
## [764]	{oil,				
##	other vegetables}	=> {whole milk}	0.005083884	0.5102041	0.009964413
## [765]	{oil,				
##	whole milk}	=> {other vegetables}	0.005083884	0.4504505	0.011286223
## [766]	{onions,				
##	root vegetables}	=> {other vegetables}	0.005693950	0.6021505	0.009456024
## [767]	{onions,				
##	other vegetables}	=> {root vegetables}	0.005693950	0.4000000	0.014234875
## [768]	{other vegetables,				
##	root vegetables}	=> {onions}	0.005693950	0.1201717	0.047381800

## [769]	{onions,						
##	other vegetables}	=>	{whole milk}	0.006609049	0.4642857	0.014234875	1
## [770]	{onions,						
##	whole milk}	=>	{other vegetables}	0.006609049	0.5462185	0.012099644	1
## [771]	{hamburger meat,						
##	other vegetables}	=>	{whole milk}	0.006304016	0.4558824	0.013828165	1
## [772]	{hamburger meat,						
##	whole milk}	=>	{other vegetables}	0.006304016	0.4275862	0.014743264	1
## [773]	{hygiene articles,						
##	other vegetables}	=>	{whole milk}	0.005185562	0.5425532	0.009557702	1
## [774]	{hygiene articles,						
##	whole milk}	=>	{other vegetables}	0.005185562	0.4047619	0.012811388	1
## [775]	{other vegetables,						
##	sugar}	=>	{whole milk}	0.006304016	0.5849057	0.010777834	1
## [776]	{sugar,						
##	whole milk}	=>	{other vegetables}	0.006304016	0.4189189	0.015048297	1
## [777]	{long life bakery product,						
##	other vegetables}	=>	{whole milk}	0.005693950	0.5333333	0.010676157	1
## [778]	{long life bakery product,						
##	whole milk}	=>	{other vegetables}	0.005693950	0.4210526	0.013523132	1
## [779]	{cream cheese,						
##	yogurt}	=>	{other vegetables}	0.005287239	0.4262295	0.012404677	1
## [780]	{cream cheese,						
##	other vegetables}	=>	{yogurt}	0.005287239	0.3851852	0.013726487	1
## [781]	{other vegetables,						
##	yogurt}	=>	{cream cheese}	0.005287239	0.1217799	0.043416370	1
## [782]	{cream cheese,						
##	yogurt}	=>	{whole milk}	0.006609049	0.5327869	0.012404677	1
## [783]	{cream cheese,						
##	whole milk}	=>	{yogurt}	0.006609049	0.4012346	0.016471784	1
## [784]	{whole milk,						
##	yogurt}	=>	{cream cheese}	0.006609049	0.1179673	0.056024403	1
## [785]	{cream cheese,						
##	other vegetables}	=>	{whole milk}	0.006710727	0.4888889	0.013726487	1
## [786]	{cream cheese,						
##	whole milk}	=>	{other vegetables}	0.006710727	0.4074074	0.016471784	1
## [787]	{chicken,						
##	root vegetables}	=>	{other vegetables}	0.005693950	0.5233645	0.010879512	1
## [788]	{chicken,						
##	other vegetables}	=>	{root vegetables}	0.005693950	0.3181818	0.017895272	1
## [789]	{other vegetables,						
##	root vegetables}	=>	{chicken}	0.005693950	0.1201717	0.047381800	1
## [790]	{chicken,						
##	root vegetables}	=>	{whole milk}	0.005998983	0.5514019	0.010879512	1
## [791]	{chicken,						
##	whole milk}	=>	{root vegetables}	0.005998983	0.3410405	0.017590239	1
## [792]	{root vegetables,						
##	whole milk}	=>	{chicken}	0.005998983	0.1226611	0.048906965	1
## [793]	{chicken,						
##	rolls/buns}	=>	{whole milk}	0.005287239	0.5473684	0.009659380	1
## [794]	{chicken,						
##	whole milk}	=>	{rolls/buns}	0.005287239	0.3005780	0.017590239	1
## [795]	{chicken,						
##	other vegetables}	=>	{whole milk}	0.008439248	0.4715909	0.017895272	1

## [796]	{chicken,	=> {other vegetables}	0.008439248	0.4797688	0.017590239
##	whole milk}				
## [797]	{other vegetables,	=> {chicken}	0.008439248	0.1127717	0.074834774
##	whole milk}				
## [798]	{other vegetables,	=> {whole milk}	0.005897306	0.4296296	0.013726487
##	white bread}				
## [799]	{white bread,	=> {other vegetables}	0.005897306	0.3452381	0.017081851
##	whole milk}				
## [800]	{chocolate,	=> {whole milk}	0.005083884	0.3759398	0.013523132
##	soda}				
## [801]	{chocolate,	=> {soda}	0.005083884	0.3048780	0.016675140
##	whole milk}				
## [802]	{soda,	=> {chocolate}	0.005083884	0.1269036	0.040061007
##	whole milk}				
## [803]	{chocolate,	=> {whole milk}	0.005490595	0.4320000	0.012709710
##	other vegetables}				
## [804]	{chocolate,	=> {other vegetables}	0.005490595	0.3292683	0.016675140
##	whole milk}				
## [805]	{coffee,	=> {whole milk}	0.005083884	0.5208333	0.009761057
##	yogurt}				
## [806]	{coffee,	=> {yogurt}	0.005083884	0.2717391	0.018708693
##	whole milk}				
## [807]	{coffee,	=> {whole milk}	0.006405694	0.4772727	0.013421454
##	other vegetables}				
## [808]	{coffee,	=> {other vegetables}	0.006405694	0.3423913	0.018708693
##	whole milk}				
## [809]	{frozen vegetables,	=> {other vegetables}	0.006100661	0.5263158	0.011591256
##	root vegetables}				
## [810]	{frozen vegetables,	=> {root vegetables}	0.006100661	0.3428571	0.017793594
##	other vegetables}				
## [811]	{other vegetables,	=> {frozen vegetables}	0.006100661	0.1287554	0.047381800
##	root vegetables}				
## [812]	{frozen vegetables,	=> {whole milk}	0.006202339	0.5350877	0.011591256
##	root vegetables}				
## [813]	{frozen vegetables,	=> {root vegetables}	0.006202339	0.3034826	0.020437214
##	whole milk}				
## [814]	{root vegetables,	=> {frozen vegetables}	0.006202339	0.1268191	0.048906965
##	whole milk}				
## [815]	{frozen vegetables,	=> {other vegetables}	0.005287239	0.4262295	0.012404677
##	yogurt}				
## [816]	{frozen vegetables,	=> {yogurt}	0.005287239	0.2971429	0.017793594
##	other vegetables}				
## [817]	{other vegetables,	=> {frozen vegetables}	0.005287239	0.1217799	0.043416370
##	yogurt}				
## [818]	{frozen vegetables,	=> {whole milk}	0.006100661	0.4918033	0.012404677
##	yogurt}				
## [819]	{frozen vegetables,	=> {yogurt}	0.006100661	0.2985075	0.020437214
##	whole milk}				
## [820]	{whole milk,	=> {frozen vegetables}	0.006100661	0.1088929	0.056024403
##	yogurt}				
## [821]	{frozen vegetables,	=> {whole milk}	0.005083884	0.5000000	0.010167768
##	rolls/buns}				
## [822]	{frozen vegetables,	=> {rolls/buns}	0.005083884	0.2487562	0.020437214
##	whole milk}				

## [823]	{frozen vegetables, other vegetables}	=> {whole milk}	0.009659380	0.5428571	0.017793594
## [824]	{frozen vegetables, whole milk}	=> {other vegetables}	0.009659380	0.4726368	0.020437214
## [825]	{other vegetables, whole milk}	=> {frozen vegetables}	0.009659380	0.1290761	0.074834774
## [826]	{beef, root vegetables}	=> {other vegetables}	0.007930859	0.4561404	0.017386884
## [827]	{beef, other vegetables}	=> {root vegetables}	0.007930859	0.4020619	0.019725470
## [828]	{other vegetables, root vegetables}	=> {beef}	0.007930859	0.1673820	0.047381800
## [829]	{beef, root vegetables}	=> {whole milk}	0.008032537	0.4619883	0.017386884
## [830]	{beef, whole milk}	=> {root vegetables}	0.008032537	0.3779904	0.021250635
## [831]	{root vegetables, whole milk}	=> {beef}	0.008032537	0.1642412	0.048906965
## [832]	{beef, yogurt}	=> {other vegetables}	0.005185562	0.4434783	0.011692933
## [833]	{beef, other vegetables}	=> {yogurt}	0.005185562	0.2628866	0.019725470
## [834]	{other vegetables, yogurt}	=> {beef}	0.005185562	0.1194379	0.043416370
## [835]	{beef, yogurt}	=> {whole milk}	0.006100661	0.5217391	0.011692933
## [836]	{beef, whole milk}	=> {yogurt}	0.006100661	0.2870813	0.021250635
## [837]	{whole milk, yogurt}	=> {beef}	0.006100661	0.1088929	0.056024403
## [838]	{beef, rolls/buns}	=> {other vegetables}	0.005795628	0.4253731	0.013624809
## [839]	{beef, other vegetables}	=> {rolls/buns}	0.005795628	0.2938144	0.019725470
## [840]	{other vegetables, rolls/buns}	=> {beef}	0.005795628	0.1360382	0.042602949
## [841]	{beef, rolls/buns}	=> {whole milk}	0.006812405	0.5000000	0.013624809
## [842]	{beef, whole milk}	=> {rolls/buns}	0.006812405	0.3205742	0.021250635
## [843]	{rolls/buns, whole milk}	=> {beef}	0.006812405	0.1202873	0.056634469
## [844]	{beef, other vegetables}	=> {whole milk}	0.009252669	0.4690722	0.019725470
## [845]	{beef, whole milk}	=> {other vegetables}	0.009252669	0.4354067	0.021250635
## [846]	{other vegetables, whole milk}	=> {beef}	0.009252669	0.1236413	0.074834774
## [847]	{curd, whipped/sour cream}	=> {whole milk}	0.005897306	0.5631068	0.010472801
## [848]	{curd, whole milk}	=> {whipped/sour cream}	0.005897306	0.2256809	0.026131164
## [849]	{whipped/sour cream, whole milk}	=> {curd}	0.005897306	0.1829653	0.032231825

## [850]	{curd,	=> {yogurt}	0.005287239	0.5148515	0.010269446
##	tropical fruit}				
## [851]	{curd,	=> {tropical fruit}	0.005287239	0.3058824	0.017285206
##	yogurt}				
## [852]	{tropical fruit,	=> {curd}	0.005287239	0.1805556	0.029283172
##	yogurt}				
## [853]	{curd,	=> {other vegetables}	0.005287239	0.5148515	0.010269446
##	tropical fruit}				
## [854]	{curd,	=> {tropical fruit}	0.005287239	0.3076923	0.017183528
##	other vegetables}				
## [855]	{other vegetables,	=> {curd}	0.005287239	0.1473088	0.035892222
##	tropical fruit}				
## [856]	{curd,	=> {whole milk}	0.006507372	0.6336634	0.010269446
##	tropical fruit}				
## [857]	{curd,	=> {tropical fruit}	0.006507372	0.2490272	0.026131164
##	whole milk}				
## [858]	{tropical fruit,	=> {curd}	0.006507372	0.1538462	0.042297916
##	whole milk}				
## [859]	{curd,	=> {other vegetables}	0.005490595	0.5046729	0.010879512
##	root vegetables}				
## [860]	{curd,	=> {root vegetables}	0.005490595	0.3195266	0.017183528
##	other vegetables}				
## [861]	{other vegetables,	=> {curd}	0.005490595	0.1158798	0.047381800
##	root vegetables}				
## [862]	{curd,	=> {whole milk}	0.006202339	0.5700935	0.010879512
##	root vegetables}				
## [863]	{curd,	=> {root vegetables}	0.006202339	0.2373541	0.026131164
##	whole milk}				
## [864]	{root vegetables,	=> {curd}	0.006202339	0.1268191	0.048906965
##	whole milk}				
## [865]	{curd,	=> {other vegetables}	0.006100661	0.3529412	0.017285206
##	yogurt}				
## [866]	{curd,	=> {yogurt}	0.006100661	0.3550296	0.017183528
##	other vegetables}				
## [867]	{other vegetables,	=> {curd}	0.006100661	0.1405152	0.043416370
##	yogurt}				
## [868]	{curd,	=> {whole milk}	0.010066090	0.5823529	0.017285206
##	yogurt}				
## [869]	{curd,	=> {yogurt}	0.010066090	0.3852140	0.026131164
##	whole milk}				
## [870]	{whole milk,	=> {curd}	0.010066090	0.1796733	0.056024403
##	yogurt}				
## [871]	{curd,	=> {whole milk}	0.005897306	0.5858586	0.010066090
##	rolls/buns}				
## [872]	{curd,	=> {rolls/buns}	0.005897306	0.2256809	0.026131164
##	whole milk}				
## [873]	{rolls/buns,	=> {curd}	0.005897306	0.1041293	0.056634469
##	whole milk}				
## [874]	{curd,	=> {whole milk}	0.009862735	0.5739645	0.017183528
##	other vegetables}				
## [875]	{curd,	=> {other vegetables}	0.009862735	0.3774319	0.026131164
##	whole milk}				
## [876]	{other vegetables,	=> {curd}	0.009862735	0.1317935	0.074834774
##	whole milk}				

## [877]	{napkins,	=> {whole milk}	0.006100661	0.4958678	0.012302999
##	yogurt}				
## [878]	{napkins,	=> {yogurt}	0.006100661	0.3092784	0.019725470
##	whole milk}				
## [879]	{whole milk,	=> {napkins}	0.006100661	0.1088929	0.056024403
##	yogurt}				
## [880]	{napkins,	=> {whole milk}	0.005287239	0.4521739	0.011692933
##	rolls/buns}				
## [881]	{napkins,	=> {rolls/buns}	0.005287239	0.2680412	0.019725470
##	whole milk}				
## [882]	{napkins,	=> {whole milk}	0.006812405	0.4718310	0.014438231
##	other vegetables}				
## [883]	{napkins,	=> {other vegetables}	0.006812405	0.3453608	0.019725470
##	whole milk}				
## [884]	{pork,	=> {other vegetables}	0.007015760	0.5149254	0.013624809
##	root vegetables}				
## [885]	{other vegetables,	=> {root vegetables}	0.007015760	0.3239437	0.021657346
##	pork}				
## [886]	{other vegetables,	=> {pork}	0.007015760	0.1480687	0.047381800
##	root vegetables}				
## [887]	{pork,	=> {whole milk}	0.006812405	0.5000000	0.013624809
##	root vegetables}				
## [888]	{pork,	=> {root vegetables}	0.006812405	0.3073394	0.022165735
##	whole milk}				
## [889]	{root vegetables,	=> {pork}	0.006812405	0.1392931	0.048906965
##	whole milk}				
## [890]	{pork,	=> {other vegetables}	0.005592272	0.4954955	0.011286223
##	rolls/buns}				
## [891]	{other vegetables,	=> {rolls/buns}	0.005592272	0.2582160	0.021657346
##	pork}				
## [892]	{other vegetables,	=> {pork}	0.005592272	0.1312649	0.042602949
##	rolls/buns}				
## [893]	{pork,	=> {whole milk}	0.006202339	0.5495495	0.011286223
##	rolls/buns}				
## [894]	{pork,	=> {rolls/buns}	0.006202339	0.2798165	0.022165735
##	whole milk}				
## [895]	{rolls/buns,	=> {pork}	0.006202339	0.1095153	0.056634469
##	whole milk}				
## [896]	{other vegetables,	=> {whole milk}	0.010167768	0.4694836	0.021657346
##	pork}				
## [897]	{pork,	=> {other vegetables}	0.010167768	0.4587156	0.022165735
##	whole milk}				
## [898]	{other vegetables,	=> {pork}	0.010167768	0.1358696	0.074834774
##	whole milk}				
## [899]	{frankfurter,	=> {whole milk}	0.005185562	0.5483871	0.009456024
##	tropical fruit}				
## [900]	{frankfurter,	=> {tropical fruit}	0.005185562	0.2524752	0.020538892
##	whole milk}				
## [901]	{tropical fruit,	=> {frankfurter}	0.005185562	0.1225962	0.042297916
##	whole milk}				
## [902]	{frankfurter,	=> {whole milk}	0.005083884	0.5000000	0.010167768
##	root vegetables}				
## [903]	{frankfurter,	=> {root vegetables}	0.005083884	0.2475248	0.020538892
##	whole milk}				

## [904]	{root vegetables, whole milk}	=> {frankfurter}	0.005083884	0.1039501	0.048906965
## [905]	{frankfurter, yogurt}	=> {whole milk}	0.006202339	0.5545455	0.011184545
## [906]	{frankfurter, whole milk}	=> {yogurt}	0.006202339	0.3019802	0.020538892
## [907]	{whole milk, yogurt}	=> {frankfurter}	0.006202339	0.1107078	0.056024403
## [908]	{frankfurter, rolls/buns}	=> {other vegetables}	0.005592272	0.2910053	0.019217082
## [909]	{frankfurter, other vegetables}	=> {rolls/buns}	0.005592272	0.3395062	0.016471784
## [910]	{other vegetables, rolls/buns}	=> {frankfurter}	0.005592272	0.1312649	0.042602949
## [911]	{frankfurter, rolls/buns}	=> {whole milk}	0.005998983	0.3121693	0.019217082
## [912]	{frankfurter, whole milk}	=> {rolls/buns}	0.005998983	0.2920792	0.020538892
## [913]	{rolls/buns, whole milk}	=> {frankfurter}	0.005998983	0.1059246	0.056634469
## [914]	{frankfurter, other vegetables}	=> {whole milk}	0.007625826	0.4629630	0.016471784
## [915]	{frankfurter, whole milk}	=> {other vegetables}	0.007625826	0.3712871	0.020538892
## [916]	{other vegetables, whole milk}	=> {frankfurter}	0.007625826	0.1019022	0.074834774
## [917]	{bottled beer, bottled water}	=> {soda}	0.005083884	0.3225806	0.015760041
## [918]	{bottled beer, soda}	=> {bottled water}	0.005083884	0.2994012	0.016980173
## [919]	{bottled water, soda}	=> {bottled beer}	0.005083884	0.1754386	0.028978139
## [920]	{bottled beer, bottled water}	=> {whole milk}	0.006100661	0.3870968	0.015760041
## [921]	{bottled beer, whole milk}	=> {bottled water}	0.006100661	0.2985075	0.020437214
## [922]	{bottled water, whole milk}	=> {bottled beer}	0.006100661	0.1775148	0.034367056
## [923]	{bottled beer, yogurt}	=> {whole milk}	0.005185562	0.5604396	0.009252669
## [924]	{bottled beer, whole milk}	=> {yogurt}	0.005185562	0.2537313	0.020437214
## [925]	{bottled beer, rolls/buns}	=> {whole milk}	0.005388917	0.3955224	0.013624809
## [926]	{bottled beer, whole milk}	=> {rolls/buns}	0.005388917	0.2636816	0.020437214
## [927]	{bottled beer, other vegetables}	=> {whole milk}	0.007625826	0.4716981	0.016166751
## [928]	{bottled beer, whole milk}	=> {other vegetables}	0.007625826	0.3731343	0.020437214
## [929]	{other vegetables, whole milk}	=> {bottled beer}	0.007625826	0.1019022	0.074834774
## [930]	{brown bread, tropical fruit}	=> {whole milk}	0.005693950	0.5333333	0.010676157



## [931]	{brown bread, whole milk}	=> {tropical fruit}	0.005693950	0.2258065	0.025216065
## [932]	{tropical fruit, whole milk}	=> {brown bread}	0.005693950	0.1346154	0.042297916
## [933]	{brown bread, root vegetables}	=> {whole milk}	0.005693950	0.5600000	0.010167768
## [934]	{brown bread, whole milk}	=> {root vegetables}	0.005693950	0.2258065	0.025216065
## [935]	{root vegetables, whole milk}	=> {brown bread}	0.005693950	0.1164241	0.048906965
## [936]	{brown bread, soda}	=> {whole milk}	0.005083884	0.4032258	0.012608033
## [937]	{brown bread, whole milk}	=> {soda}	0.005083884	0.2016129	0.025216065
## [938]	{soda, whole milk}	=> {brown bread}	0.005083884	0.1269036	0.040061007
## [939]	{brown bread, yogurt}	=> {other vegetables}	0.005185562	0.3566434	0.014539908
## [940]	{brown bread, other vegetables}	=> {yogurt}	0.005185562	0.2771739	0.018708693
## [941]	{other vegetables, yogurt}	=> {brown bread}	0.005185562	0.1194379	0.043416370
## [942]	{brown bread, yogurt}	=> {whole milk}	0.007117438	0.4895105	0.014539908
## [943]	{brown bread, whole milk}	=> {yogurt}	0.007117438	0.2822581	0.025216065
## [944]	{whole milk, yogurt}	=> {brown bread}	0.007117438	0.1270417	0.056024403
## [945]	{brown bread, rolls/buns}	=> {whole milk}	0.005287239	0.4193548	0.012608033
## [946]	{brown bread, whole milk}	=> {rolls/buns}	0.005287239	0.2096774	0.025216065
## [947]	{brown bread, other vegetables}	=> {whole milk}	0.009354347	0.5000000	0.018708693
## [948]	{brown bread, whole milk}	=> {other vegetables}	0.009354347	0.3709677	0.025216065
## [949]	{other vegetables, whole milk}	=> {brown bread}	0.009354347	0.1250000	0.074834774
## [950]	{domestic eggs, margarine}	=> {whole milk}	0.005185562	0.6219512	0.008337570
## [951]	{margarine, whole milk}	=> {domestic eggs}	0.005185562	0.2142857	0.024199288
## [952]	{domestic eggs, whole milk}	=> {margarine}	0.005185562	0.1728814	0.029994916
## [953]	{margarine, root vegetables}	=> {other vegetables}	0.005897306	0.5321101	0.011082867
## [954]	{margarine, other vegetables}	=> {root vegetables}	0.005897306	0.2989691	0.019725470
## [955]	{other vegetables, root vegetables}	=> {margarine}	0.005897306	0.1244635	0.047381800
## [956]	{margarine, yogurt}	=> {other vegetables}	0.005693950	0.4000000	0.014234875
## [957]	{margarine, other vegetables}	=> {yogurt}	0.005693950	0.2886598	0.019725470

## [958]	{other vegetables, yogurt}	=> {margarine}	0.005693950	0.1311475	0.043416370
## [959]	{margarine, yogurt}	=> {whole milk}	0.007015760	0.4928571	0.014234875
## [960]	{margarine, whole milk}	=> {yogurt}	0.007015760	0.2899160	0.024199288
## [961]	{whole milk, yogurt}	=> {margarine}	0.007015760	0.1252269	0.056024403
## [962]	{margarine, rolls/buns}	=> {other vegetables}	0.005185562	0.3517241	0.014743264
## [963]	{margarine, other vegetables}	=> {rolls/buns}	0.005185562	0.2628866	0.019725470
## [964]	{other vegetables, rolls/buns}	=> {margarine}	0.005185562	0.1217184	0.042602949
## [965]	{margarine, rolls/buns}	=> {whole milk}	0.007930859	0.5379310	0.014743264
## [966]	{margarine, whole milk}	=> {rolls/buns}	0.007930859	0.3277311	0.024199288
## [967]	{rolls/buns, whole milk}	=> {margarine}	0.007930859	0.1400359	0.056634469
## [968]	{margarine, other vegetables}	=> {whole milk}	0.009252669	0.4690722	0.019725470
## [969]	{margarine, whole milk}	=> {other vegetables}	0.009252669	0.3823529	0.024199288
## [970]	{other vegetables, whole milk}	=> {margarine}	0.009252669	0.1236413	0.074834774
## [971]	{butter, domestic eggs}	=> {whole milk}	0.005998983	0.6210526	0.009659380
## [972]	{butter, whole milk}	=> {domestic eggs}	0.005998983	0.2177122	0.027554652
## [973]	{domestic eggs, whole milk}	=> {butter}	0.005998983	0.2000000	0.029994916
## [974]	{butter, whipped/sour cream}	=> {other vegetables}	0.005795628	0.5700000	0.010167768
## [975]	{butter, other vegetables}	=> {whipped/sour cream}	0.005795628	0.2893401	0.020030503
## [976]	{other vegetables, whipped/sour cream}	=> {butter}	0.005795628	0.2007042	0.028876462
## [977]	{butter, whipped/sour cream}	=> {whole milk}	0.006710727	0.6600000	0.010167768
## [978]	{butter, whole milk}	=> {whipped/sour cream}	0.006710727	0.2435424	0.027554652
## [979]	{whipped/sour cream, whole milk}	=> {butter}	0.006710727	0.2082019	0.032231825
## [980]	{butter, citrus fruit}	=> {whole milk}	0.005083884	0.5555556	0.009150991
## [981]	{butter, whole milk}	=> {citrus fruit}	0.005083884	0.1845018	0.027554652
## [982]	{citrus fruit, whole milk}	=> {butter}	0.005083884	0.1666667	0.030503305
## [983]	{bottled water, butter}	=> {whole milk}	0.005388917	0.6022727	0.008947636
## [984]	{butter, whole milk}	=> {bottled water}	0.005388917	0.1955720	0.027554652

## [985]	{bottled water, whole milk}	=> {butter}	0.005388917	0.1568047	0.034367056
## [986]	{butter, tropical fruit}	=> {other vegetables}	0.005490595	0.5510204	0.009964413
## [987]	{butter, other vegetables}	=> {tropical fruit}	0.005490595	0.2741117	0.020030503
## [988]	{other vegetables, tropical fruit}	=> {butter}	0.005490595	0.1529745	0.035892222
## [989]	{butter, tropical fruit}	=> {whole milk}	0.006202339	0.6224490	0.009964413
## [990]	{butter, whole milk}	=> {tropical fruit}	0.006202339	0.2250923	0.027554652
## [991]	{tropical fruit, whole milk}	=> {butter}	0.006202339	0.1466346	0.042297916
## [992]	{butter, root vegetables}	=> {other vegetables}	0.006609049	0.5118110	0.012913066
## [993]	{butter, other vegetables}	=> {root vegetables}	0.006609049	0.3299492	0.020030503
## [994]	{other vegetables, root vegetables}	=> {butter}	0.006609049	0.1394850	0.047381800
## [995]	{butter, root vegetables}	=> {whole milk}	0.008235892	0.6377953	0.012913066
## [996]	{butter, whole milk}	=> {root vegetables}	0.008235892	0.2988930	0.027554652
## [997]	{root vegetables, whole milk}	=> {butter}	0.008235892	0.1683992	0.048906965
## [998]	{butter, yogurt}	=> {other vegetables}	0.006405694	0.4375000	0.014641586
## [999]	{butter, other vegetables}	=> {yogurt}	0.006405694	0.3197970	0.020030503
## [1000]	{other vegetables, yogurt}	=> {butter}	0.006405694	0.1475410	0.043416370
## [1001]	{butter, yogurt}	=> {whole milk}	0.009354347	0.6388889	0.014641586
## [1002]	{butter, whole milk}	=> {yogurt}	0.009354347	0.3394834	0.027554652
## [1003]	{whole milk, yogurt}	=> {butter}	0.009354347	0.1669691	0.056024403
## [1004]	{butter, rolls/buns}	=> {other vegetables}	0.005693950	0.4242424	0.013421454
## [1005]	{butter, other vegetables}	=> {rolls/buns}	0.005693950	0.2842640	0.020030503
## [1006]	{other vegetables, rolls/buns}	=> {butter}	0.005693950	0.1336516	0.042602949
## [1007]	{butter, rolls/buns}	=> {whole milk}	0.006609049	0.4924242	0.013421454
## [1008]	{butter, whole milk}	=> {rolls/buns}	0.006609049	0.2398524	0.027554652
## [1009]	{rolls/buns, whole milk}	=> {butter}	0.006609049	0.1166966	0.056634469
## [1010]	{butter, other vegetables}	=> {whole milk}	0.011489578	0.5736041	0.020030503
## [1011]	{butter, whole milk}	=> {other vegetables}	0.011489578	0.4169742	0.027554652

## [1012]	{other vegetables, whole milk}	=> {butter}	0.011489578	0.1535326	0.074834774
## [1013]	{newspapers, tropical fruit}	=> {whole milk}	0.005083884	0.4310345	0.011794611
## [1014]	{newspapers, whole milk}	=> {tropical fruit}	0.005083884	0.1858736	0.027351296
## [1015]	{tropical fruit, whole milk}	=> {newspapers}	0.005083884	0.1201923	0.042297916
## [1016]	{newspapers, root vegetables}	=> {other vegetables}	0.005998983	0.5221239	0.011489578
## [1017]	{newspapers, other vegetables}	=> {root vegetables}	0.005998983	0.3105263	0.019318760
## [1018]	{other vegetables, root vegetables}	=> {newspapers}	0.005998983	0.1266094	0.047381800
## [1019]	{newspapers, root vegetables}	=> {whole milk}	0.005795628	0.5044248	0.011489578
## [1020]	{newspapers, whole milk}	=> {root vegetables}	0.005795628	0.2118959	0.027351296
## [1021]	{root vegetables, whole milk}	=> {newspapers}	0.005795628	0.1185031	0.048906965
## [1022]	{newspapers, yogurt}	=> {rolls/buns}	0.005083884	0.3311258	0.015353330
## [1023]	{newspapers, rolls/buns}	=> {yogurt}	0.005083884	0.2577320	0.019725470
## [1024]	{rolls/buns, yogurt}	=> {newspapers}	0.005083884	0.1479290	0.034367056
## [1025]	{newspapers, yogurt}	=> {other vegetables}	0.005592272	0.3642384	0.015353330
## [1026]	{newspapers, other vegetables}	=> {yogurt}	0.005592272	0.2894737	0.019318760
## [1027]	{other vegetables, yogurt}	=> {newspapers}	0.005592272	0.1288056	0.043416370
## [1028]	{newspapers, yogurt}	=> {whole milk}	0.006609049	0.4304636	0.015353330
## [1029]	{newspapers, whole milk}	=> {yogurt}	0.006609049	0.2416357	0.027351296
## [1030]	{whole milk, yogurt}	=> {newspapers}	0.006609049	0.1179673	0.056024403
## [1031]	{newspapers, rolls/buns}	=> {other vegetables}	0.005490595	0.2783505	0.019725470
## [1032]	{newspapers, other vegetables}	=> {rolls/buns}	0.005490595	0.2842105	0.019318760
## [1033]	{other vegetables, rolls/buns}	=> {newspapers}	0.005490595	0.1288783	0.042602949
## [1034]	{newspapers, rolls/buns}	=> {whole milk}	0.007625826	0.3865979	0.019725470
## [1035]	{newspapers, whole milk}	=> {rolls/buns}	0.007625826	0.2788104	0.027351296
## [1036]	{rolls/buns, whole milk}	=> {newspapers}	0.007625826	0.1346499	0.056634469
## [1037]	{newspapers, other vegetables}	=> {whole milk}	0.008337570	0.4315789	0.019318760
## [1038]	{newspapers, whole milk}	=> {other vegetables}	0.008337570	0.3048327	0.027351296

## [1039]	{other vegetables, whole milk}	=> {newspapers}	0.008337570	0.1114130	0.074834774
## [1040]	{domestic eggs, whipped/sour cream}	=> {other vegetables}	0.005083884	0.5102041	0.009964413
## [1041]	{domestic eggs, other vegetables}	=> {whipped/sour cream}	0.005083884	0.2283105	0.022267412
## [1042]	{other vegetables, whipped/sour cream}	=> {domestic eggs}	0.005083884	0.1760563	0.028876462
## [1043]	{domestic eggs, whipped/sour cream}	=> {whole milk}	0.005693950	0.5714286	0.009964413
## [1044]	{domestic eggs, whole milk}	=> {whipped/sour cream}	0.005693950	0.1898305	0.029994916
## [1045]	{whipped/sour cream, whole milk}	=> {domestic eggs}	0.005693950	0.1766562	0.032231825
## [1046]	{domestic eggs, pip fruit}	=> {whole milk}	0.005388917	0.6235294	0.008642603
## [1047]	{domestic eggs, whole milk}	=> {pip fruit}	0.005388917	0.1796610	0.029994916
## [1048]	{pip fruit, whole milk}	=> {domestic eggs}	0.005388917	0.1790541	0.030096594
## [1049]	{citrus fruit, domestic eggs}	=> {whole milk}	0.005693950	0.5490196	0.010371124
## [1050]	{domestic eggs, whole milk}	=> {citrus fruit}	0.005693950	0.1898305	0.029994916
## [1051]	{citrus fruit, whole milk}	=> {domestic eggs}	0.005693950	0.1866667	0.030503305
## [1052]	{domestic eggs, tropical fruit}	=> {whole milk}	0.006914082	0.6071429	0.011387900
## [1053]	{domestic eggs, whole milk}	=> {tropical fruit}	0.006914082	0.2305085	0.029994916
## [1054]	{tropical fruit, whole milk}	=> {domestic eggs}	0.006914082	0.1634615	0.042297916
## [1055]	{domestic eggs, root vegetables}	=> {other vegetables}	0.007320793	0.5106383	0.014336553
## [1056]	{domestic eggs, other vegetables}	=> {root vegetables}	0.007320793	0.3287671	0.022267412
## [1057]	{other vegetables, root vegetables}	=> {domestic eggs}	0.007320793	0.1545064	0.047381800
## [1058]	{domestic eggs, root vegetables}	=> {whole milk}	0.008540925	0.5957447	0.014336553
## [1059]	{domestic eggs, whole milk}	=> {root vegetables}	0.008540925	0.2847458	0.029994916
## [1060]	{root vegetables, whole milk}	=> {domestic eggs}	0.008540925	0.1746362	0.048906965
## [1061]	{domestic eggs, soda}	=> {other vegetables}	0.005083884	0.4098361	0.012404677
## [1062]	{domestic eggs, other vegetables}	=> {soda}	0.005083884	0.2283105	0.022267412
## [1063]	{other vegetables, soda}	=> {domestic eggs}	0.005083884	0.1552795	0.032740214
## [1064]	{domestic eggs, soda}	=> {whole milk}	0.005185562	0.4180328	0.012404677
## [1065]	{domestic eggs, whole milk}	=> {soda}	0.005185562	0.1728814	0.029994916

## [1066]	{soda,	=>	{domestic eggs}	0.005185562	0.1294416	0.040061007
##	whole milk}					
## [1067]	{domestic eggs,	=>	{other vegetables}	0.005795628	0.4042553	0.014336553
##	yogurt}					
## [1068]	{domestic eggs,	=>	{yogurt}	0.005795628	0.2602740	0.022267412
##	other vegetables}					
## [1069]	{other vegetables,	=>	{domestic eggs}	0.005795628	0.1334895	0.043416370
##	yogurt}					
## [1070]	{domestic eggs,	=>	{whole milk}	0.007727504	0.5390071	0.014336553
##	yogurt}					
## [1071]	{domestic eggs,	=>	{yogurt}	0.007727504	0.2576271	0.029994916
##	whole milk}					
## [1072]	{whole milk,	=>	{domestic eggs}	0.007727504	0.1379310	0.056024403
##	yogurt}					
## [1073]	{domestic eggs,	=>	{other vegetables}	0.005897306	0.3766234	0.015658363
##	rolls/buns}					
## [1074]	{domestic eggs,	=>	{rolls/buns}	0.005897306	0.2648402	0.022267412
##	other vegetables}					
## [1075]	{other vegetables,	=>	{domestic eggs}	0.005897306	0.1384248	0.042602949
##	rolls/buns}					
## [1076]	{domestic eggs,	=>	{whole milk}	0.006609049	0.4220779	0.015658363
##	rolls/buns}					
## [1077]	{domestic eggs,	=>	{rolls/buns}	0.006609049	0.2203390	0.029994916
##	whole milk}					
## [1078]	{rolls/buns,	=>	{domestic eggs}	0.006609049	0.1166966	0.056634469
##	whole milk}					
## [1079]	{domestic eggs,	=>	{whole milk}	0.012302999	0.5525114	0.022267412
##	other vegetables}					
## [1080]	{domestic eggs,	=>	{other vegetables}	0.012302999	0.4101695	0.029994916
##	whole milk}					
## [1081]	{other vegetables,	=>	{domestic eggs}	0.012302999	0.1644022	0.074834774
##	whole milk}					
## [1082]	{bottled water,	=>	{soda}	0.005185562	0.3642857	0.014234875
##	fruit/vegetable juice}					
## [1083]	{fruit/vegetable juice,	=>	{bottled water}	0.005185562	0.2817680	0.018403660
##	soda}					
## [1084]	{bottled water,	=>	{fruit/vegetable juice}	0.005185562	0.1789474	0.028978139
##	soda}					
## [1085]	{bottled water,	=>	{whole milk}	0.005795628	0.4071429	0.014234875
##	fruit/vegetable juice}					
## [1086]	{fruit/vegetable juice,	=>	{bottled water}	0.005795628	0.2175573	0.026639553
##	whole milk}					
## [1087]	{bottled water,	=>	{fruit/vegetable juice}	0.005795628	0.1686391	0.034367056
##	whole milk}					
## [1088]	{fruit/vegetable juice,	=>	{other vegetables}	0.006609049	0.4814815	0.013726487
##	tropical fruit}					
## [1089]	{fruit/vegetable juice,	=>	{tropical fruit}	0.006609049	0.3140097	0.021047280
##	other vegetables}					
## [1090]	{other vegetables,	=>	{fruit/vegetable juice}	0.006609049	0.1841360	0.035892222
##	tropical fruit}					
## [1091]	{fruit/vegetable juice,	=>	{whole milk}	0.005998983	0.4370370	0.013726487
##	tropical fruit}					
## [1092]	{fruit/vegetable juice,	=>	{tropical fruit}	0.005998983	0.2251908	0.026639553
##	whole milk}					

## [1093]	{tropical fruit, whole milk}	=> {fruit/vegetable juice}	0.005998983	0.1418269	0.042297916
## [1094]	{fruit/vegetable juice, root vegetables}	=> {other vegetables}	0.006609049	0.5508475	0.011997966
## [1095]	{fruit/vegetable juice, other vegetables}	=> {root vegetables}	0.006609049	0.3140097	0.021047280
## [1096]	{other vegetables, root vegetables}	=> {fruit/vegetable juice}	0.006609049	0.1394850	0.047381800
## [1097]	{fruit/vegetable juice, root vegetables}	=> {whole milk}	0.006507372	0.5423729	0.011997966
## [1098]	{fruit/vegetable juice, whole milk}	=> {root vegetables}	0.006507372	0.2442748	0.026639553
## [1099]	{root vegetables, whole milk}	=> {fruit/vegetable juice}	0.006507372	0.1330561	0.048906965
## [1100]	{fruit/vegetable juice, soda}	=> {yogurt}	0.005083884	0.2762431	0.018403660
## [1101]	{fruit/vegetable juice, yogurt}	=> {soda}	0.005083884	0.2717391	0.018708693
## [1102]	{soda, yogurt}	=> {fruit/vegetable juice}	0.005083884	0.1858736	0.027351296
## [1103]	{fruit/vegetable juice, soda}	=> {whole milk}	0.006100661	0.3314917	0.018403660
## [1104]	{fruit/vegetable juice, whole milk}	=> {soda}	0.006100661	0.2290076	0.026639553
## [1105]	{soda, whole milk}	=> {fruit/vegetable juice}	0.006100661	0.1522843	0.040061007
## [1106]	{fruit/vegetable juice, yogurt}	=> {other vegetables}	0.008235892	0.4402174	0.018708693
## [1107]	{fruit/vegetable juice, other vegetables}	=> {yogurt}	0.008235892	0.3913043	0.021047280
## [1108]	{other vegetables, yogurt}	=> {fruit/vegetable juice}	0.008235892	0.1896956	0.043416370
## [1109]	{fruit/vegetable juice, yogurt}	=> {whole milk}	0.009456024	0.5054348	0.018708693
## [1110]	{fruit/vegetable juice, whole milk}	=> {yogurt}	0.009456024	0.3549618	0.026639553
## [1111]	{whole milk, yogurt}	=> {fruit/vegetable juice}	0.009456024	0.1687840	0.056024403
## [1112]	{fruit/vegetable juice, rolls/buns}	=> {whole milk}	0.005592272	0.3846154	0.014539908
## [1113]	{fruit/vegetable juice, whole milk}	=> {rolls/buns}	0.005592272	0.2099237	0.026639553
## [1114]	{fruit/vegetable juice, other vegetables}	=> {whole milk}	0.010472801	0.4975845	0.021047280
## [1115]	{fruit/vegetable juice, whole milk}	=> {other vegetables}	0.010472801	0.3931298	0.026639553
## [1116]	{other vegetables, whole milk}	=> {fruit/vegetable juice}	0.010472801	0.1399457	0.074834774
## [1117]	{pip fruit, whipped/sour cream}	=> {other vegetables}	0.005592272	0.6043956	0.009252669
## [1118]	{other vegetables, whipped/sour cream}	=> {pip fruit}	0.005592272	0.1936620	0.028876462
## [1119]	{other vegetables, pip fruit}	=> {whipped/sour cream}	0.005592272	0.2140078	0.026131164

## [1120]	{pip fruit,	=>	{whole milk}	0.005998983	0.6483516	0.009252669
##	whipped/sour cream}					
## [1121]	{whipped/sour cream,	=>	{pip fruit}	0.005998983	0.1861199	0.032231825
##	whole milk}					
## [1122]	{pip fruit,	=>	{whipped/sour cream}	0.005998983	0.1993243	0.030096594
##	whole milk}					
## [1123]	{citrus fruit,	=>	{other vegetables}	0.005693950	0.5233645	0.010879512
##	whipped/sour cream}					
## [1124]	{other vegetables,	=>	{citrus fruit}	0.005693950	0.1971831	0.028876462
##	whipped/sour cream}					
## [1125]	{citrus fruit,	=>	{whipped/sour cream}	0.005693950	0.1971831	0.028876462
##	other vegetables}					
## [1126]	{citrus fruit,	=>	{whole milk}	0.006304016	0.5794393	0.010879512
##	whipped/sour cream}					
## [1127]	{whipped/sour cream,	=>	{citrus fruit}	0.006304016	0.1955836	0.032231825
##	whole milk}					
## [1128]	{citrus fruit,	=>	{whipped/sour cream}	0.006304016	0.2066667	0.030503305
##	whole milk}					
## [1129]	{sausage,	=>	{whole milk}	0.005083884	0.5617978	0.009049314
##	whipped/sour cream}					
## [1130]	{whipped/sour cream,	=>	{sausage}	0.005083884	0.1577287	0.032231825
##	whole milk}					
## [1131]	{sausage,	=>	{whipped/sour cream}	0.005083884	0.1700680	0.029893238
##	whole milk}					
## [1132]	{tropical fruit,	=>	{yogurt}	0.006202339	0.4485294	0.013828165
##	whipped/sour cream}					
## [1133]	{whipped/sour cream,	=>	{tropical fruit}	0.006202339	0.2990196	0.020742247
##	yogurt}					
## [1134]	{tropical fruit,	=>	{whipped/sour cream}	0.006202339	0.2118056	0.029283172
##	yogurt}					
## [1135]	{tropical fruit,	=>	{other vegetables}	0.007829181	0.5661765	0.013828165
##	whipped/sour cream}					
## [1136]	{other vegetables,	=>	{tropical fruit}	0.007829181	0.2711268	0.028876462
##	whipped/sour cream}					
## [1137]	{other vegetables,	=>	{whipped/sour cream}	0.007829181	0.2181303	0.035892222
##	tropical fruit}					
## [1138]	{tropical fruit,	=>	{whole milk}	0.007930859	0.5735294	0.013828165
##	whipped/sour cream}					
## [1139]	{whipped/sour cream,	=>	{tropical fruit}	0.007930859	0.2460568	0.032231825
##	whole milk}					
## [1140]	{tropical fruit,	=>	{whipped/sour cream}	0.007930859	0.1875000	0.042297916
##	whole milk}					
## [1141]	{root vegetables,	=>	{yogurt}	0.006405694	0.3750000	0.017081851
##	whipped/sour cream}					
## [1142]	{whipped/sour cream,	=>	{root vegetables}	0.006405694	0.3088235	0.020742247
##	yogurt}					
## [1143]	{root vegetables,	=>	{whipped/sour cream}	0.006405694	0.2480315	0.025826131
##	yogurt}					
## [1144]	{root vegetables,	=>	{other vegetables}	0.008540925	0.5000000	0.017081851
##	whipped/sour cream}					
## [1145]	{other vegetables,	=>	{root vegetables}	0.008540925	0.2957746	0.028876462
##	whipped/sour cream}					
## [1146]	{other vegetables,	=>	{whipped/sour cream}	0.008540925	0.1802575	0.047381800
##	root vegetables}					



## [1147]	{root vegetables, whipped/sour cream}	=> {whole milk}	0.009456024	0.5535714	0.017081851
## [1148]	{whipped/sour cream, whole milk}	=> {root vegetables}	0.009456024	0.2933754	0.032231825
## [1149]	{root vegetables, whole milk}	=> {whipped/sour cream}	0.009456024	0.1933472	0.048906965
## [1150]	{soda, whipped/sour cream}	=> {whole milk}	0.005490595	0.4736842	0.011591256
## [1151]	{whipped/sour cream, whole milk}	=> {soda}	0.005490595	0.1703470	0.032231825
## [1152]	{soda, whole milk}	=> {whipped/sour cream}	0.005490595	0.1370558	0.040061007
## [1153]	{whipped/sour cream, yogurt}	=> {other vegetables}	0.010167768	0.4901961	0.020742247
## [1154]	{other vegetables, whipped/sour cream}	=> {yogurt}	0.010167768	0.3521127	0.028876462
## [1155]	{other vegetables, yogurt}	=> {whipped/sour cream}	0.010167768	0.2341920	0.043416370
## [1156]	{whipped/sour cream, yogurt}	=> {whole milk}	0.010879512	0.5245098	0.020742247
## [1157]	{whipped/sour cream, whole milk}	=> {yogurt}	0.010879512	0.3375394	0.032231825
## [1158]	{whole milk, yogurt}	=> {whipped/sour cream}	0.010879512	0.1941924	0.056024403
## [1159]	{rolls/buns, whipped/sour cream}	=> {other vegetables}	0.006710727	0.4583333	0.014641586
## [1160]	{other vegetables, whipped/sour cream}	=> {rolls/buns}	0.006710727	0.2323944	0.028876462
## [1161]	{other vegetables, rolls/buns}	=> {whipped/sour cream}	0.006710727	0.1575179	0.042602949
## [1162]	{rolls/buns, whipped/sour cream}	=> {whole milk}	0.007829181	0.5347222	0.014641586
## [1163]	{whipped/sour cream, whole milk}	=> {rolls/buns}	0.007829181	0.2429022	0.032231825
## [1164]	{rolls/buns, whole milk}	=> {whipped/sour cream}	0.007829181	0.1382406	0.056634469
## [1165]	{other vegetables, whipped/sour cream}	=> {whole milk}	0.014641586	0.5070423	0.028876462
## [1166]	{whipped/sour cream, whole milk}	=> {other vegetables}	0.014641586	0.4542587	0.032231825
## [1167]	{other vegetables, whole milk}	=> {whipped/sour cream}	0.014641586	0.1956522	0.074834774
## [1168]	{pastry, pip fruit}	=> {whole milk}	0.005083884	0.4761905	0.010676157
## [1169]	{pip fruit, whole milk}	=> {pastry}	0.005083884	0.1689189	0.030096594
## [1170]	{pastry, whole milk}	=> {pip fruit}	0.005083884	0.1529052	0.033248602
## [1171]	{citrus fruit, pip fruit}	=> {tropical fruit}	0.005592272	0.4044118	0.013828165
## [1172]	{pip fruit, tropical fruit}	=> {citrus fruit}	0.005592272	0.2736318	0.020437214
## [1173]	{citrus fruit, tropical fruit}	=> {pip fruit}	0.005592272	0.2806122	0.019928826

## [1174]	{citrus fruit, pip fruit}	=> {other vegetables}	0.005897306	0.4264706	0.013828165
## [1175]	{other vegetables, pip fruit}	=> {citrus fruit}	0.005897306	0.2256809	0.026131164
## [1176]	{citrus fruit, other vegetables}	=> {pip fruit}	0.005897306	0.2042254	0.028876462
## [1177]	{citrus fruit, pip fruit}	=> {whole milk}	0.005185562	0.3750000	0.013828165
## [1178]	{pip fruit, whole milk}	=> {citrus fruit}	0.005185562	0.1722973	0.030096594
## [1179]	{citrus fruit, whole milk}	=> {pip fruit}	0.005185562	0.1700000	0.030503305
## [1180]	{pip fruit, sausage}	=> {whole milk}	0.005592272	0.5188679	0.010777834
## [1181]	{pip fruit, whole milk}	=> {sausage}	0.005592272	0.1858108	0.030096594
## [1182]	{sausage, whole milk}	=> {pip fruit}	0.005592272	0.1870748	0.029893238
## [1183]	{pip fruit, tropical fruit}	=> {root vegetables}	0.005287239	0.2587065	0.020437214
## [1184]	{pip fruit, root vegetables}	=> {tropical fruit}	0.005287239	0.3398693	0.015556685
## [1185]	{root vegetables, tropical fruit}	=> {pip fruit}	0.005287239	0.2512077	0.021047280
## [1186]	{pip fruit, tropical fruit}	=> {yogurt}	0.006405694	0.3134328	0.020437214
## [1187]	{pip fruit, yogurt}	=> {tropical fruit}	0.006405694	0.3559322	0.017996950
## [1188]	{tropical fruit, yogurt}	=> {pip fruit}	0.006405694	0.2187500	0.029283172
## [1189]	{pip fruit, tropical fruit}	=> {other vegetables}	0.009456024	0.4626866	0.020437214
## [1190]	{other vegetables, pip fruit}	=> {tropical fruit}	0.009456024	0.3618677	0.026131164
## [1191]	{other vegetables, tropical fruit}	=> {pip fruit}	0.009456024	0.2634561	0.035892222
## [1192]	{pip fruit, tropical fruit}	=> {whole milk}	0.008439248	0.4129353	0.020437214
## [1193]	{pip fruit, whole milk}	=> {tropical fruit}	0.008439248	0.2804054	0.030096594
## [1194]	{tropical fruit, whole milk}	=> {pip fruit}	0.008439248	0.1995192	0.042297916
## [1195]	{pip fruit, root vegetables}	=> {yogurt}	0.005287239	0.3398693	0.015556685
## [1196]	{pip fruit, yogurt}	=> {root vegetables}	0.005287239	0.2937853	0.017996950
## [1197]	{root vegetables, yogurt}	=> {pip fruit}	0.005287239	0.2047244	0.025826131
## [1198]	{pip fruit, root vegetables}	=> {other vegetables}	0.008134215	0.5228758	0.015556685
## [1199]	{other vegetables, pip fruit}	=> {root vegetables}	0.008134215	0.3112840	0.026131164
## [1200]	{other vegetables, root vegetables}	=> {pip fruit}	0.008134215	0.1716738	0.047381800

## [1201]	{pip fruit, root vegetables}	=> {whole milk}	0.008947636	0.5751634	0.015556685
## [1202]	{pip fruit, whole milk}	=> {root vegetables}	0.008947636	0.2972973	0.030096594
## [1203]	{root vegetables, whole milk}	=> {pip fruit}	0.008947636	0.1829522	0.048906965
## [1204]	{pip fruit, yogurt}	=> {other vegetables}	0.008134215	0.4519774	0.017996950
## [1205]	{other vegetables, pip fruit}	=> {yogurt}	0.008134215	0.3112840	0.026131164
## [1206]	{other vegetables, yogurt}	=> {pip fruit}	0.008134215	0.1873536	0.043416370
## [1207]	{pip fruit, yogurt}	=> {whole milk}	0.009557702	0.5310734	0.017996950
## [1208]	{pip fruit, whole milk}	=> {yogurt}	0.009557702	0.3175676	0.030096594
## [1209]	{whole milk, yogurt}	=> {pip fruit}	0.009557702	0.1705989	0.056024403
## [1210]	{pip fruit, rolls/buns}	=> {other vegetables}	0.005083884	0.3649635	0.013929842
## [1211]	{other vegetables, pip fruit}	=> {rolls/buns}	0.005083884	0.1945525	0.026131164
## [1212]	{other vegetables, rolls/buns}	=> {pip fruit}	0.005083884	0.1193317	0.042602949
## [1213]	{pip fruit, rolls/buns}	=> {whole milk}	0.006202339	0.4452555	0.013929842
## [1214]	{pip fruit, whole milk}	=> {rolls/buns}	0.006202339	0.2060811	0.030096594
## [1215]	{rolls/buns, whole milk}	=> {pip fruit}	0.006202339	0.1095153	0.056634469
## [1216]	{other vegetables, pip fruit}	=> {whole milk}	0.013523132	0.5175097	0.026131164
## [1217]	{pip fruit, whole milk}	=> {other vegetables}	0.013523132	0.4493243	0.030096594
## [1218]	{other vegetables, whole milk}	=> {pip fruit}	0.013523132	0.1807065	0.074834774
## [1219]	{pastry, sausage}	=> {whole milk}	0.005693950	0.4552846	0.012506355
## [1220]	{pastry, whole milk}	=> {sausage}	0.005693950	0.1712538	0.033248602
## [1221]	{sausage, whole milk}	=> {pastry}	0.005693950	0.1904762	0.029893238
## [1222]	{pastry, tropical fruit}	=> {other vegetables}	0.005083884	0.3846154	0.013218099
## [1223]	{other vegetables, pastry}	=> {tropical fruit}	0.005083884	0.2252252	0.022572445
## [1224]	{other vegetables, tropical fruit}	=> {pastry}	0.005083884	0.1416431	0.035892222
## [1225]	{pastry, tropical fruit}	=> {whole milk}	0.006710727	0.5076923	0.013218099
## [1226]	{pastry, whole milk}	=> {tropical fruit}	0.006710727	0.2018349	0.033248602
## [1227]	{tropical fruit, whole milk}	=> {pastry}	0.006710727	0.1586538	0.042297916

## [1228]	{pastry,	=>	{other vegetables}	0.005897306	0.5370370	0.010981190
##	root vegetables}					
## [1229]	{other vegetables,	=>	{root vegetables}	0.005897306	0.2612613	0.022572445
##	pastry}					
## [1230]	{other vegetables,	=>	{pastry}	0.005897306	0.1244635	0.047381800
##	root vegetables}					
## [1231]	{pastry,	=>	{whole milk}	0.005693950	0.5185185	0.010981190
##	root vegetables}					
## [1232]	{pastry,	=>	{root vegetables}	0.005693950	0.1712538	0.033248602
##	whole milk}					
## [1233]	{root vegetables,	=>	{pastry}	0.005693950	0.1164241	0.048906965
##	whole milk}					
## [1234]	{pastry,	=>	{rolls/buns}	0.005388917	0.2560386	0.021047280
##	soda}					
## [1235]	{pastry,	=>	{soda}	0.005388917	0.2572816	0.020945602
##	rolls/buns}					
## [1236]	{rolls/buns,	=>	{pastry}	0.005388917	0.1405836	0.038332486
##	soda}					
## [1237]	{pastry,	=>	{other vegetables}	0.005490595	0.2608696	0.021047280
##	soda}					
## [1238]	{other vegetables,	=>	{soda}	0.005490595	0.2432432	0.022572445
##	pastry}					
## [1239]	{other vegetables,	=>	{pastry}	0.005490595	0.1677019	0.032740214
##	soda}					
## [1240]	{pastry,	=>	{whole milk}	0.008235892	0.3913043	0.021047280
##	soda}					
## [1241]	{pastry,	=>	{soda}	0.008235892	0.2477064	0.033248602
##	whole milk}					
## [1242]	{soda,	=>	{pastry}	0.008235892	0.2055838	0.040061007
##	whole milk}					
## [1243]	{pastry,	=>	{rolls/buns}	0.005795628	0.3275862	0.017691917
##	yogurt}					
## [1244]	{pastry,	=>	{yogurt}	0.005795628	0.2766990	0.020945602
##	rolls/buns}					
## [1245]	{rolls/buns,	=>	{pastry}	0.005795628	0.1686391	0.034367056
##	yogurt}					
## [1246]	{pastry,	=>	{other vegetables}	0.006609049	0.3735632	0.017691917
##	yogurt}					
## [1247]	{other vegetables,	=>	{yogurt}	0.006609049	0.2927928	0.022572445
##	pastry}					
## [1248]	{other vegetables,	=>	{pastry}	0.006609049	0.1522248	0.043416370
##	yogurt}					
## [1249]	{pastry,	=>	{whole milk}	0.009150991	0.5172414	0.017691917
##	yogurt}					
## [1250]	{pastry,	=>	{yogurt}	0.009150991	0.2752294	0.033248602
##	whole milk}					
## [1251]	{whole milk,	=>	{pastry}	0.009150991	0.1633394	0.056024403
##	yogurt}					
## [1252]	{pastry,	=>	{other vegetables}	0.006100661	0.2912621	0.020945602
##	rolls/buns}					
## [1253]	{other vegetables,	=>	{rolls/buns}	0.006100661	0.2702703	0.022572445
##	pastry}					
## [1254]	{other vegetables,	=>	{pastry}	0.006100661	0.1431981	0.042602949
##	rolls/buns}					

## [1255]	{pastry,					
##	rolls/buns}	=>	{whole milk}	0.008540925	0.4077670	0.020945602
## [1256]	{pastry,					
##	whole milk}	=>	{rolls/buns}	0.008540925	0.2568807	0.033248602
## [1257]	{rolls/buns,					
##	whole milk}	=>	{pastry}	0.008540925	0.1508079	0.056634469
## [1258]	{other vegetables,					
##	pastry}	=>	{whole milk}	0.010574479	0.4684685	0.022572445
## [1259]	{pastry,					
##	whole milk}	=>	{other vegetables}	0.010574479	0.3180428	0.033248602
## [1260]	{other vegetables,					
##	whole milk}	=>	{pastry}	0.010574479	0.1413043	0.074834774
## [1261]	{bottled water,					
##	citrus fruit}	=>	{other vegetables}	0.005083884	0.3759398	0.013523132
## [1262]	{citrus fruit,					
##	other vegetables}	=>	{bottled water}	0.005083884	0.1760563	0.028876462
## [1263]	{bottled water,					
##	other vegetables}	=>	{citrus fruit}	0.005083884	0.2049180	0.024809354
## [1264]	{bottled water,					
##	citrus fruit}	=>	{whole milk}	0.005897306	0.4360902	0.013523132
## [1265]	{citrus fruit,					
##	whole milk}	=>	{bottled water}	0.005897306	0.1933333	0.030503305
## [1266]	{bottled water,					
##	whole milk}	=>	{citrus fruit}	0.005897306	0.1715976	0.034367056
## [1267]	{citrus fruit,					
##	tropical fruit}	=>	{root vegetables}	0.005693950	0.2857143	0.019928826
## [1268]	{citrus fruit,					
##	root vegetables}	=>	{tropical fruit}	0.005693950	0.3218391	0.017691917
## [1269]	{root vegetables,					
##	tropical fruit}	=>	{citrus fruit}	0.005693950	0.2705314	0.021047280
## [1270]	{citrus fruit,					
##	tropical fruit}	=>	{yogurt}	0.006304016	0.3163265	0.019928826
## [1271]	{citrus fruit,					
##	yogurt}	=>	{tropical fruit}	0.006304016	0.2910798	0.021657346
## [1272]	{tropical fruit,					
##	yogurt}	=>	{citrus fruit}	0.006304016	0.2152778	0.029283172
## [1273]	{citrus fruit,					
##	tropical fruit}	=>	{other vegetables}	0.009049314	0.4540816	0.019928826
## [1274]	{citrus fruit,					
##	other vegetables}	=>	{tropical fruit}	0.009049314	0.3133803	0.028876462
## [1275]	{other vegetables,					
##	tropical fruit}	=>	{citrus fruit}	0.009049314	0.2521246	0.035892222
## [1276]	{citrus fruit,					
##	tropical fruit}	=>	{whole milk}	0.009049314	0.4540816	0.019928826
## [1277]	{citrus fruit,					
##	whole milk}	=>	{tropical fruit}	0.009049314	0.2966667	0.030503305
## [1278]	{tropical fruit,					
##	whole milk}	=>	{citrus fruit}	0.009049314	0.2139423	0.042297916
## [1279]	{citrus fruit,					
##	root vegetables}	=>	{other vegetables}	0.010371124	0.5862069	0.017691917
## [1280]	{citrus fruit,					
##	other vegetables}	=>	{root vegetables}	0.010371124	0.3591549	0.028876462
## [1281]	{other vegetables,					
##	root vegetables}	=>	{citrus fruit}	0.010371124	0.2188841	0.047381800

## [1282]	{citrus fruit, root vegetables}	=> {whole milk}	0.009150991	0.5172414	0.017691917
## [1283]	{citrus fruit, whole milk}	=> {root vegetables}	0.009150991	0.3000000	0.030503305
## [1284]	{root vegetables, whole milk}	=> {citrus fruit}	0.009150991	0.1871102	0.048906965
## [1285]	{citrus fruit, yogurt}	=> {rolls/buns}	0.005795628	0.2676056	0.021657346
## [1286]	{citrus fruit, rolls/buns}	=> {yogurt}	0.005795628	0.3454545	0.016776817
## [1287]	{rolls/buns, yogurt}	=> {citrus fruit}	0.005795628	0.1686391	0.034367056
## [1288]	{citrus fruit, yogurt}	=> {other vegetables}	0.007625826	0.3521127	0.021657346
## [1289]	{citrus fruit, other vegetables}	=> {yogurt}	0.007625826	0.2640845	0.028876462
## [1290]	{other vegetables, yogurt}	=> {citrus fruit}	0.007625826	0.1756440	0.043416370
## [1291]	{citrus fruit, yogurt}	=> {whole milk}	0.010269446	0.4741784	0.021657346
## [1292]	{citrus fruit, whole milk}	=> {yogurt}	0.010269446	0.3366667	0.030503305
## [1293]	{whole milk, yogurt}	=> {citrus fruit}	0.010269446	0.1833031	0.056024403
## [1294]	{citrus fruit, rolls/buns}	=> {other vegetables}	0.005998983	0.3575758	0.016776817
## [1295]	{citrus fruit, other vegetables}	=> {rolls/buns}	0.005998983	0.2077465	0.028876462
## [1296]	{other vegetables, rolls/buns}	=> {citrus fruit}	0.005998983	0.1408115	0.042602949
## [1297]	{citrus fruit, rolls/buns}	=> {whole milk}	0.007219115	0.4303030	0.016776817
## [1298]	{citrus fruit, whole milk}	=> {rolls/buns}	0.007219115	0.2366667	0.030503305
## [1299]	{rolls/buns, whole milk}	=> {citrus fruit}	0.007219115	0.1274686	0.056634469
## [1300]	{citrus fruit, other vegetables}	=> {whole milk}	0.013014743	0.4507042	0.028876462
## [1301]	{citrus fruit, whole milk}	=> {other vegetables}	0.013014743	0.4266667	0.030503305
## [1302]	{other vegetables, whole milk}	=> {citrus fruit}	0.013014743	0.1739130	0.074834774
## [1303]	{sausage, shopping bags}	=> {soda}	0.005693950	0.3636364	0.015658363
## [1304]	{shopping bags, soda}	=> {sausage}	0.005693950	0.2314050	0.024605999
## [1305]	{sausage, soda}	=> {shopping bags}	0.005693950	0.2343096	0.024300966
## [1306]	{sausage, shopping bags}	=> {rolls/buns}	0.005998983	0.3831169	0.015658363
## [1307]	{rolls/buns, shopping bags}	=> {sausage}	0.005998983	0.3072917	0.019522115
## [1308]	{rolls/buns, sausage}	=> {shopping bags}	0.005998983	0.1960133	0.030604982

## [1309]	{sausage,	=>	{other vegetables}	0.005388917	0.3441558	0.015658363
##	shopping bags}					
## [1310]	{other vegetables,	=>	{sausage}	0.005388917	0.2324561	0.023182511
##	shopping bags}					
## [1311]	{other vegetables,	=>	{shopping bags}	0.005388917	0.2000000	0.026944586
##	sausage}					
## [1312]	{root vegetables,	=>	{other vegetables}	0.006609049	0.5158730	0.012811388
##	shopping bags}					
## [1313]	{other vegetables,	=>	{root vegetables}	0.006609049	0.2850877	0.023182511
##	shopping bags}					
## [1314]	{other vegetables,	=>	{shopping bags}	0.006609049	0.1394850	0.047381800
##	root vegetables}					
## [1315]	{root vegetables,	=>	{whole milk}	0.005287239	0.4126984	0.012811388
##	shopping bags}					
## [1316]	{shopping bags,	=>	{root vegetables}	0.005287239	0.2157676	0.024504321
##	whole milk}					
## [1317]	{root vegetables,	=>	{shopping bags}	0.005287239	0.1081081	0.048906965
##	whole milk}					
## [1318]	{shopping bags,	=>	{rolls/buns}	0.006304016	0.2561983	0.024605999
##	soda}					
## [1319]	{rolls/buns,	=>	{soda}	0.006304016	0.3229167	0.019522115
##	shopping bags}					
## [1320]	{rolls/buns,	=>	{shopping bags}	0.006304016	0.1644562	0.038332486
##	soda}					
## [1321]	{shopping bags,	=>	{other vegetables}	0.005388917	0.2190083	0.024605999
##	soda}					
## [1322]	{other vegetables,	=>	{soda}	0.005388917	0.2324561	0.023182511
##	shopping bags}					
## [1323]	{other vegetables,	=>	{shopping bags}	0.005388917	0.1645963	0.032740214
##	soda}					
## [1324]	{shopping bags,	=>	{whole milk}	0.006812405	0.2768595	0.024605999
##	soda}					
## [1325]	{shopping bags,	=>	{soda}	0.006812405	0.2780083	0.024504321
##	whole milk}					
## [1326]	{soda,	=>	{shopping bags}	0.006812405	0.1700508	0.040061007
##	whole milk}					
## [1327]	{shopping bags,	=>	{other vegetables}	0.005388917	0.3533333	0.015251652
##	yogurt}					
## [1328]	{other vegetables,	=>	{yogurt}	0.005388917	0.2324561	0.023182511
##	shopping bags}					
## [1329]	{other vegetables,	=>	{shopping bags}	0.005388917	0.1241218	0.043416370
##	yogurt}					
## [1330]	{shopping bags,	=>	{whole milk}	0.005287239	0.3466667	0.015251652
##	yogurt}					
## [1331]	{shopping bags,	=>	{yogurt}	0.005287239	0.2157676	0.024504321
##	whole milk}					
## [1332]	{rolls/buns,	=>	{other vegetables}	0.005287239	0.2708333	0.019522115
##	shopping bags}					
## [1333]	{other vegetables,	=>	{rolls/buns}	0.005287239	0.2280702	0.023182511
##	shopping bags}					
## [1334]	{other vegetables,	=>	{shopping bags}	0.005287239	0.1241050	0.042602949
##	rolls/buns}					
## [1335]	{rolls/buns,	=>	{whole milk}	0.005287239	0.2708333	0.019522115
##	shopping bags}					

## [1336]	{shopping bags, whole milk}	=> {rolls/buns}	0.005287239	0.2157676	0.024504321
## [1337]	{other vegetables, shopping bags}	=> {whole milk}	0.007625826	0.3289474	0.023182511
## [1338]	{shopping bags, whole milk}	=> {other vegetables}	0.007625826	0.3112033	0.024504321
## [1339]	{other vegetables, whole milk}	=> {shopping bags}	0.007625826	0.1019022	0.074834774
## [1340]	{bottled water, sausage}	=> {other vegetables}	0.005083884	0.4237288	0.011997966
## [1341]	{other vegetables, sausage}	=> {bottled water}	0.005083884	0.1886792	0.026944586
## [1342]	{bottled water, other vegetables}	=> {sausage}	0.005083884	0.2049180	0.024809354
## [1343]	{sausage, tropical fruit}	=> {other vegetables}	0.005998983	0.4306569	0.013929842
## [1344]	{other vegetables, sausage}	=> {tropical fruit}	0.005998983	0.2226415	0.026944586
## [1345]	{other vegetables, tropical fruit}	=> {sausage}	0.005998983	0.1671388	0.035892222
## [1346]	{sausage, tropical fruit}	=> {whole milk}	0.007219115	0.5182482	0.013929842
## [1347]	{sausage, whole milk}	=> {tropical fruit}	0.007219115	0.2414966	0.029893238
## [1348]	{tropical fruit, whole milk}	=> {sausage}	0.007219115	0.1706731	0.042297916
## [1349]	{root vegetables, sausage}	=> {yogurt}	0.005185562	0.3469388	0.014946619
## [1350]	{sausage, yogurt}	=> {root vegetables}	0.005185562	0.2642487	0.019623793
## [1351]	{root vegetables, yogurt}	=> {sausage}	0.005185562	0.2007874	0.025826131
## [1352]	{root vegetables, sausage}	=> {other vegetables}	0.006812405	0.4557823	0.014946619
## [1353]	{other vegetables, sausage}	=> {root vegetables}	0.006812405	0.2528302	0.026944586
## [1354]	{other vegetables, root vegetables}	=> {sausage}	0.006812405	0.1437768	0.047381800
## [1355]	{root vegetables, sausage}	=> {whole milk}	0.007727504	0.5170068	0.014946619
## [1356]	{sausage, whole milk}	=> {root vegetables}	0.007727504	0.2585034	0.029893238
## [1357]	{root vegetables, whole milk}	=> {sausage}	0.007727504	0.1580042	0.048906965
## [1358]	{sausage, soda}	=> {yogurt}	0.005592272	0.2301255	0.024300966
## [1359]	{sausage, yogurt}	=> {soda}	0.005592272	0.2849741	0.019623793
## [1360]	{soda, yogurt}	=> {sausage}	0.005592272	0.2044610	0.027351296
## [1361]	{sausage, soda}	=> {rolls/buns}	0.009659380	0.3974895	0.024300966
## [1362]	{rolls/buns, sausage}	=> {soda}	0.009659380	0.3156146	0.030604982



## [1363]	{rolls/buns, soda}	=> {sausage}	0.009659380	0.2519894	0.038332486
## [1364]	{sausage, soda}	=> {other vegetables}	0.007219115	0.2970711	0.024300966
## [1365]	{other vegetables, sausage}	=> {soda}	0.007219115	0.2679245	0.026944586
## [1366]	{other vegetables, soda}	=> {sausage}	0.007219115	0.2204969	0.032740214
## [1367]	{sausage, soda}	=> {whole milk}	0.006710727	0.2761506	0.024300966
## [1368]	{sausage, whole milk}	=> {soda}	0.006710727	0.2244898	0.029893238
## [1369]	{soda, whole milk}	=> {sausage}	0.006710727	0.1675127	0.040061007
## [1370]	{sausage, yogurt}	=> {rolls/buns}	0.005998983	0.3056995	0.019623793
## [1371]	{rolls/buns, sausage}	=> {yogurt}	0.005998983	0.1960133	0.030604982
## [1372]	{rolls/buns, yogurt}	=> {sausage}	0.005998983	0.1745562	0.034367056
## [1373]	{sausage, yogurt}	=> {other vegetables}	0.008134215	0.4145078	0.019623793
## [1374]	{other vegetables, sausage}	=> {yogurt}	0.008134215	0.3018868	0.026944586
## [1375]	{other vegetables, yogurt}	=> {sausage}	0.008134215	0.1873536	0.043416370
## [1376]	{sausage, yogurt}	=> {whole milk}	0.008744281	0.4455959	0.019623793
## [1377]	{sausage, whole milk}	=> {yogurt}	0.008744281	0.2925170	0.029893238
## [1378]	{whole milk, yogurt}	=> {sausage}	0.008744281	0.1560799	0.056024403
## [1379]	{rolls/buns, sausage}	=> {other vegetables}	0.008845958	0.2890365	0.030604982
## [1380]	{other vegetables, sausage}	=> {rolls/buns}	0.008845958	0.3283019	0.026944586
## [1381]	{other vegetables, rolls/buns}	=> {sausage}	0.008845958	0.2076372	0.042602949
## [1382]	{rolls/buns, sausage}	=> {whole milk}	0.009354347	0.3056478	0.030604982
## [1383]	{sausage, whole milk}	=> {rolls/buns}	0.009354347	0.3129252	0.029893238
## [1384]	{rolls/buns, whole milk}	=> {sausage}	0.009354347	0.1651706	0.056634469
## [1385]	{other vegetables, sausage}	=> {whole milk}	0.010167768	0.3773585	0.026944586
## [1386]	{sausage, whole milk}	=> {other vegetables}	0.010167768	0.3401361	0.029893238
## [1387]	{other vegetables, whole milk}	=> {sausage}	0.010167768	0.1358696	0.074834774
## [1388]	{bottled water, tropical fruit}	=> {soda}	0.005185562	0.2802198	0.018505338
## [1389]	{bottled water, soda}	=> {tropical fruit}	0.005185562	0.1789474	0.028978139

## [1390]	{soda,	=>	{bottled water}	0.005185562	0.2487805	0.020843925
##	tropical fruit}					
## [1391]	{bottled water,	=>	{yogurt}	0.007117438	0.3846154	0.018505338
##	tropical fruit}					
## [1392]	{bottled water,	=>	{tropical fruit}	0.007117438	0.3097345	0.022979156
##	yogurt}					
## [1393]	{tropical fruit,	=>	{bottled water}	0.007117438	0.2430556	0.029283172
##	yogurt}					
## [1394]	{bottled water,	=>	{rolls/buns}	0.005388917	0.2912088	0.018505338
##	tropical fruit}					
## [1395]	{bottled water,	=>	{tropical fruit}	0.005388917	0.2226891	0.024199288
##	rolls/buns}					
## [1396]	{rolls/buns,	=>	{bottled water}	0.005388917	0.2190083	0.024605999
##	tropical fruit}					
## [1397]	{bottled water,	=>	{other vegetables}	0.006202339	0.3351648	0.018505338
##	tropical fruit}					
## [1398]	{bottled water,	=>	{tropical fruit}	0.006202339	0.2500000	0.024809354
##	other vegetables}					
## [1399]	{other vegetables,	=>	{bottled water}	0.006202339	0.1728045	0.035892222
##	tropical fruit}					
## [1400]	{bottled water,	=>	{whole milk}	0.008032537	0.4340659	0.018505338
##	tropical fruit}					
## [1401]	{bottled water,	=>	{tropical fruit}	0.008032537	0.2337278	0.034367056
##	whole milk}					
## [1402]	{tropical fruit,	=>	{bottled water}	0.008032537	0.1899038	0.042297916
##	whole milk}					
## [1403]	{bottled water,	=>	{other vegetables}	0.007015760	0.4480519	0.015658363
##	root vegetables}					
## [1404]	{bottled water,	=>	{root vegetables}	0.007015760	0.2827869	0.024809354
##	other vegetables}					
## [1405]	{other vegetables,	=>	{bottled water}	0.007015760	0.1480687	0.047381800
##	root vegetables}					
## [1406]	{bottled water,	=>	{whole milk}	0.007320793	0.4675325	0.015658363
##	root vegetables}					
## [1407]	{bottled water,	=>	{root vegetables}	0.007320793	0.2130178	0.034367056
##	whole milk}					
## [1408]	{root vegetables,	=>	{bottled water}	0.007320793	0.1496881	0.048906965
##	whole milk}					
## [1409]	{bottled water,	=>	{yogurt}	0.007422471	0.2561404	0.028978139
##	soda}					
## [1410]	{bottled water,	=>	{soda}	0.007422471	0.3230088	0.022979156
##	yogurt}					
## [1411]	{soda,	=>	{bottled water}	0.007422471	0.2713755	0.027351296
##	yogurt}					
## [1412]	{bottled water,	=>	{rolls/buns}	0.006812405	0.2350877	0.028978139
##	soda}					
## [1413]	{bottled water,	=>	{soda}	0.006812405	0.2815126	0.024199288
##	rolls/buns}					
## [1414]	{rolls/buns,	=>	{bottled water}	0.006812405	0.1777188	0.038332486
##	soda}					
## [1415]	{bottled water,	=>	{other vegetables}	0.005693950	0.1964912	0.028978139
##	soda}					
## [1416]	{bottled water,	=>	{soda}	0.005693950	0.2295082	0.024809354
##	other vegetables}					

## [1417]	{other vegetables, soda}	=> {bottled water}	0.005693950	0.1739130	0.032740214
## [1418]	{bottled water, soda}	=> {whole milk}	0.007524148	0.2596491	0.028978139
## [1419]	{bottled water, whole milk}	=> {soda}	0.007524148	0.2189349	0.034367056
## [1420]	{soda, whole milk}	=> {bottled water}	0.007524148	0.1878173	0.040061007
## [1421]	{bottled water, yogurt}	=> {rolls/buns}	0.007117438	0.3097345	0.022979156
## [1422]	{bottled water, rolls/buns}	=> {yogurt}	0.007117438	0.2941176	0.024199288
## [1423]	{rolls/buns, yogurt}	=> {bottled water}	0.007117438	0.2071006	0.034367056
## [1424]	{bottled water, yogurt}	=> {other vegetables}	0.008134215	0.3539823	0.022979156
## [1425]	{bottled water, other vegetables}	=> {yogurt}	0.008134215	0.3278689	0.024809354
## [1426]	{other vegetables, yogurt}	=> {bottled water}	0.008134215	0.1873536	0.043416370
## [1427]	{bottled water, yogurt}	=> {whole milk}	0.009659380	0.4203540	0.022979156
## [1428]	{bottled water, whole milk}	=> {yogurt}	0.009659380	0.2810651	0.034367056
## [1429]	{whole milk, yogurt}	=> {bottled water}	0.009659380	0.1724138	0.056024403
## [1430]	{bottled water, rolls/buns}	=> {other vegetables}	0.007320793	0.3025210	0.024199288
## [1431]	{bottled water, other vegetables}	=> {rolls/buns}	0.007320793	0.2950820	0.024809354
## [1432]	{other vegetables, rolls/buns}	=> {bottled water}	0.007320793	0.1718377	0.042602949
## [1433]	{bottled water, rolls/buns}	=> {whole milk}	0.008744281	0.3613445	0.024199288
## [1434]	{bottled water, whole milk}	=> {rolls/buns}	0.008744281	0.2544379	0.034367056
## [1435]	{rolls/buns, whole milk}	=> {bottled water}	0.008744281	0.1543986	0.056634469
## [1436]	{bottled water, other vegetables}	=> {whole milk}	0.010777834	0.4344262	0.024809354
## [1437]	{bottled water, whole milk}	=> {other vegetables}	0.010777834	0.3136095	0.034367056
## [1438]	{other vegetables, whole milk}	=> {bottled water}	0.010777834	0.1440217	0.074834774
## [1439]	{root vegetables, tropical fruit}	=> {yogurt}	0.008134215	0.3864734	0.021047280
## [1440]	{tropical fruit, yogurt}	=> {root vegetables}	0.008134215	0.2777778	0.029283172
## [1441]	{root vegetables, yogurt}	=> {tropical fruit}	0.008134215	0.3149606	0.025826131
## [1442]	{root vegetables, tropical fruit}	=> {rolls/buns}	0.005897306	0.2801932	0.021047280
## [1443]	{rolls/buns, tropical fruit}	=> {root vegetables}	0.005897306	0.2396694	0.024605999

## [1444]	{rolls/buns,	=> {tropical fruit}	0.005897306	0.2426778	0.024300966
##	root vegetables}				
## [1445]	{root vegetables,	=> {other vegetables}	0.012302999	0.5845411	0.021047280
##	tropical fruit}				
## [1446]	{other vegetables,	=> {root vegetables}	0.012302999	0.3427762	0.035892222
##	tropical fruit}				
## [1447]	{other vegetables,	=> {tropical fruit}	0.012302999	0.2596567	0.047381800
##	root vegetables}				
## [1448]	{root vegetables,	=> {whole milk}	0.011997966	0.5700483	0.021047280
##	tropical fruit}				
## [1449]	{tropical fruit,	=> {root vegetables}	0.011997966	0.2836538	0.042297916
##	whole milk}				
## [1450]	{root vegetables,	=> {tropical fruit}	0.011997966	0.2453222	0.048906965
##	whole milk}				
## [1451]	{soda,	=> {yogurt}	0.006609049	0.3170732	0.020843925
##	tropical fruit}				
## [1452]	{tropical fruit,	=> {soda}	0.006609049	0.2256944	0.029283172
##	yogurt}				
## [1453]	{soda,	=> {tropical fruit}	0.006609049	0.2416357	0.027351296
##	yogurt}				
## [1454]	{soda,	=> {rolls/buns}	0.005388917	0.2585366	0.020843925
##	tropical fruit}				
## [1455]	{rolls/buns,	=> {soda}	0.005388917	0.2190083	0.024605999
##	tropical fruit}				
## [1456]	{rolls/buns,	=> {tropical fruit}	0.005388917	0.1405836	0.038332486
##	soda}				
## [1457]	{soda,	=> {other vegetables}	0.007219115	0.3463415	0.020843925
##	tropical fruit}				
## [1458]	{other vegetables,	=> {soda}	0.007219115	0.2011331	0.035892222
##	tropical fruit}				
## [1459]	{other vegetables,	=> {tropical fruit}	0.007219115	0.2204969	0.032740214
##	soda}				
## [1460]	{soda,	=> {whole milk}	0.007829181	0.3756098	0.020843925
##	tropical fruit}				
## [1461]	{tropical fruit,	=> {soda}	0.007829181	0.1850962	0.042297916
##	whole milk}				
## [1462]	{soda,	=> {tropical fruit}	0.007829181	0.1954315	0.040061007
##	whole milk}				
## [1463]	{tropical fruit,	=> {rolls/buns}	0.008744281	0.2986111	0.029283172
##	yogurt}				
## [1464]	{rolls/buns,	=> {yogurt}	0.008744281	0.3553719	0.024605999
##	tropical fruit}				
## [1465]	{rolls/buns,	=> {tropical fruit}	0.008744281	0.2544379	0.034367056
##	yogurt}				
## [1466]	{tropical fruit,	=> {other vegetables}	0.012302999	0.4201389	0.029283172
##	yogurt}				
## [1467]	{other vegetables,	=> {yogurt}	0.012302999	0.3427762	0.035892222
##	tropical fruit}				
## [1468]	{other vegetables,	=> {tropical fruit}	0.012302999	0.2833724	0.043416370
##	yogurt}				
## [1469]	{tropical fruit,	=> {whole milk}	0.015149975	0.5173611	0.029283172
##	yogurt}				
## [1470]	{tropical fruit,	=> {yogurt}	0.015149975	0.3581731	0.042297916
##	whole milk}				

## [1471]	{whole milk, yogurt}	=> {tropical fruit}	0.015149975	0.2704174	0.056024403
## [1472]	{rolls/buns, tropical fruit}	=> {other vegetables}	0.007829181	0.3181818	0.024605999
## [1473]	{other vegetables, tropical fruit}	=> {rolls/buns}	0.007829181	0.2181303	0.035892222
## [1474]	{other vegetables, rolls/buns}	=> {tropical fruit}	0.007829181	0.1837709	0.042602949
## [1475]	{rolls/buns, tropical fruit}	=> {whole milk}	0.010981190	0.4462810	0.024605999
## [1476]	{tropical fruit, whole milk}	=> {rolls/buns}	0.010981190	0.2596154	0.042297916
## [1477]	{rolls/buns, whole milk}	=> {tropical fruit}	0.010981190	0.1938959	0.056634469
## [1478]	{other vegetables, tropical fruit}	=> {whole milk}	0.017081851	0.4759207	0.035892222
## [1479]	{tropical fruit, whole milk}	=> {other vegetables}	0.017081851	0.4038462	0.042297916
## [1480]	{other vegetables, whole milk}	=> {tropical fruit}	0.017081851	0.2282609	0.074834774
## [1481]	{root vegetables, soda}	=> {other vegetables}	0.008235892	0.4426230	0.018607016
## [1482]	{other vegetables, root vegetables}	=> {soda}	0.008235892	0.1738197	0.047381800
## [1483]	{other vegetables, soda}	=> {root vegetables}	0.008235892	0.2515528	0.032740214
## [1484]	{root vegetables, soda}	=> {whole milk}	0.008134215	0.4371585	0.018607016
## [1485]	{root vegetables, whole milk}	=> {soda}	0.008134215	0.1663202	0.048906965
## [1486]	{soda, whole milk}	=> {root vegetables}	0.008134215	0.2030457	0.040061007
## [1487]	{root vegetables, yogurt}	=> {rolls/buns}	0.007219115	0.2795276	0.025826131
## [1488]	{rolls/buns, root vegetables}	=> {yogurt}	0.007219115	0.2970711	0.024300966
## [1489]	{rolls/buns, yogurt}	=> {root vegetables}	0.007219115	0.2100592	0.034367056
## [1490]	{root vegetables, yogurt}	=> {other vegetables}	0.012913066	0.5000000	0.025826131
## [1491]	{other vegetables, root vegetables}	=> {yogurt}	0.012913066	0.2725322	0.047381800
## [1492]	{other vegetables, yogurt}	=> {root vegetables}	0.012913066	0.2974239	0.043416370
## [1493]	{root vegetables, yogurt}	=> {whole milk}	0.014539908	0.5629921	0.025826131
## [1494]	{root vegetables, whole milk}	=> {yogurt}	0.014539908	0.2972973	0.048906965
## [1495]	{whole milk, yogurt}	=> {root vegetables}	0.014539908	0.2595281	0.056024403
## [1496]	{rolls/buns, root vegetables}	=> {other vegetables}	0.012201322	0.5020921	0.024300966
## [1497]	{other vegetables, root vegetables}	=> {rolls/buns}	0.012201322	0.2575107	0.047381800

## [1498]	{other vegetables, rolls/buns}	=> {root vegetables}	0.012201322	0.2863962	0.042602949
## [1499]	{rolls/buns, root vegetables}	=> {whole milk}	0.012709710	0.5230126	0.024300966
## [1500]	{root vegetables, whole milk}	=> {rolls/buns}	0.012709710	0.2598753	0.048906965
## [1501]	{rolls/buns, whole milk}	=> {root vegetables}	0.012709710	0.2244165	0.056634469
## [1502]	{other vegetables, root vegetables}	=> {whole milk}	0.023182511	0.4892704	0.047381800
## [1503]	{root vegetables, whole milk}	=> {other vegetables}	0.023182511	0.4740125	0.048906965
## [1504]	{other vegetables, whole milk}	=> {root vegetables}	0.023182511	0.3097826	0.074834774
## [1505]	{soda, yogurt}	=> {rolls/buns}	0.008642603	0.3159851	0.027351296
## [1506]	{rolls/buns, soda}	=> {yogurt}	0.008642603	0.2254642	0.038332486
## [1507]	{rolls/buns, yogurt}	=> {soda}	0.008642603	0.2514793	0.034367056
## [1508]	{soda, yogurt}	=> {other vegetables}	0.008337570	0.3048327	0.027351296
## [1509]	{other vegetables, soda}	=> {yogurt}	0.008337570	0.2546584	0.032740214
## [1510]	{other vegetables, yogurt}	=> {soda}	0.008337570	0.1920375	0.043416370
## [1511]	{soda, yogurt}	=> {whole milk}	0.010472801	0.3828996	0.027351296
## [1512]	{soda, whole milk}	=> {yogurt}	0.010472801	0.2614213	0.040061007
## [1513]	{whole milk, yogurt}	=> {soda}	0.010472801	0.1869328	0.056024403
## [1514]	{rolls/buns, soda}	=> {other vegetables}	0.009862735	0.2572944	0.038332486
## [1515]	{other vegetables, soda}	=> {rolls/buns}	0.009862735	0.3012422	0.032740214
## [1516]	{other vegetables, rolls/buns}	=> {soda}	0.009862735	0.2315036	0.042602949
## [1517]	{rolls/buns, soda}	=> {whole milk}	0.008845958	0.2307692	0.038332486
## [1518]	{soda, whole milk}	=> {rolls/buns}	0.008845958	0.2208122	0.040061007
## [1519]	{rolls/buns, whole milk}	=> {soda}	0.008845958	0.1561939	0.056634469
## [1520]	{other vegetables, soda}	=> {whole milk}	0.013929842	0.4254658	0.032740214
## [1521]	{soda, whole milk}	=> {other vegetables}	0.013929842	0.3477157	0.040061007
## [1522]	{other vegetables, whole milk}	=> {soda}	0.013929842	0.1861413	0.074834774
## [1523]	{rolls/buns, yogurt}	=> {other vegetables}	0.011489578	0.3343195	0.034367056
## [1524]	{other vegetables, yogurt}	=> {rolls/buns}	0.011489578	0.2646370	0.043416370

## [1525]	{other vegetables, rolls/buns}	=> {yogurt}	0.011489578	0.2696897	0.042602949
## [1526]	{rolls/buns, yogurt}	=> {whole milk}	0.015556685	0.4526627	0.034367056
## [1527]	{whole milk, yogurt}	=> {rolls/buns}	0.015556685	0.2776770	0.056024403
## [1528]	{rolls/buns, whole milk}	=> {yogurt}	0.015556685	0.2746858	0.056634469
## [1529]	{other vegetables, yogurt}	=> {whole milk}	0.022267412	0.5128806	0.043416370
## [1530]	{whole milk, yogurt}	=> {other vegetables}	0.022267412	0.3974592	0.056024403
## [1531]	{other vegetables, whole milk}	=> {yogurt}	0.022267412	0.2975543	0.074834774
## [1532]	{other vegetables, rolls/buns}	=> {whole milk}	0.017895272	0.4200477	0.042602949
## [1533]	{rolls/buns, whole milk}	=> {other vegetables}	0.017895272	0.3159785	0.056634469
## [1534]	{other vegetables, whole milk}	=> {rolls/buns}	0.017895272	0.2391304	0.074834774
## [1535]	{fruit/vegetable juice, other vegetables, yogurt}	=> {whole milk}	0.005083884	0.6172840	0.008235892
## [1536]	{fruit/vegetable juice, whole milk, yogurt}	=> {other vegetables}	0.005083884	0.5376344	0.009456024
## [1537]	{fruit/vegetable juice, other vegetables, whole milk}	=> {yogurt}	0.005083884	0.4854369	0.010472801
## [1538]	{other vegetables, whole milk, yogurt}	=> {fruit/vegetable juice}	0.005083884	0.2283105	0.022267412
## [1539]	{other vegetables, root vegetables, whipped/sour cream}	=> {whole milk}	0.005185562	0.6071429	0.008540925
## [1540]	{root vegetables, whipped/sour cream, whole milk}	=> {other vegetables}	0.005185562	0.5483871	0.009456024
## [1541]	{other vegetables, whipped/sour cream, whole milk}	=> {root vegetables}	0.005185562	0.3541667	0.014641586
## [1542]	{other vegetables, root vegetables, whole milk}	=> {whipped/sour cream}	0.005185562	0.2236842	0.023182511
## [1543]	{other vegetables, whipped/sour cream, yogurt}	=> {whole milk}	0.005592272	0.5500000	0.010167768
## [1544]	{whipped/sour cream, whole milk, yogurt}	=> {other vegetables}	0.005592272	0.5140187	0.010879512
## [1545]	{other vegetables, whipped/sour cream, whole milk}	=> {yogurt}	0.005592272	0.3819444	0.014641586
## [1546]	{other vegetables,				

##	whole milk,					
##	yogurt}	=> {whipped/sour cream}	0.005592272	0.2511416	0.022267412	3
## [1547]	{other vegetables,					
##	pip fruit,					
##	root vegetables}	=> {whole milk}	0.005490595	0.6750000	0.008134215	3
## [1548]	{pip fruit,					
##	root vegetables,					
##	whole milk}	=> {other vegetables}	0.005490595	0.6136364	0.008947636	3
## [1549]	{other vegetables,					
##	pip fruit,					
##	whole milk}	=> {root vegetables}	0.005490595	0.4060150	0.013523132	3
## [1550]	{other vegetables,					
##	root vegetables,					
##	whole milk}	=> {pip fruit}	0.005490595	0.2368421	0.023182511	3
## [1551]	{other vegetables,					
##	pip fruit,					
##	yogurt}	=> {whole milk}	0.005083884	0.6250000	0.008134215	3
## [1552]	{pip fruit,					
##	whole milk,					
##	yogurt}	=> {other vegetables}	0.005083884	0.5319149	0.009557702	3
## [1553]	{other vegetables,					
##	pip fruit,					
##	whole milk}	=> {yogurt}	0.005083884	0.3759398	0.013523132	3
## [1554]	{other vegetables,					
##	whole milk,					
##	yogurt}	=> {pip fruit}	0.005083884	0.2283105	0.022267412	3
## [1555]	{citrus fruit,					
##	other vegetables,					
##	root vegetables}	=> {whole milk}	0.005795628	0.5588235	0.010371124	3
## [1556]	{citrus fruit,					
##	root vegetables,					
##	whole milk}	=> {other vegetables}	0.005795628	0.6333333	0.009150991	3
## [1557]	{citrus fruit,					
##	other vegetables,					
##	whole milk}	=> {root vegetables}	0.005795628	0.4453125	0.013014743	4
## [1558]	{other vegetables,					
##	root vegetables,					
##	whole milk}	=> {citrus fruit}	0.005795628	0.2500000	0.023182511	3
## [1559]	{root vegetables,					
##	tropical fruit,					
##	yogurt}	=> {whole milk}	0.005693950	0.7000000	0.008134215	3
## [1560]	{root vegetables,					
##	tropical fruit,					
##	whole milk}	=> {yogurt}	0.005693950	0.4745763	0.011997966	3
## [1561]	{tropical fruit,					
##	whole milk,					
##	yogurt}	=> {root vegetables}	0.005693950	0.3758389	0.015149975	3
## [1562]	{root vegetables,					
##	whole milk,					
##	yogurt}	=> {tropical fruit}	0.005693950	0.3916084	0.014539908	3
## [1563]	{other vegetables,					
##	root vegetables,					
##	tropical fruit}	=> {whole milk}	0.007015760	0.5702479	0.012302999	3
## [1564]	{root vegetables,					



##	tropical fruit,					
##	whole milk}	=> {other vegetables}	0.007015760	0.5847458	0.011997966	3
##	[1565] {other vegetables,					
##	tropical fruit,					
##	whole milk}	=> {root vegetables}	0.007015760	0.4107143	0.017081851	3
##	[1566] {other vegetables,					
##	root vegetables,					
##	whole milk}	=> {tropical fruit}	0.007015760	0.3026316	0.023182511	3
##	[1567] {other vegetables,					
##	tropical fruit,					
##	yogurt}	=> {whole milk}	0.007625826	0.6198347	0.012302999	3
##	[1568] {tropical fruit,					
##	whole milk,					
##	yogurt}	=> {other vegetables}	0.007625826	0.5033557	0.015149975	3
##	[1569] {other vegetables,					
##	tropical fruit,					
##	whole milk}	=> {yogurt}	0.007625826	0.4464286	0.017081851	3
##	[1570] {other vegetables,					
##	whole milk,					
##	yogurt}	=> {tropical fruit}	0.007625826	0.3424658	0.022267412	3
##	[1571] {other vegetables,					
##	root vegetables,					
##	yogurt}	=> {whole milk}	0.007829181	0.6062992	0.012913066	3
##	[1572] {root vegetables,					
##	whole milk,					
##	yogurt}	=> {other vegetables}	0.007829181	0.5384615	0.014539908	3
##	[1573] {other vegetables,					
##	root vegetables,					
##	whole milk}	=> {yogurt}	0.007829181	0.3377193	0.023182511	3
##	[1574] {other vegetables,					
##	whole milk,					
##	yogurt}	=> {root vegetables}	0.007829181	0.3515982	0.022267412	3
##	[1575] {other vegetables,					
##	rolls/buns,					
##	root vegetables}	=> {whole milk}	0.006202339	0.5083333	0.012201322	3
##	[1576] {rolls/buns,					
##	root vegetables,					
##	whole milk}	=> {other vegetables}	0.006202339	0.4880000	0.012709710	3
##	[1577] {other vegetables,					
##	root vegetables,					
##	whole milk}	=> {rolls/buns}	0.006202339	0.2675439	0.023182511	3
##	[1578] {other vegetables,					
##	rolls/buns,					
##	whole milk}	=> {root vegetables}	0.006202339	0.3465909	0.017895272	3
##	[1579] {other vegetables,					
##	rolls/buns,					
##	yogurt}	=> {whole milk}	0.005998983	0.5221239	0.011489578	3
##	[1580] {rolls/buns,					
##	whole milk,					
##	yogurt}	=> {other vegetables}	0.005998983	0.3856209	0.015556685	3
##	[1581] {other vegetables,					
##	whole milk,					
##	yogurt}	=> {rolls/buns}	0.005998983	0.2694064	0.022267412	3
##	[1582] {other vegetables,					

```
##      rolls/buns,
##      whole milk}          => {yogurt}          0.005998983  0.3352273 0.017895272 1
```

```
# Choose a subset with higher lift and confidence
```

```
inspect(subset(grocery_rules, subset = lift > 5))
inspect(subset(grocery_rules, subset = confidence > 0.6))
```

	lhs	rhs	support	confidence	coverage	lift	count
## [1]	{onions,						
##	root vegetables}	=> {other vegetables}	0.005693950	0.6021505	0.009456024	3.112008	5
## [2]	{curd,						
##	tropical fruit}	=> {whole milk}	0.006507372	0.6336634	0.010269446	2.479936	6
## [3]	{domestic eggs,						
##	margarine}	=> {whole milk}	0.005185562	0.6219512	0.008337570	2.434099	5
## [4]	{butter,						
##	domestic eggs}	=> {whole milk}	0.005998983	0.6210526	0.009659380	2.430582	5
## [5]	{butter,						
##	whipped/sour cream}	=> {whole milk}	0.006710727	0.6600000	0.010167768	2.583008	6
## [6]	{bottled water,						
##	butter}	=> {whole milk}	0.005388917	0.6022727	0.008947636	2.357084	5
## [7]	{butter,						
##	tropical fruit}	=> {whole milk}	0.006202339	0.6224490	0.009964413	2.436047	6
## [8]	{butter,						
##	root vegetables}	=> {whole milk}	0.008235892	0.6377953	0.012913066	2.496107	8
## [9]	{butter,						
##	yogurt}	=> {whole milk}	0.009354347	0.6388889	0.014641586	2.500387	9
## [10]	{domestic eggs,						
##	pip fruit}	=> {whole milk}	0.005388917	0.6235294	0.008642603	2.440275	5
## [11]	{domestic eggs,						
##	tropical fruit}	=> {whole milk}	0.006914082	0.6071429	0.011387900	2.376144	6
## [12]	{pip fruit,						
##	whipped/sour cream}	=> {other vegetables}	0.005592272	0.6043956	0.009252669	3.123610	5
## [13]	{pip fruit,						
##	whipped/sour cream}	=> {whole milk}	0.005998983	0.6483516	0.009252669	2.537421	5
## [14]	{fruit/vegetable juice,						
##	other vegetables,						
##	yogurt}	=> {whole milk}	0.005083884	0.6172840	0.008235892	2.415833	5
## [15]	{other vegetables,						
##	root vegetables,						
##	whipped/sour cream}	=> {whole milk}	0.005185562	0.6071429	0.008540925	2.376144	5
## [16]	{other vegetables,						
##	pip fruit,						
##	root vegetables}	=> {whole milk}	0.005490595	0.6750000	0.008134215	2.641713	5
## [17]	{pip fruit,						
##	root vegetables,						
##	whole milk}	=> {other vegetables}	0.005490595	0.6136364	0.008947636	3.171368	5
## [18]	{other vegetables,						
##	pip fruit,						
##	yogurt}	=> {whole milk}	0.005083884	0.6250000	0.008134215	2.446031	5
## [19]	{citrus fruit,						
##	root vegetables,						
##	whole milk}	=> {other vegetables}	0.005795628	0.6333333	0.009150991	3.273165	5
## [20]	{root vegetables,						
##	tropical fruit,						

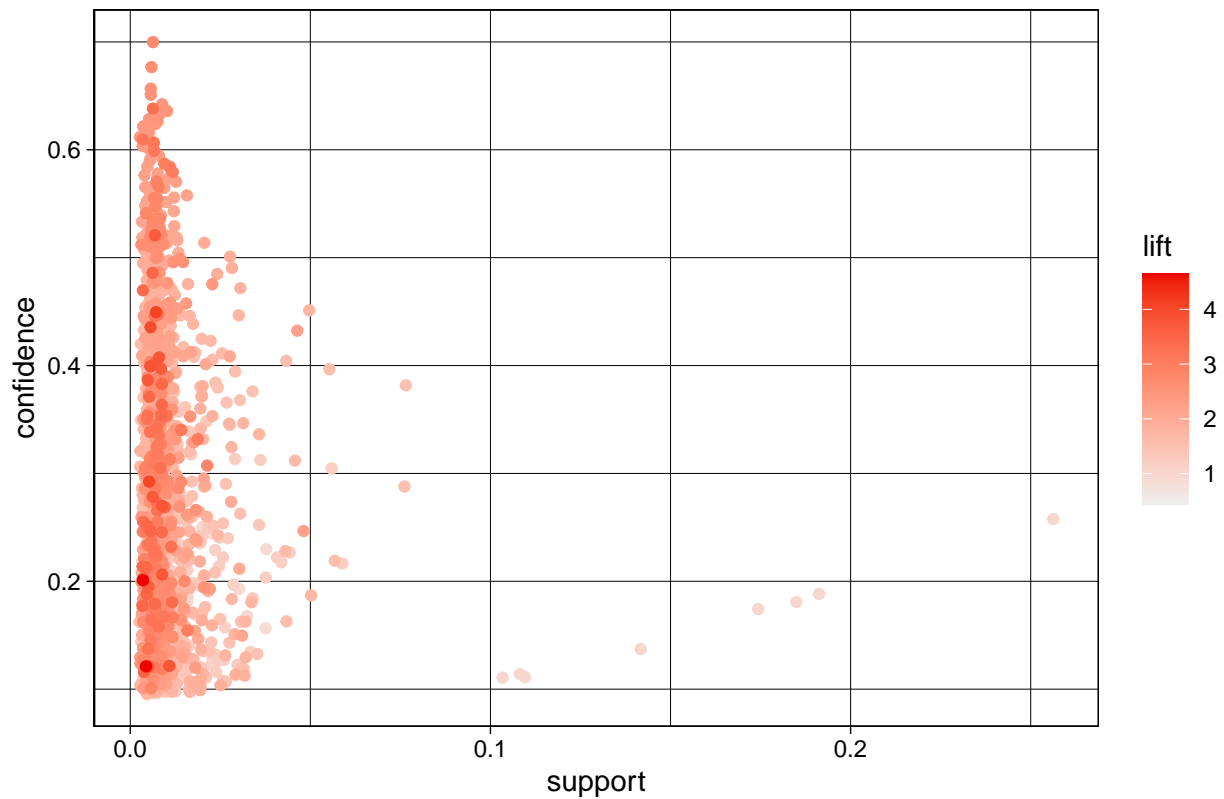
```
##      yogurt}                => {whole milk}      0.005693950  0.7000000 0.008134215 2.739554  5
## [21] {other vegetables,
##      tropical fruit,
##      yogurt}                => {whole milk}      0.007625826  0.6198347 0.012302999 2.425816  7
## [22] {other vegetables,
##      root vegetables,
##      yogurt}                => {whole milk}      0.007829181  0.6062992 0.012913066 2.372842  7
```

```
inspect(subset(grocery_rules, subset = lift > 10 & confidence > 0.5))
```

```
# Plot all the rules in (support, confidence) space
plot(grocery_rules)
```

```
## To reduce overplotting, jitter is added! Use jitter = 0 to prevent jitter.
```

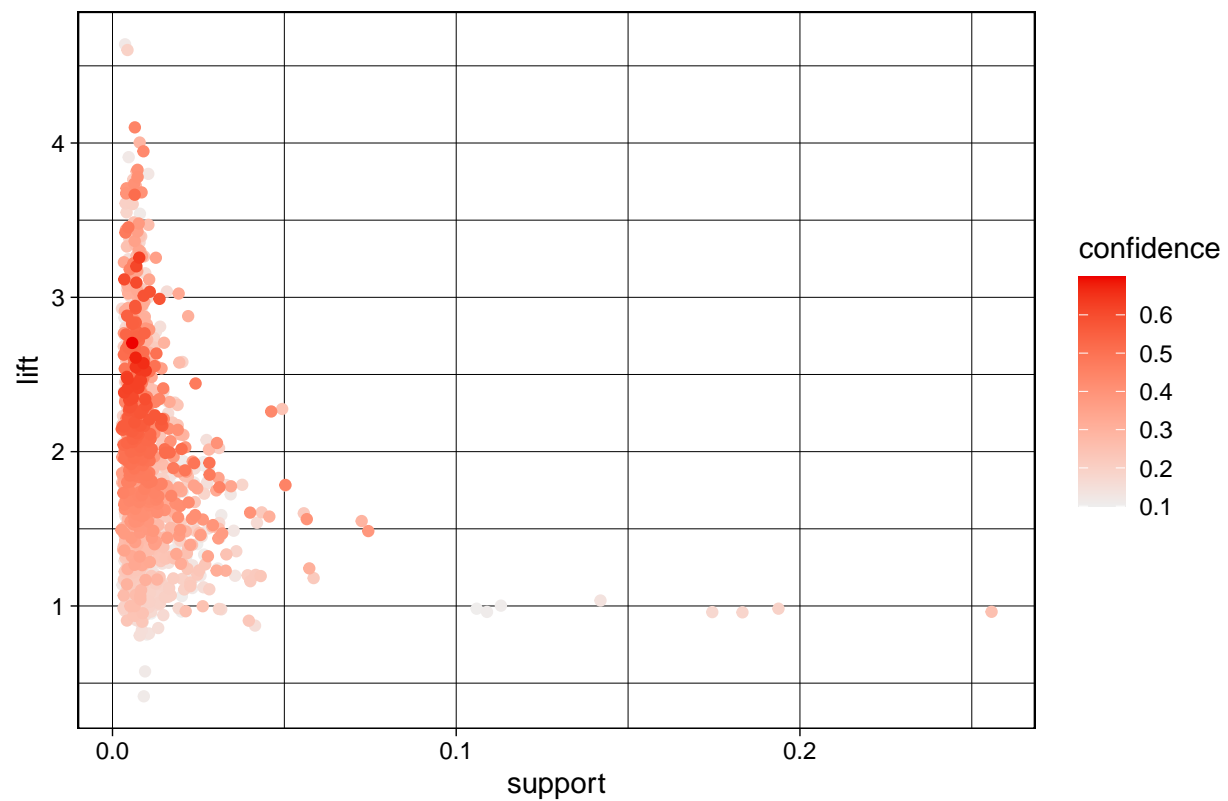
Scatter plot for 1582 rules



```
# Swap the axes and color scales to see different relationships
plot(grocery_rules, measure = c("support", "lift"), shading = "confidence")
```

```
## To reduce overplotting, jitter is added! Use jitter = 0 to prevent jitter.
```

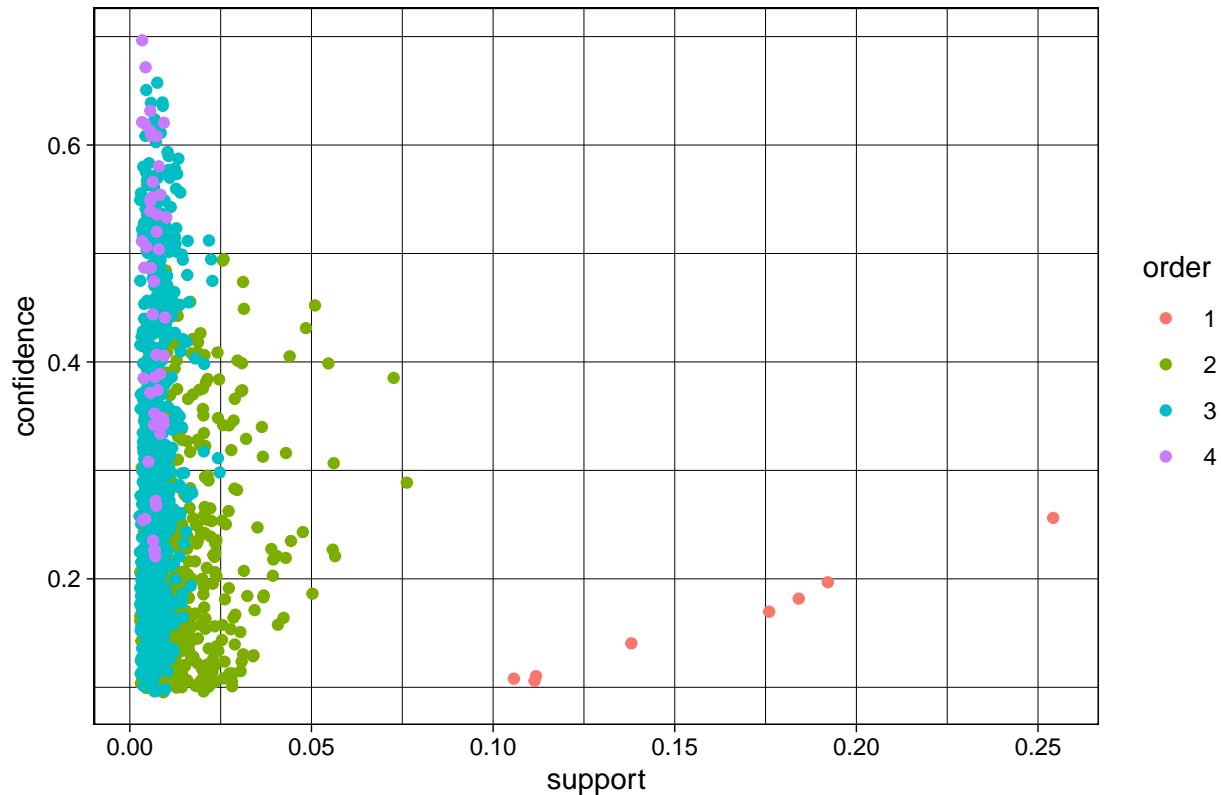
Scatter plot for 1582 rules



```
# "Two-key" plot: coloring is by size (order) of item set
plot(grocery_rules, method = 'two-key plot')
```

```
## To reduce overplotting, jitter is added! Use jitter = 0 to prevent jitter.
```

Scatter plot for 1582 rules



## Summary of Association Rules Analysis:

- Support vs. Confidence: Most rules have low support and varying confidence, reflecting the choice of items.
- Lift Insights: High-lift rules, though rare, highlight strong associations that are more predictive than expected.
- Order and Complexity: Simpler rules (fewer items) are more common and have higher support, while more complex rules are less frequent.
- Practical Focus: By targeting rules with balanced support, confidence, and lift, particularly those with high lift and moderate support, we can identify the most valuable insights.

```
# Graph-based visualization
# Associations are represented as edges; for rules, each item in the LHS is connected
# with a directed edge to the item in the RHS.
grocery_graph <- associations2igraph(subset(grocery_rules, lift > 4), associationsAsNodes = FALSE)
igraph::write_graph(grocery_graph, file = 'grocery_baskets.graphml', format = "graphml")
```

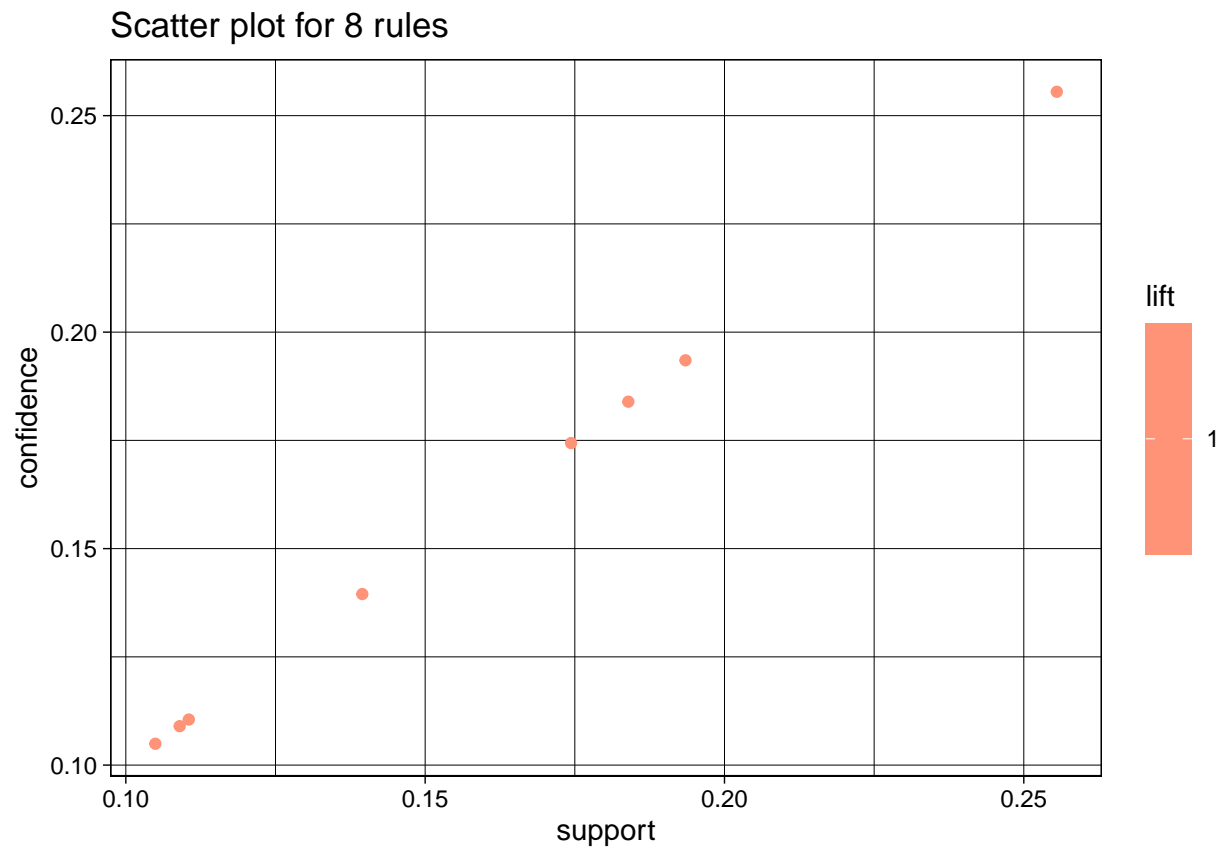
```
# Filter the rules where support is greater than 0.1
rules_high_support <- subset(grocery_rules, subset = support > 0.1)
```

```
# Inspect the filtered rules
inspect(rules_high_support)
```

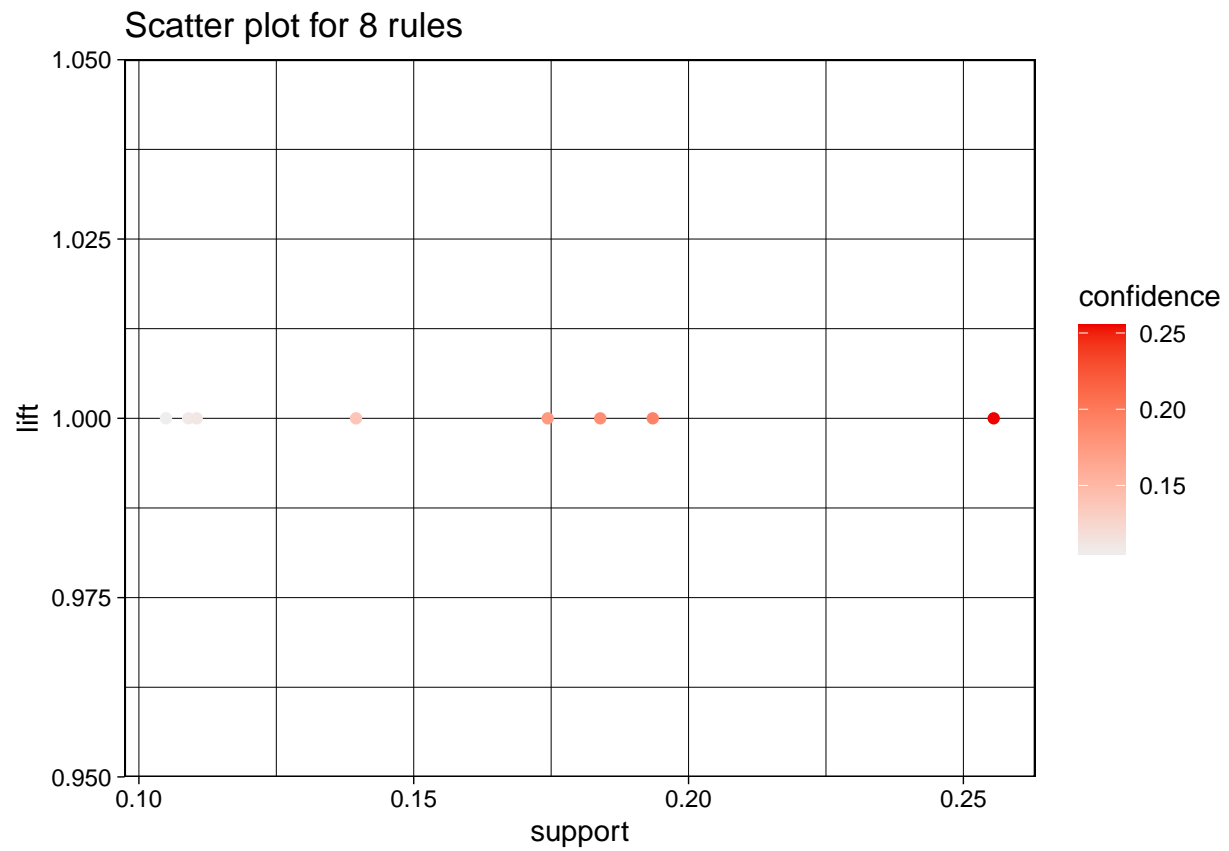
##	lhs	rhs	support	confidence	coverage	lift	count
## [1]	{}	=> {bottled water}	0.1105236	0.1105236	1	1	1087
## [2]	{}	=> {tropical fruit}	0.1049314	0.1049314	1	1	1032
## [3]	{}	=> {root vegetables}	0.1089985	0.1089985	1	1	1072
## [4]	{}	=> {soda}	0.1743772	0.1743772	1	1	1715
## [5]	{}	=> {yogurt}	0.1395018	0.1395018	1	1	1372
## [6]	{}	=> {rolls/buns}	0.1839349	0.1839349	1	1	1809

```
## [7] {} => {other vegetables} 0.1934926 0.1934926 1 1 1903
## [8] {} => {whole milk} 0.2555160 0.2555160 1 1 2513
```

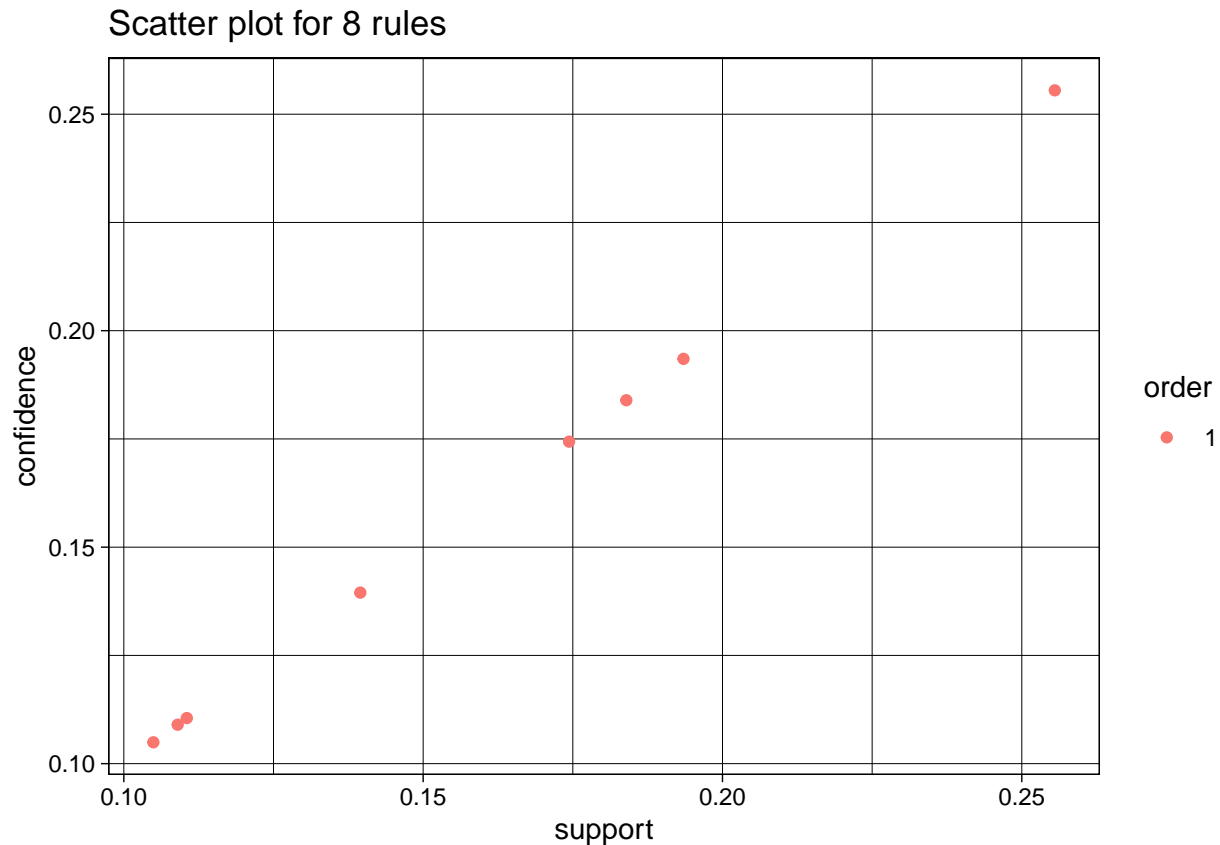
```
# Plot the filtered rules
plot(rules_high_support)
```



```
# Swap the axes and color scales to see different relationships
plot(rules_high_support, measure = c("support", "lift"), shading = "confidence")
```



```
# "Two-key" plot: coloring is by size (order) of item set  
plot(rules_high_support, method = 'two-key plot')
```



## Filtering Process:

The final rules were filtered based on:

1. Support > 0.1: Focused on itemsets appearing in at least 10% of transactions to ensure relevance.
2. No explicit confidence filtering: Confidence was not directly filtered but is analyzed in the context of the support and lift.

Summary of the Final Filtered Plots:

- Support vs. Confidence: The rules have moderate support (0.10-0.25) and a range of confidence values (0.10-0.25).
- Lift: All rules show lift values near 1, indicating these associations occur together by chance rather than being strong predictors.
- Order: All are single-item rules, ensuring simplicity and interpretability.

Insight: The filtering identified common itemsets that frequently co-occur, but the near-neutral lift suggests these are routine patterns with limited predictive value. Further refinement may be necessary to find stronger, more actionable associations.