# Assignment7Output

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#### Importing the libraries

```
library("arules")
## Loading required package: Matrix
## Attaching package: 'arules'
## The following objects are masked from 'package:base':
##
##
      abbreviate, write
library('arulesViz')
## Loading required package: grid
library('tidyverse')
## -- Attaching packages ------ tidyverse 1.3.0 --
## v ggplot2 3.3.2
                    v purrr
                              0.3.4
## v tibble 3.0.4
                     v dplyr
                              1.0.2
## v tidyr
          1.1.2
                  v stringr 1.4.0
## v readr
          1.4.0
                    v forcats 0.5.0
## -- Conflicts ----- tidyverse_conflicts() --
## x tidyr::expand() masks Matrix::expand()
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
## x tidyr::pack() masks Matrix::pack()
## x dplyr::recode() masks arules::recode()
## x tidyr::unpack() masks Matrix::unpack()
library('knitr')
library('lubridate')
##
## Attaching package: 'lubridate'
## The following objects are masked from 'package:arules':
##
##
      intersect, setdiff, union
## The following objects are masked from 'package:base':
##
      date, intersect, setdiff, union
##
```

```
library('plyr')
## You have loaded plyr after dplyr - this is likely to cause problems.
## If you need functions from both plyr and dplyr, please load plyr first, then dplyr:
## library(plyr); library(dplyr)
##
## Attaching package: 'plyr'
## The following objects are masked from 'package:dplyr':
##
##
       arrange, count, desc, failwith, id, mutate, rename, summarise,
##
       summarize
## The following object is masked from 'package:purrr':
##
##
       compact
library('dplyr')
library('datasets')
```

#### Read the dataset and inpect

```
pd <- read.transactions("./groceries.csv",sep=',', header = F)</pre>
inspect(pd[1:10,])
##
        items
##
  [1]
        {citrus fruit,
##
         margarine,
##
         ready soups,
         semi-finished bread}
##
## [2]
       {coffee,
##
         tropical fruit,
##
         yogurt}
        {whole milk}
## [3]
        {cream cheese,
         meat spreads,
##
##
         pip fruit,
##
         yogurt}
##
  [5]
        {condensed milk,
         long life bakery product,
##
##
         other vegetables,
##
         whole milk}
        {abrasive cleaner,
##
   [6]
##
         butter,
##
         rice,
##
         whole milk,
##
         yogurt}
## [7]
        {rolls/buns}
##
   [8]
        {bottled beer,
##
         liquor (appetizer),
         other vegetables,
##
```

```
## rolls/buns,
## UHT-milk}
## [9] {potted plants}
## [10] {cereals,
## whole milk}
```

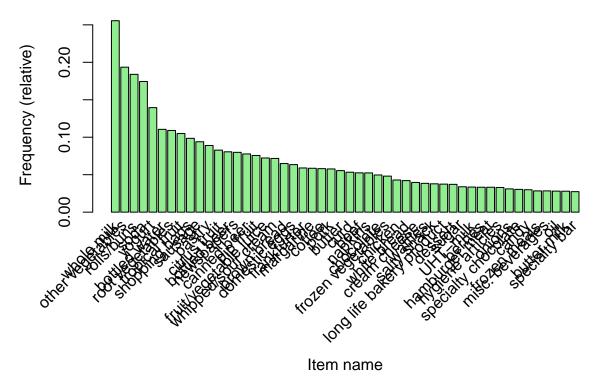
#### **Summary of Dataset**

```
summary(pd)
## 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
                                                    1809
                                                                      1715
##
                                  1903
##
                               (Other)
             yogurt
##
               1372
                                 34055
## element (itemset/transaction) length distribution:
## sizes
##
                 3
                           5
                                 6
                                      7
                                           8
                                                     10
                                                          11
                                                                12
                                                                     13
                                                                          14
                                                                                15
                                                                                     16
                                                                     78
                                                                          77
  2159 1643 1299 1005
                         855
                               645
                                    545
                                         438
                                               350
                                                    246
                                                         182
                                                               117
                                                                                     46
##
          18
                     20
                          21
                                22
                                     23
                                           24
                                                26
                                                     27
                                                          28
                                                                29
                                                                     32
     17
                19
##
     29
          14
                                      6
##
##
      Min. 1st Qu.
                     Median
                               Mean 3rd Qu.
                                              32.000
##
     1.000
             2.000
                      3.000
                               4.409
                                       6.000
## includes extended item information - examples:
               labels
## 1 abrasive cleaner
## 2 artif. sweetener
       baby cosmetics
```

## Plotting various graphs for the dataset

#### 1. Relative frequency graph

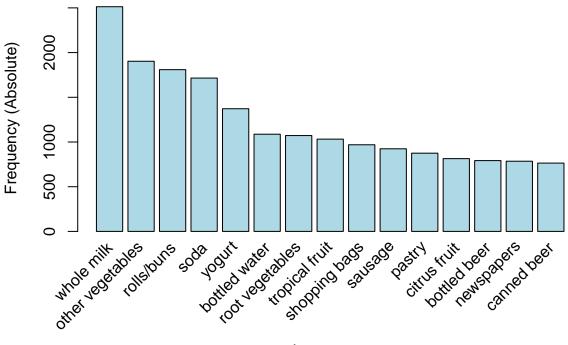
# Top 50 items with 0.001 support (relative)



### This graph shows the top 50 products which have appeared in at least 0.1% of total records #### We can see that "Whole milk" is most sold product, followed by "other vegetables", "Buns", "Soda" and "Yogurt"

#### 2. Absolute frequency graph





Item name

# Defining Apriori rules for support = 0.001 and Confidence = 0.8 with minimum length = 2

```
pd_rules = apriori(pd, parameter = list(support = 0.001, confidence = 0.8, minlen = 2))
## Apriori
## Parameter specification:
##
   confidence minval smax arem aval originalSupport maxtime support minlen
           0.8
                  0.1
                         1 none FALSE
                                                 TRUE
   maxlen target ext
        10 rules TRUE
##
##
## Algorithmic control:
   filter tree heap memopt load sort verbose
       0.1 TRUE TRUE FALSE TRUE
##
                                         TRUE
##
## Absolute minimum support count: 9
##
## set item appearances ...[0 item(s)] done [0.00s].
## set transactions ...[169 item(s), 9835 transaction(s)] done [0.01s].
## sorting and recoding items ... [157 item(s)] done [0.00s].
## creating transaction tree ... done [0.00s].
## checking subsets of size 1 2 3 4 5 6 done [0.02s].
```

```
## writing ... [410 rule(s)] done [0.00s].
## creating S4 object ... done [0.00s].
summary(pd_rules, limit = 3)
## set of 410 rules
##
## rule length distribution (lhs + rhs):sizes
##
         4
             5
                 6
##
    29 229 140 12
##
##
     Min. 1st Qu. Median
                              Mean 3rd Qu.
                                               Max.
##
     3.000
             4.000
                     4.000
                              4.329
                                      5.000
                                              6.000
##
## summary of quality measures:
##
       support
                         confidence
                                                                  lift
                                            coverage
##
   Min.
           :0.001017
                       Min.
                               :0.8000
                                         Min.
                                                :0.001017
                                                             Min.
                                                                    : 3.131
##
   1st Qu.:0.001017
                       1st Qu.:0.8333
                                         1st Qu.:0.001220
                                                             1st Qu.: 3.312
  Median :0.001220
                       Median :0.8462
                                         Median :0.001322
                                                             Median : 3.588
##
  Mean
           :0.001247
                       Mean
                               :0.8663
                                         Mean
                                                :0.001449
                                                             Mean
                                                                   : 3.951
##
    3rd Qu.:0.001322
                       3rd Qu.:0.9091
                                         3rd Qu.:0.001627
                                                             3rd Qu.: 4.341
##
    Max.
           :0.003152
                       Max.
                               :1.0000
                                         Max.
                                                :0.003559
                                                             Max.
                                                                    :11.235
##
        count
##
           :10.00
  Min.
##
   1st Qu.:10.00
  Median :12.00
##
## Mean
           :12.27
##
  3rd Qu.:13.00
## Max.
           :31.00
##
## mining info:
    data ntransactions support confidence
##
      pd
                  9835
                         0.001
                                       0.8
```

#### Checking the rules as per "lift"

```
inspect(sort(pd_rules, by="lift"))
```

```
##
                                                                         coverage
       lhs
                                  rhs
                                                      support confidence
                                                                                      lift
## [1]
       {liquor,
                               => {bottled beer}
                                                   ##
        red/blush wine}
## [2]
        {citrus fruit,
##
        fruit/vegetable juice,
        other vegetables,
##
        soda}
##
                               => {root vegetables} 0.001016777 0.9090909 0.001118454 8.340400
##
  [3]
       {oil,
##
        other vegetables,
##
        tropical fruit,
##
        whole milk,
##
        yogurt}
                               => {root vegetables} 0.001016777 0.9090909 0.001118454 8.340400
## [4]
        {citrus fruit,
##
        fruit/vegetable juice,
##
        grapes}
                               => {tropical fruit}
                                                   ## [5]
        {other vegetables,
##
        rice,
```

## ## ## ##	[6]	<pre>whole milk, yogurt} {oil, other vegetables,</pre>	=>	{root vegetables}	0.001321810	0.8666667 0.001525165	7.951182
## ##	[7]	tropical fruit, whole milk} {ham, other vegetables,	=>	{root vegetables}	0.001321810	0.8666667 0.001525165	7.951182
## ## ## ##	[8]	pip fruit, yogurt} {beef, citrus fruit,	=>	{tropical fruit}	0.001016777	0.8333333 0.001220132	7.941699
## ## ## ##	[9]	other vegetables, tropical fruit} {butter, cream cheese,	=>	{root vegetables}	0.001016777	0.8333333 0.001220132	7.645367
## ## ##	[10]	sliced cheese,	=>	{yogurt}	0.001016777	0.9090909 0.001118454	6.516698
## ## ## ##	[11]	<pre>tropical fruit, whole milk} {cream cheese, curd,</pre>	=>	{yogurt}	0.001016777	0.9090909 0.001118454	6.516698
## ##	[12]	other vegetables, whipped/sour cream} {butter, other vegetables,	=>	{yogurt}	0.001016777	0.9090909 0.001118454	6.516698
## ## ##	[13]	<pre>tropical fruit, white bread} {pip fruit,</pre>	=>	{yogurt}	0.001016777	0.9090909 0.001118454	6.516698
## ## ## ##	[14]	<pre>sausage, sliced cheese} {butter, curd,</pre>	=>	{yogurt}	0.001220132	0.8571429 0.001423488	6.144315
	[15]	<pre>tropical fruit, whole milk} {butter,</pre>	=>	{yogurt}	0.001220132	0.8571429 0.001423488	6.144315
## ## ## ##	[16]	<pre>tropical fruit, white bread} {butter, margarine,</pre>	=>	{yogurt}	0.001118454	0.8461538 0.001321810	6.065542
## ## ##	[17]	<pre>tropical fruit} {cream cheese,   curd,</pre>	=>	{yogurt}	0.001118454	0.8461538 0.001321810	6.065542
## ## ## ##	[18]	<pre>whipped/sour cream, whole milk} {cream cheese, margarine,</pre>	=>	{yogurt}	0.001118454	0.8461538 0.001321810	6.065542
## ## ##	[19]	<pre>whipped/sour cream} {beef, butter,</pre>		{yogurt}	0.001016777	0.8333333 0.001220132	5.973639
## ## ##	[20]	<pre>tropical fruit} {fruit/vegetable juice, pork,</pre>	=>	{yogurt}	0.001016777	0.8333333 0.001220132	5.973639

## ## ##	[21]	<pre>tropical fruit} {butter, curd,</pre>	=>	{yogurt}	0.001016777	0.8333333 0	.001220132	5.973639
## ## ## ##	[22]	other vegetables, tropical fruit} {margarine, root vegetables,	=>	{yogurt}	0.001016777	0.8333333 0	.001220132	5.973639
## ## ##	[23]	<pre>tropical fruit, whole milk} {butter milk,</pre>	=>	{yogurt}	0.001016777	0.8333333 0	.001220132	5.973639
## ## ## ##	[24]	<pre>other vegetables, pastry} {fruit/vegetable juice, pastry,</pre>	=>	{yogurt}	0.001220132	0.80000000	.001525165	5.734694
## ## ##	[25]	whipped/sour cream} {citrus fruit, root vegetables,	=>	{yogurt}	0.001220132	0.8000000 0	.001525165	5.734694
## ## ##	[26]	soft cheese} {brown bread, pip fruit,	=>	{other vegetables}	0.001016777	1.0000000 0	.001016777	5.168156
## ## ##	[27]	<pre>whipped/sour cream} {grapes, tropical fruit,</pre>	=>	{other vegetables}	0.001118454	1.0000000 0	.001118454	5.168156
## ## ## ##	[28]	<pre>whole milk, yogurt} {ham, pip fruit,</pre>	=>	{other vegetables}	0.001016777	1.0000000 0	.001016777	5.168156
## ## ##	[29]	tropical fruit, yogurt} {ham,	=>	{other vegetables}	0.001016777	1.0000000 0	.001016777	5.168156
## ## ## ##	[30]	<pre>pip fruit, tropical fruit, whole milk} {butter,</pre>	=>	{other vegetables}	0.001118454	1.0000000 0	.001118454	5.168156
## ## ##	[30]	fruit/vegetable juice, tropical fruit, whipped/sour cream}	=>	{other vegetables}	0.001016777	1.0000000 0	.001016777	5.168156
## ## ##	[31]	<pre>{newspapers, rolls/buns, soda,</pre>						
## ## ## ##	[32]	<pre>whole milk} {citrus fruit, root vegetables, tropical fruit,</pre>	=>	{other vegetables}	0.001016777	1.0000000 0	.001016777	5.168156
## ## ##	[33]	whipped/sour cream} {oil, root vegetables,	=>	{other vegetables}	0.001220132	1.0000000 0	.001220132	5.168156
## ## ## ##	[34]	<pre>whole milk, yogurt} {citrus fruit, root vegetables,</pre>	=>	{other vegetables}	0.001423488	0.9333333 0	.001525165	4.823612
## ## ##		<pre>tropical fruit, whole milk, yogurt}</pre>	=>	{other vegetables}	0.001423488	0.9333333 0	.001525165	4.823612

## ##	[35]	{butter, soda,		
##		whipped/sour cream}	=> {other vegetables} 0.001321810 0.9285714 0	0.001423488 4.799002
##	[36]	{butter,		
##		pastry,		
##	F7	pip fruit}	=> {other vegetables} 0.001321810 0.9285714 0	).001423488 4.799002
##	[37]			
## ##		root vegetables, whole milk,		
##		yogurt}	=> {other vegetables} 0.001321810 0.9285714 0	0.001423488 4.799002
##	[38]	{soft cheese,	(	
##		tropical fruit,		
##		whipped/sour cream}	=> {other vegetables} 0.001220132 0.9230769 0	0.001321810 4.770605
##	[39]	•		
##		cream cheese,	-> [-+h	0.001201010 4.770605
## ##	[40]	<pre>root vegetables} {citrus fruit,</pre>	=> {other vegetables} 0.001220132 0.9230769 0	0.001321810 4.770605
##	[10]	domestic eggs,		
##		whipped/sour cream,		
##		whole milk}	=> {other vegetables} 0.001220132 0.9230769 0	0.001321810 4.770605
	[41]	{grapes,		
##	[40]	onions}	=> {other vegetables} 0.001118454 0.9166667 0	0.001220132 4.737476
##	[42]	<pre>{hard cheese,   oil}</pre>	=> {other vegetables} 0.001118454 0.9166667 0	) 001220132 4 737476
##	[43]	{dessert,	/ (other vegetables) o.ouriloidi o.oroooo	7.001220102 4.101410
##		tropical fruit,		
##		whipped/sour cream}	=> {other vegetables} 0.001118454 0.9166667 0	).001220132 4.737476
##	[44]	{citrus fruit,		
##		cream cheese,		
##		<pre>whipped/sour cream, whole milk}</pre>	=> {other vegetables} 0.001118454 0.9166667 0	) 001220132 4 737476
##	[45]	{fruit/vegetable juice,	/ (other vegetables) o.ouriloidi o.oroooo	7.001220102 4.101410
##		tropical fruit,		
##		whipped/sour cream,		
##	F 3	yogurt}	=> {other vegetables} 0.001118454 0.9166667 0	).001220132 4.737476
##	[46]	{fruit/vegetable juice,		
## ##		<pre>herbs, whole milk}</pre>	=> {other vegetables} 0.001016777 0.9090909 0	) 001118454
	[47]	{frankfurter,	(ounce vogotables) oloviolori oloviolos	7.001110101 1.000020
##		frozen meals,		
##		tropical fruit}	=> {other vegetables} 0.001016777 0.9090909 0	).001118454 4.698323
	[48]	{hard cheese,		
## ##		<pre>tropical fruit, whipped/sour cream}</pre>	=> {other vegetables} 0.001016777 0.9090909 0	) 001110454 4 600202
	[49]	{butter milk,	-> (other vegetables) 0.001010777 0.3030303 0	7.001110404 4.090525
##		pork,		
##		whole milk}	=> {other vegetables} 0.001016777 0.9090909 0	).001118454 4.698323
	[50]	{butter milk,		
##		fruit/vegetable juice,	-> [.+b	0.001110454 4.00000
##	[51]	<pre>pip fruit} {coffee,</pre>	=> {other vegetables} 0.001016777 0.9090909 0	).001118454 4.698323
##	[01]	oil,		
##		yogurt}	=> {other vegetables} 0.001016777 0.9090909 0	0.001118454 4.698323
##	[52]	{napkins,	-	

```
##
          onions,
##
          root vegetables}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
         {hamburger meat,
##
##
          tropical fruit,
##
          whipped/sour cream}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
  [54]
##
         {oil,
##
          root vegetables,
##
          tropical fruit,
##
          yogurt}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
   [55]
##
         {butter,
##
          tropical fruit,
##
          white bread,
##
          yogurt}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
##
  [56]
         {butter,
##
          root vegetables,
##
          white bread,
##
          whole milk}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
  [57]
         {butter,
##
          soda,
##
          whipped/sour cream,
##
          whole milk}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
  [58]
         {fruit/vegetable juice,
##
          tropical fruit,
##
          whipped/sour cream,
##
          whole milk}
##
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
##
  [59]
         {oil,
##
          root vegetables,
##
          tropical fruit,
##
          whole milk,
##
          yogurt}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
##
   [60]
         {citrus fruit,
##
          root vegetables,
##
          whipped/sour cream,
##
          whole milk,
##
          vogurt}
                                     => {other vegetables} 0.001016777 0.9090909 0.001118454 4.698323
  Γ61]
##
         {fruit/vegetable juice,
##
          tropical fruit,
##
          whipped/sour cream}
                                     => {other vegetables} 0.001931876 0.9047619 0.002135231 4.675950
## [62]
         {ham,
##
          pip fruit,
          tropical fruit}
##
                                     => {other vegetables} 0.001626843
                                                                         0.8888889 0.001830198 4.593916
         {onions,
##
   [63]
##
          root vegetables,
##
          tropical fruit}
                                     => {other vegetables} 0.001626843
                                                                         0.8888889 0.001830198 4.593916
##
  [64]
         {citrus fruit,
          root vegetables,
##
##
          tropical fruit,
##
          whole milk}
                                     => {other vegetables} 0.003152008 0.8857143 0.003558719 4.577509
##
  [65]
         {citrus fruit,
##
          pastry,
##
          root vegetables}
                                     => {other vegetables} 0.001525165 0.8823529 0.001728521 4.560137
## [66]
         {frozen vegetables,
##
          whipped/sour cream,
```

##

whole milk,

	[67]	<del>-</del>	=> {other vegetables} 0.001525165 0.8823529 0.00172852	4.560137
## ##		root vegetables, whole milk,		
##		yogurt}	=> {other vegetables} 0.001525165 0.8823529 0.00172852	4.560137
	[68]			
## ##		<pre>root vegetables, yogurt}</pre>	=> {other vegetables} 0.001423488 0.8750000 0.001626843	3 4.522136
	[69]	{cream cheese,		
##		tropical fruit,		
## ##	[70]	<pre>whipped/sour cream} {root vegetables,</pre>	=> {other vegetables} 0.001423488 0.8750000 0.001626843	3 4.522136
##	[10]	whipped/sour cream,		
##		white bread}	=> {other vegetables} 0.001423488 0.8750000 0.001626843	3 4.522136
##	[71]	{beef,		
##		tropical fruit,		
##	[70]	whipped/sour cream}	=> {other vegetables} 0.001423488 0.8750000 0.001626843	3 4.522136
##	[72]	<pre>{frozen vegetables, onions,</pre>		
##		root vegetables}	=> {other vegetables} 0.001321810 0.8666667 0.001525169	4.479068
##	[73]		- 0	
##		root vegetables,		
##		tropical fruit,	. [ . ]	4 470000
##	[74]	<pre>whole milk} {butter milk,</pre>	=> {other vegetables} 0.001321810 0.8666667 0.00152516	4.479068
##	[/4]	pork}	=> {other vegetables} 0.001830198  0.8571429 0.00213523	4.429848
	[75]	{meat,	(000001 10800000000 01001 100 01001	17120010
##		root vegetables,		
##	F= 47	yogurt}	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
## ##	[76]	<pre>{butter milk, pip fruit,</pre>		
##		root vegetables}	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
	[77]	{fruit/vegetable juice,	(000001 1080000000) 010001000 010010000000000	17120010
##		oil,		
##	[mo]	tropical fruit}	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
##	[78]	<pre>{root vegetables,   salty snack,</pre>		
##		yogurt}	=> {other vegetables} 0.001220132  0.8571429 0.001423488	3 4.429848
	[79]	{domestic eggs,	(000001 1080000000) 010001000 010010000000000	17 120 0 10
##		pastry,		
##	F0.07	whipped/sour cream}	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
##	[80]	{domestic eggs,		
##		<pre>pastry, root vegetables}</pre>	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
	[81]	{brown bread,		
##		pip fruit,		
##		root vegetables,	-> [-+h	1 100010
##	[82]	<pre>whole milk} {citrus fruit,</pre>	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
##	ر٥٤٦	domestic eggs,		
##		root vegetables,		
##		whole milk}	=> {other vegetables} 0.001220132 0.8571429 0.001423488	3 4.429848
	[83]	{margarine,	. [ . ]	4 000005
##		meat}	=> {other vegetables} 0.001728521 0.8500000 0.002033554	4.392932

```
## [84] {oil,
##
          root vegetables,
                                    => {other vegetables} 0.001728521 0.8500000 0.002033554 4.392932
##
          tropical fruit}
         {cream cheese,
## [85]
##
          curd,
          root vegetables}
                                    => {other vegetables} 0.001728521 0.8500000 0.002033554
                                                                                               4.392932
##
         {tropical fruit,
## [86]
          whipped/sour cream,
##
##
          white bread}
                                    => {other vegetables} 0.001728521 0.8500000 0.002033554 4.392932
## [87]
         {frozen fish,
##
          pip fruit,
          whole milk}
                                    => {other vegetables} 0.001118454
                                                                        0.8461538 0.001321810 4.373055
##
##
  [88]
         {herbs,
          root vegetables,
##
##
          shopping bags}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810
                                                                                                4.373055
## [89]
         {citrus fruit,
##
          fruit/vegetable juice,
##
          oil}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
##
  [90]
         {beef,
##
          root vegetables,
##
          sugar}
                                     => {other vegetables} 0.001118454 0.8461538 0.001321810
## [91]
         {long life bakery product,
##
          root vegetables,
          tropical fruit}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
##
## [92]
         {butter,
##
          tropical fruit,
##
          white bread}
                                    => {other vegetables} 0.001118454
                                                                        0.8461538 0.001321810 4.373055
         {pip fruit,
##
  [93]
##
          pork,
          soda}
##
                                    => {other vegetables} 0.001118454
                                                                        0.8461538 0.001321810 4.373055
## [94]
         {pastry,
##
          root vegetables,
##
          shopping bags}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
         {root vegetables,
##
  [95]
##
          whipped/sour cream,
##
          white bread,
##
          whole milk}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
## [96]
         {beef,
##
          tropical fruit,
##
          whipped/sour cream,
          whole milk}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
##
##
  [97]
         {citrus fruit,
##
          curd.
##
          root vegetables,
          whole milk}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
##
## [98]
         {butter,
          domestic eggs,
##
##
          tropical fruit,
##
          yogurt}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
## [99]
         {butter,
##
          root vegetables,
          tropical fruit,
##
##
          whipped/sour cream}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
## [100] {newspapers,
```

```
##
          soda,
          tropical fruit,
##
##
          whole milk}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
  [101] {fruit/vegetable juice,
##
##
          root vegetables,
          tropical fruit,
##
          yogurt}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
##
## [102] {citrus fruit,
##
          rolls/buns,
##
          root vegetables,
          tropical fruit}
                                    => {other vegetables} 0.001118454 0.8461538 0.001321810 4.373055
## [103] {citrus fruit,
##
          newspapers,
          root vegetables}
                                    => {other vegetables} 0.001626843
                                                                        0.8421053 0.001931876 4.352131
##
## [104] {rice,
##
          whole milk,
          yogurt}
##
                                    => {other vegetables} 0.001525165 0.8333333 0.001830198
                                                                                              4.306796
  [105] {frozen fish,
##
          pip fruit,
##
          tropical fruit}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [106] {citrus fruit,
##
          herbs,
          tropical fruit}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
## [107] {flour.
          rolls/buns,
##
          root vegetables}
                                    => {other vegetables} 0.001016777
                                                                        0.8333333 0.001220132 4.306796
##
  [108] {domestic eggs,
          root vegetables,
##
          soft cheese}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
## [109] {grapes,
##
          pork,
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
  [110] {meat,
##
          tropical fruit,
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [111] {candy,
##
          rolls/buns,
##
          root vegetables}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [112] {frozen vegetables,
##
          ham,
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
## [113] {butter,
##
          sugar,
          whipped/sour cream}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
## [114] {dessert,
          sausage,
##
##
          whipped/sour cream}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
  [115] {chicken,
##
          pastry,
##
          root vegetables}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [116] {butter,
##
          root vegetables,
##
          white bread}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [117] {butter,
```

```
##
          curd,
##
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
          domestic eggs}
##
  [118] {brown bread,
##
          sausage,
##
          whipped/sour cream}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
  [119] {hard cheese,
##
          root vegetables,
##
##
          whipped/sour cream,
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
  [120] {onions,
##
          root vegetables,
##
          tropical fruit,
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
  [121] {butter,
##
##
          white bread,
##
          whole milk,
##
          yogurt}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
  [122] {bottled water,
##
          frozen vegetables,
##
          root vegetables,
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [123] {beef,
##
          citrus fruit,
##
          root vegetables,
##
          tropical fruit}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
  [124] {frankfurter,
##
          pip fruit,
          root vegetables,
##
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
##
  [125] {citrus fruit,
##
          newspapers,
##
          root vegetables,
##
          whole milk}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
  [126] {butter,
##
          domestic eggs,
##
##
          tropical fruit,
##
          whole milk,
##
          yogurt}
                                    => {other vegetables} 0.001016777 0.8333333 0.001220132 4.306796
## [127] {rice,
##
          yogurt}
                                    => {other vegetables} 0.001931876 0.8260870 0.002338587
                                                                                               4.269346
  [128] {herbs,
##
          shopping bags}
                                    => {other vegetables} 0.001931876 0.8260870 0.002338587
                                                                                                4.269346
##
## [129] {grapes,
##
          tropical fruit,
##
          yogurt}
                                    => {other vegetables} 0.001423488
                                                                        0.8235294 0.001728521
                                                                                                4.256128
## [130] {citrus fruit,
          onions,
##
##
          root vegetables}
                                    => {other vegetables} 0.001423488 0.8235294 0.001728521
##
  [131] {citrus fruit,
##
          fruit/vegetable juice,
##
          whole milk,
##
          yogurt}
                                    => {other vegetables} 0.001423488
                                                                        0.8235294 0.001728521
## [132] {butter milk,
##
          onions}
                                     => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
```

```
## [133] {citrus fruit,
##
          herbs.
##
          root vegetables}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
## [134] {semi-finished bread,
##
          tropical fruit,
          yogurt}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843
##
## [135] {hard cheese,
          root vegetables,
##
##
          whipped/sour cream}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
##
  [136] {salty snack,
          tropical fruit,
          yogurt}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
##
## [137] {citrus fruit,
          cream cheese,
##
          whipped/sour cream}
##
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843
                                                                                              4.199126
## [138] {brown bread,
##
          pip fruit,
##
          root vegetables}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
  [139] {bottled water,
##
##
          sausage,
##
          whipped/sour cream}
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
  [140] {citrus fruit,
##
          fruit/vegetable juice,
          tropical fruit,
##
          whole milk}
##
                                    => {other vegetables} 0.001321810 0.8125000 0.001626843 4.199126
## [141] {citrus fruit,
##
          root vegetables,
##
          tropical fruit,
##
          yogurt}
                                    => {other vegetables} 0.001728521 0.8095238 0.002135231
                                                                                              4.183745
## [142] {curd,
##
          turkey}
                                    => {other vegetables} 0.001220132
                                                                        0.8000000 0.001525165 4.134524
## [143] {fruit/vegetable juice,
##
          herbs}
                                    => {other vegetables} 0.001220132
                                                                        0.8000000 0.001525165 4.134524
## [144] {onions,
          waffles}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
## [145] {root vegetables,
##
          tropical fruit,
##
          turkey}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
## [146] {root vegetables,
##
          turkey,
          whole milk}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
##
##
  [147] {grapes,
          root vegetables,
##
          tropical fruit}
##
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
## [148] {grapes,
##
          tropical fruit,
##
          whole milk}
                                    => {other vegetables} 0.002033554
                                                                        0.8000000 0.002541942 4.134524
## [149] {napkins,
##
          onions,
##
          whole milk}
                                    => {other vegetables} 0.001220132
                                                                        0.8000000 0.001525165 4.134524
## [150] {salty snack,
##
          tropical fruit,
##
          whipped/sour cream}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
## [151] {butter,
```

```
##
          long life bakery product,
##
          whipped/sour cream}
                                     => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
##
  [152] {cream cheese,
          tropical fruit,
##
##
          whole milk,
          yogurt}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
##
## [153] {butter,
##
          tropical fruit,
##
          whipped/sour cream,
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
##
          yogurt}
  [154] {domestic eggs,
##
          pip fruit,
##
          whipped/sour cream,
          whole milk}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165
##
## [155] {fruit/vegetable juice,
          root vegetables,
##
##
          whole milk,
##
          vogurt}
                                    => {other vegetables} 0.002033554 0.8000000 0.002541942 4.134524
##
  [156] {pip fruit,
##
          tropical fruit,
##
          whipped/sour cream,
##
          whole milk}
                                     => {other vegetables} 0.001626843 0.8000000 0.002033554
## [157] {citrus fruit,
##
          sausage,
##
          whipped/sour cream,
          whole milk}
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
##
  [158] {rolls/buns,
          root vegetables,
##
##
          tropical fruit,
          whipped/sour cream}
##
                                    => {other vegetables} 0.001220132 0.8000000 0.001525165 4.134524
## [159] {rice,
##
          sugar}
                                    => {whole milk}
                                                           0.001220132 1.0000000 0.001220132
                                                                                               3.913649
##
  [160] {canned fish,
                                    => {whole milk}
                                                           0.001118454
                                                                       1.0000000 0.001118454
##
          hygiene articles}
                                                                                                3.913649
##
   [161] {butter,
##
          rice,
##
          root vegetables}
                                    => {whole milk}
                                                           0.001016777 1.0000000 0.001016777
## [162] {flour,
##
          root vegetables,
                                                           0.001728521 1.0000000 0.001728521
          whipped/sour cream}
                                     => {whole milk}
                                                                                               3.913649
##
## [163] {butter,
##
          domestic eggs,
          soft cheese}
                                                           0.001016777 1.0000000 0.001016777
##
                                     => {whole milk}
                                                                                                3.913649
  [164] {butter,
##
          hygiene articles,
##
                                    => {whole milk}
                                                           0.001016777 1.0000000 0.001016777 3.913649
##
          pip fruit}
## [165] {hygiene articles,
##
          root vegetables,
##
          whipped/sour cream}
                                    => {whole milk}
                                                           0.001016777 1.0000000 0.001016777 3.913649
##
  [166] {hygiene articles,
##
          pip fruit,
          root vegetables}
                                    => {whole milk}
                                                           0.001016777 1.0000000 0.001016777 3.913649
##
## [167] {cream cheese,
##
          domestic eggs,
```

## ##	sugar} [168] {curd,	=> {whole milk}	0.001118454	1.0000000 0.001118454	3.913649
## ## ##	<pre>domestic eggs,     sugar} [169] {cream cheese,</pre>	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ## ##	<pre>domestic eggs, napkins}</pre>	=> {whole milk}	0.001118454	1.0000000 0.001118454	3.913649
## ## ##	[170] {oil, root vegetables, tropical fruit,				
## ## ##	yogurt} [171] {oil, other vegetables,	=> {whole milk}	0.001118454	1.0000000 0.001118454	3.913649
## ## ##	root vegetables, yogurt} [172] {butter,	=> {whole milk}	0.001423488	1.0000000 0.001423488	3.913649
## ##	other vegetables, root vegetables,	. (1.2	0.004040777		0.040040
## ## ##	white bread} [173] {butter, other vegetables,	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ## ##	<pre>pork,   whipped/sour cream} [174] {butter,</pre>	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ## ##	<pre>domestic eggs, other vegetables, whipped/sour cream}</pre>	=> {whole milk}	0.001220132	1.0000000 0.001220132	3.913649
## ##	[175] {citrus fruit, pastry,	(111720 11121)	0.001220202		0.010010
## ## ##	rolls/buns, whipped/sour cream} [176] {bottled water,	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ## ##	other vegetables, pip fruit, root vegetables}	=> {whole milk}	0.001118454	1.0000000 0.001118454	3.913649
## ## ##	[177] {rolls/buns, root vegetables, sausage,				
## ## ##	tropical fruit} [178] {oil, other vegetables,	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ##	root vegetables, tropical fruit,	-> (-1-1- mills)	0.001016777	1 0000000 0 001016777	2 042640
## ## ##	yogurt} [179] {cream cheese, other vegetables,	=> {whole milk}	0.001016777	1.0000000 0.001016777	3.913649
## ## ##	<pre>sugar} [180] {root vegetables, sausage,</pre>	=> {whole milk}	0.001525165	0.9375000 0.001626843	3.669046
## ## ##	tropical fruit, yogurt} [181] {citrus fruit,	=> {whole milk}	0.001525165	0.9375000 0.001626843	3.669046
## ##	domestic eggs, sugar}	=> {whole milk}	0.001423488	0.9333333 0.001525165	3.652739

##	[182]	{domestic eggs,							
##		<pre>sugar, yogurt}</pre>	=>	{whole	milkl	0.001423488	0 9333333	0.001525165	3.652739
##	[183]	{cream cheese,		OTOHWJ	milky	0.001420400	0.000000	0.001020100	0.002103
##		pip fruit,							
##		whipped/sour cream}	=>	{whole	milk}	0.001321810	0.9285714	0.001423488	3.634103
##	[184]	{other vegetables,							
##		rice,							
##		root vegetables,							
##		yogurt}	=>	{whole	milk}	0.001321810	0.9285714	0.001423488	3.634103
##	[185]	{beef,							
##		rolls/buns,							
## ##		<pre>tropical fruit, yogurt}</pre>	-\	{whole	m i 1 le l	0.001321810	0 000571/	0.001423488	3.634103
##	[186]	{house keeping products,	-/	fwhore	MITK	0.001321810	0.9203714	0.001423400	3.034103
##	[100]	whipped/sour cream}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[187]	{bottled water,		(		0.001220102	0.0200.00	0.001021010	0.012000
##		rice}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[188]	{root vegetables,							
##		soft cheese,							
##		whipped/sour cream}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[189]	{butter,							
##		sliced cheese,		( ) ]		0.004000400	0.0000760	0.004004040	0.040500
##	[100]	<pre>whipped/sour cream} {butter,</pre>	=>	{whole	mllk}	0.001220132	0.9230769	0.001321810	3.612599
##	[190]	hygiene articles,							
##		tropical fruit}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[191]	{domestic eggs,							
##		hygiene articles,							
##		tropical fruit}	=>	$\{ {\tt whole}$	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[192]	{root vegetables,							
##		sugar,		( ) ]		0.004000400	0.0000760	0.004004040	0.040500
##	[102]	whipped/sour cream}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[193]	<pre>{long life bakery product,   napkins,</pre>							
##		tropical fruit}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
	[194]	{butter,		<b>C</b>					
##		coffee,							
##		whipped/sour cream}	=>	$\{ {\tt whole}$	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[195]	{hard cheese,							
##		other vegetables,							
##		root vegetables,		(17	4 7 1-1	0.001000130	0.0000760	0.001201010	2 640500
##	[196]	yogurt} {frankfurter,	=>	{whole	MITK?	0.001220132	0.9230769	0.001321810	3.612599
##	[130]	root vegetables,							
##		tropical fruit,							
##		yogurt}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[197]	{brown bread,							
##		other vegetables,							
##		pip fruit,		<b>.</b>					
##	[400]	root vegetables}	=>	{whole	milk}	0.001220132	0.9230769	0.001321810	3.612599
##	[198]	{butter,							
##		<pre>domestic eggs, tropical fruit,</pre>							
ππ		orobicar iraio,							

## ## ##	[199]	yogurt} {domestic eggs, other vegetables,	=>	{whole r	nilk}	0.001220132	0.9230769	0.001321810	3.612599
## ##	[000]	<pre>pip fruit, whipped/sour cream}</pre>	=>	{whole r	nilk}	0.001220132	0.9230769	0.001321810	3.612599
## ## ##		<pre>{bottled beer,   soups} {citrus fruit,</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
##		herbs, tropical fruit}	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ## ##	[202]	<pre>{domestic eggs,   sugar,   tropical fruit}</pre>	>	{whole r	n:11=1	0 001119454	0 0166667	0.001220132	3.587512
## ## ##	[203]	<pre>{butter, root vegetables,</pre>	-/	(whore i	III I K S	0.001116454	0.9100007	0.001220132	3.56/512
## ##	[204]	white bread} {butter,	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ## ##	[205]	<pre>curd, domestic eggs} {butter,</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ##		<pre>citrus fruit, curd}</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ## ##	[206]	<pre>{domestic eggs,   fruit/vegetable juice,   margarine}</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ##	[207]	{cream cheese, other vegetables,	·	(WHOIO I		0.001110101	0.0100001	0.001220102	0.007012
## ## ##	โลกรา	<pre>pip fruit, yogurt} {curd,</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ##	[200]	domestic eggs, tropical fruit,							
## ##	[209]	yogurt} {butter,	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ## ##		<pre>domestic eggs, root vegetables, yogurt}</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
##	[210]	{domestic eggs, tropical fruit,							
## ## ##	[211]	<pre>whipped/sour cream, yogurt} {domestic eggs,</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ##		other vegetables, tropical fruit,		( ) 7		0.004440454	0.0400007	0.004000400	0. 507540
## ## ##	[212]	<pre>whipped/sour cream} {fruit/vegetable juice, pip fruit,</pre>	=>	{whole r	N11K}	0.001118454	0.916667	0.001220132	3.587512
##	57	<pre>root vegetables, yogurt}</pre>	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512
## ## ##	[213]	<pre>{bottled water,   rolls/buns,   root vegetables,</pre>							
##	[214]	tropical fruit} {cereals,	=>	{whole r	nilk}	0.001118454	0.9166667	0.001220132	3.587512

##	[045]	curd}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
## ##	[215]	<pre>{pastry, sweet spreads}</pre>	=> {	(whole	milkł	0.001016777	0 9090909	0.001118454	3.557863
	[216]	{frankfurter,	, (	CMHOTC	milkj	0.001010777	0.5050505	0.001110404	0.007000
##		frozen meals,							
##		tropical fruit}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
##	[217]	{butter,							
##		frozen meals,							
##	[040]	tropical fruit}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
## ##	[218]	<pre>{frankfurter, root vegetables,</pre>							
##		sliced cheese}	=> {	(whole	milk}	0.001016777	0 9090909	0.001118454	3.557863
	[219]	{berries,	, (	CWIIOIC	m±±11,	0.001010111	0.000000	0.001110101	0.001000
##		butter,							
##		sausage}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
##	[220]	{butter,							
##		hygiene articles,							
##	5 7	napkins}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
	[221]	{pork,							
## ##		<pre>rolls/buns, waffles}</pre>	_\ .	(whole	m i 71 - l	0.001016777	0.000000	0.001118454	3.557863
	[222]	{long life bakery product,	-/ 1	rwnore	шттку	0.001010777	0.9090909	0.001110454	3.557603
##	[222]	napkins,							
##		whipped/sour cream}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
##	[223]	{butter,							
##		long life bakery product,							
##	F 7	sausage}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
	[224]	{butter,							
## ##		<pre>cream cheese, root vegetables}</pre>	=> 4	(whole	milbl	0.001016777	n ananana	0.001118454	3.557863
	[225]	{cream cheese,	-/ (	CMHOTE	штткј	0.001010777	0.9090909	0.001110434	3.337603
##	[220]	pip fruit,							
##		sausage}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
##	[226]	{coffee,							
##		domestic eggs,		_	_				
##	[002]	root vegetables}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
	[227]	{bottled beer,							
## ##		<pre>domestic eggs, margarine}</pre>	=> {	(whole	milk}	0.001016777	0 9090909	0.001118454	3 557863
##	[228]	{herbs,	, (	CWIIOIC	mill	0.001010111	0.000000	0.001110101	0.007000
##		other vegetables,							
##		root vegetables,							
##		tropical fruit}	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
##	[229]	{frozen meals,							
##		pip fruit,							
## ##		<pre>tropical fruit, yogurt}</pre>	_< 1	(whole	millel	0.001016777	0.000000	0.001118454	3 557062
		• 0	-/ 1	гмпоте	штткү	0.001010777	0.5050505	0.001110404	3.001003
	[230]	itter.							
## ##	[230]	<pre>{butter, sliced cheese,</pre>							
##	[230]	<pre>{butter, sliced cheese, tropical fruit,</pre>							
## ##	[230]	sliced cheese,	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
## ## ## ##		<pre>sliced cheese, tropical fruit, yogurt} {other vegetables,</pre>	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863
## ## ## ##		<pre>sliced cheese, tropical fruit, yogurt}</pre>	=> {	(whole	milk}	0.001016777	0.9090909	0.001118454	3.557863

## ## ##	[232]	yogurt} {cream cheese,	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ##		<pre>other vegetables, pip fruit, root vegetables}</pre>	=>	<pre>{whole milk}</pre>	0.00101	6777 0 9090909	0.001118454	3 557863
## ##	[233]	{citrus fruit, frozen vegetables,	ŕ	(whole milk)	0.00101	0.000000	0.001110101	0.001000
## ## ##	[234]	other vegetables, yogurt} {citrus fruit,	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ##	[201]	curd, tropical fruit,						
## ## ##	[235]	<pre>yogurt} {butter, napkins,</pre>	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ##	[200]	other vegetables, whipped/sour cream}	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##	[236]	<pre>{butter,   other vegetables,   pork,</pre>						
## ## ##	[237]	<pre>root vegetables} {brown bread, other vegetables,</pre>	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ##		rolls/buns, root vegetables}	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##	[238]	<pre>{bottled water, butter, citrus fruit,</pre>						
## ##	[239]	other vegetables} {citrus fruit,	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##		<pre>domestic eggs, other vegetables, tropical fruit}</pre>	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##	[240]	<pre>{pastry, root vegetables, tropical fruit,</pre>						
##	[241]	yogurt} {butter,	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##		<pre>domestic eggs, other vegetables, tropical fruit,</pre>						
## ##	[242]	yogurt} {butter,	=>	{whole milk}	0.00101	6777 0.9090909	0.001118454	3.557863
## ## ##	[243]	<pre>pip fruit, whipped/sour cream} {domestic eggs,</pre>	=>	{whole milk}	0.00183	0198 0.9000000	0.002033554	3.522284
## ## ##		tropical fruit, whipped/sour cream} {butter,	=>	{whole milk}	0.00183	0198 0.9000000	0.002033554	3.522284
## ## ##	L2 <del>44</del> ]	root vegetables, tropical fruit,						
## ## ##	[245]	<pre>yogurt} {citrus fruit,   cream cheese,</pre>	=>	{whole milk}	0.00172	8521 0.8947368	3 0.001931876	3.501686

## ## ##	[246]	<pre>domestic eggs} {margarine, rolls/buns,</pre>	=> {whole	milk}	0.001626843	0.8888889	0.001830198	3.478799
## ##	[247]	whipped/sour cream} {herbs,	=> {whole	milk}	0.001626843	0.888889	0.001830198	3.478799
## ## ##	[248]	<pre>root vegetables, tropical fruit} {butter milk,</pre>	=> {whole	milk}	0.001525165	0.8823529	0.001728521	3.453220
## ## ##	[249]	<pre>root vegetables, yogurt} {citrus fruit,</pre>	=> {whole	milk}	0.001525165	0.8823529	0.001728521	3.453220
## ## ##	[250]	<pre>pastry, whipped/sour cream} {beef,</pre>	=> {whole	milk}	0.001525165	0.8823529	0.001728521	3.453220
## ## ##	[200]	other vegetables, rolls/buns, tropical fruit}	=> {whole	millel	0.001525165	0 0003500	0.001728521	3.453220
## ##	[251]	<pre>{rice, root vegetables,</pre>						
## ## ##	[252]	yogurt} {butter, pork,	=> {whole	milk}	0.001423488	0.8750000	0.001626843	3.424443
## ## ##	[253]	<pre>whipped/sour cream} {brown bread, pip fruit,</pre>	=> {whole	milk}	0.001423488	0.8750000	0.001626843	3.424443
## ## ##	[254]	root vegetables} {frozen vegetables, margarine,	=> {whole	milk}	0.001423488	0.8750000	0.001626843	3.424443
## ## ##	[255]	<pre>rolls/buns} {butter,</pre>	=> {whole	milk}	0.001321810	0.8666667	0.001525165	3.391829
## ## ##	[256]	<pre>onions, other vegetables, root vegetables} {butter,</pre>	=> {whole	milk}	0.001321810	0.8666667	0.001525165	3.391829
## ## ##	[057]	other vegetables, pip fruit, whipped/sour cream}	=> {whole	milk}	0.001321810	0.8666667	0.001525165	3.391829
## ##	[257]	<pre>{fruit/vegetable juice,   other vegetables,   pip fruit,</pre>	. [1]		0.004004040	0.000007	0.004505465	2 204000
## ## ##	[258]	<pre>root vegetables} {bottled water, citrus fruit,</pre>	=> {whole	milk}	0.001321810	0.866667	0.001525165	3.391829
## ## ## ##	[259]	<pre>other vegetables, tropical fruit} {other vegetables, pip fruit,</pre>	=> {whole	milk}	0.001321810	0.8666667	0.001525165	3.391829
## ##		root vegetables, tropical fruit,		m: 11-1	0.001301010	0.066667	0.001505165	2 201000
## ## ##	[260]	<pre>yogurt} {mustard, oil}</pre>	=> {whole		0.001321810		0.001525165 0.001423488	3.391829 3.354556
## ##	[261]	<pre>{chocolate, pickled vegetables}</pre>	=> {whole	milk}	0.001220132	0.8571429	0.001423488	3.354556

##	[262]	{frozen fish,							
##		root vegetables,							
##	<b>5 7</b>	yogurt}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
	[263]	{frozen fish,							
##		other vegetables,		(17 -	: 11-1	0.001000120	0.0571400	0 001402400	2 254556
## ##	[064]	yogurt} {curd,	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[204]	herbs,							
##		root vegetables}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
	[265]	{flour,		(		0.001220102	0.00.1120	0.001120100	0.001000
##		other vegetables,							
##		sugar}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[266]	{butter,							
##		onions,							
##	F	tropical fruit}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
	[267]	{bottled water,							
##		butter,	_\	[rrho] o	m:11-1	0 001000130	0 0571400	0.001423488	2 254556
## ##	[ว68]	<pre>hygiene articles} {citrus fruit,</pre>	=>	{whole	mitk}	0.001220132	0.8571429	0.001423488	3.354556
##	[200]	hygiene articles,							
##		root vegetables}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[269]	{hygiene articles,							
##		root vegetables,							
##		yogurt}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[270]	$\{ {\tt long \ life \ bakery \ product,}$							
##		napkins,							
##	[074]	other vegetables}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
## ##	[2/1]	{cream cheese,							
##		<pre>domestic eggs, whipped/sour cream}</pre>	=>	{whole	milkl	0.001220132	0 8571429	0.001423488	3.354556
	[272]	{chicken,		(WIIOIC	miin	0.001220102	0.0011120	0.001120100	0.001000
##	L= : =3	domestic eggs,							
##		sausage}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[273]	{butter,							
##		domestic eggs,							
##	F0=43	pip fruit}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
	[274]	{bottled water,							
## ##		<pre>butter, whipped/sour cream}</pre>	-\	{whole	millel	0 001000120	0 9571/20	0.001423488	2 25/556
	[275]	{long life bakery product,	-/	fwhore	штткј	0.001220132	0.03/1429	0.001423400	3.334330
##	[210]	other vegetables,							
##		whipped/sour cream,							
##		yogurt}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[276]	{frozen vegetables,							
##		fruit/vegetable juice,							
##		other vegetables,				0.001000100	0 0574400	0.004400400	0.054554
##	[977]	<pre>root vegetables} {curd,</pre>	=>	{whole	MITK}	0.001220132	0.85/1429	0.001423488	3.354556
## ##	[211]	domestic eggs,							
##		other vegetables,							
##		root vegetables}	=>	{whole	milk}	0.001220132	0.8571429	0.001423488	3.354556
	[278]	{citrus fruit,			-				
##		curd,							
##		other vegetables,							

## ##	[270]	yogurt} {brown bread,	=> {whole	e milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[213]	citrus fruit,						
##		other vegetables,	_	_				
##	[000]	root vegetables}	=> {whole	; milk}	0.001220132	0.8571429	0.001423488	3.354556
## ##	[280]	<pre>{citrus fruit, domestic eggs,</pre>						
##		other vegetables,						
##		whipped/sour cream}	=> {whole	e milk}	0.001220132	0.8571429	0.001423488	3.354556
##	[281]	{domestic eggs,						
##		other vegetables,						
## ##		<pre>pip fruit, root vegetables}</pre>	=> {whole	a milkl	0.001220132	0 8571429	0 001423488	3.354556
	[282]	{pip fruit,	-> (WILL)	י אווייא)	0.001220102	0.0011720	0.001420400	3.304000
##	L=	root vegetables,						
##		soda,						
##	5-207	yogurt}	=> {whole	; milk}	0.001220132	0.8571429	0.001423488	3.354556
## ##	[283]	<pre>{butter, onions,</pre>						
##		root vegetables}	=> {whole	milk}	0.001728521	0.8500000	0.002033554	3.326602
	[284]	{other vegetables,	. (		0.001,2002	0.000000	0.00200000	0.02000
##		pip fruit,						
##		root vegetables,						
##	[OOE]	whipped/sour cream}	=> {whole	; milk}	0.001728521	0.8500000	0.002033554	3.326602
## ##	[285]	<pre>{domestic eggs,   rice}</pre>	=> {whole	a milkl	0.001118454	0 8461538	0.001321810	3.311549
##	[286]	{baking powder,	-> twin	י אדדווו	0.001110401	0.0101000	0.001021010	0.011040
##	_	tropical fruit,						
##	<b>-</b>	yogurt}	=> {whole	milk}	0.001118454	0.8461538	0.001321810	3.311549
##	[287]	{curd,						
## ##		<pre>frozen meals, yogurt}</pre>	=> {whole	n millel	0.001118454	0 8/61538	0 001321810	3.311549
##	[288]	{frozen meals,	-> (wmo=c	י אדדווו	0.001110-0-1	0.0401000	0.001021010	0.0110-0
##	<b>L</b>	root vegetables,						
##		tropical fruit}	=> {whole	e milk}	0.001118454	0.8461538	0.001321810	3.311549
	[289]	{butter milk,						
## ##		<pre>sausage, yogurt}</pre>	=> {whole	n millel	0 001118454	0 8/61538	0.001321810	2 2115 <u>4</u> 9
	[290]	<pre>foguit; {curd,</pre>	-> (WILL)	י אווייא)	0.001110-0-	0.0401000	0.001321010	3.0110-
##	L	onions,						
##		yogurt}	=> {whole	e milk}	0.001118454	0.8461538	0.001321810	3.311549
	[291]	{butter,						
## ##		<pre>domestic eggs, onions}</pre>	=> {whole	~ millel	0 001118454	0 9/61539	0.001321810	2 2115/10
	[292]	{pip fruit,	-/ [WIIOTO	נאדדוון ;	0.001110-0-1	0.0401000	0.001321010	3.3110-10
##	L	salty snack,						
##		yogurt}	=> {whole	e milk}	0.001118454	0.8461538	0.001321810	3.311549
	[293]	{citrus fruit,						
## ##		<pre>sugar, whipped/sour cream}</pre>	=> {whole	~ millel	0 001118/15/1	0 0/61538	0.001321810	2 2115/10
	[294]	<pre>four cream; {butter,</pre>	-> JWIIOTE	; MITTK?	0.001110404	0.0401000	0.001321010	3.311045
##	[20 -]	cream cheese,						
##		whipped/sour cream}	=> {whole	e milk}	0.001118454	0.8461538	0.001321810	3.311549
##	[295]	{cream cheese,						

## ## ##	[296]	<pre>domestic eggs, pip fruit} {citrus fruit,</pre>	=> {whole mi	0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[297]	<pre>frozen vegetables, napkins} {bottled water,</pre>	=> {whole mi	11k} 0.00111	8454 0.8461538 0.	001321810 3.311549
## ## ## ##	[298]	<pre>butter, napkins} {butter, napkins,</pre>	=> {whole mi	1lk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[299]	yogurt} {bottled beer, pork,	=> {whole mi	11k} 0.00111	8454 0.8461538 0.	001321810 3.311549
## ## ##	[300]	rolls/buns} {butter, other vegetables,	=> {whole mi	llk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
##	[301]	pork} {cream cheese, curd,	=> {whole mi	ilk} 0.00223	36909 0.8461538 0.	002643620 3.311549
## ## ##	[302]	<pre>whipped/sour cream, yogurt} {citrus fruit,</pre>	=> {whole mi	ilk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[202]	cream cheese, domestic eggs, other vegetables}	=> {whole mi	llk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ## ##	[303]	<pre>{citrus fruit,   cream cheese,   other vegetables,   whipped/sour cream}</pre>	=> {whole mi	ilk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[304]	{brown bread, pip fruit, tropical fruit,	-> (whole mi	0.00111	0.0401000 0.	001021010 0.011040
## ## ##	[305]	yogurt} {brown bread, other vegetables,	=> {whole mi	ilk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[306]	<pre>soda, yogurt} {margarine,</pre>	=> {whole mi	ilk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[207]	rolls/buns, root vegetables, yogurt}	=> {whole mi	llk} 0.00111	8454 0.8461538 0.	001321810 3.311549
## ## ## ##	[307]	<pre>{margarine,   other vegetables,   rolls/buns,   root vegetables}</pre>	=> {whole mi	1k} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##	[308]	{butter, root vegetables, whipped/sour cream,	. (##616 #1	3.3311		0.011010
## ## ##	[309]	yogurt} {beef, other vegetables,	=> {whole mi	llk} 0.00111	.8454 0.8461538 0.	001321810 3.311549
## ## ##		rolls/buns, root vegetables, tropical fruit}	=> {whole mi	llk} 0.00111	.8454 0.8461538 0.	001321810 3.311549

## ## ##	[310]	{butter, other vegetables, root vegetables,						
##		tropical fruit,						
##		yogurt}	=> {whole	e milk}	0.001118454	0.8461538 0.001	.321810	3.311549
	[311]	{rolls/buns,						
##		root vegetables,	_	_				
##	5 3	waffles}	=> {whole	e milk}	0.001626843	0.8421053 0.001	.931876	3.295704
	[312]	{citrus fruit,						
## ##		<pre>frozen vegetables, fruit/vegetable juice}</pre>	=> {whole	- m:11-1	0 001606043	0.8421053 0.001	021076	3.295704
	[313]	{butter,	-> \(\frac{1}{2}\)	S MITK'	0.001020043	0.0421033 0.001	.931010	3.295704
##	[010]	domestic eggs,						
##		whipped/sour cream}	=> {whole	e milk}	0.001626843	0.8421053 0.001	.931876	3.295704
	[314]	{butter,						
##		jam}	=> {whole	e milk}	0.001016777	0.8333333 0.001	220132	3.261374
##	[315]	{butter,						
##		rice}	=> {whole	e milk}	0.001525165	0.8333333 0.001	.830198	3.261374
	[316]	{other vegetables,						
##		rice,	. (1.7		0 001010777		000100	0.004074
##	[247]	tropical fruit}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
## ##	[317]	{domestic eggs, herbs,						
##		other vegetables}	=> {whole	milk}	0.001016777	0.8333333 0.001	220132	3.261374
	[318]	{fruit/vegetable juice,	> CMIDIN	Z MIIK)	0.001010111	0.0000000 0.001	.220102	0.201014
##	[010]	herbs,						
##		other vegetables}	=> {whole	e milk}	0.001016777	0.8333333 0.001	220132	3.261374
##	[319]	{herbs,						
##		tropical fruit,						
##		yogurt}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
	[320]	{herbs,						
##		rolls/buns,	_> (h - 1	: 11-1	0 001505165	0 0000000 0 001	020100	2 061274
## ##	[301]	<pre>root vegetables} {detergent,</pre>	=> {whole	e mirk}	0.001525165	0.8333333 0.001	.830198	3.261374
##	[321]	other vegetables,						
##		whipped/sour cream}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
##	[322]	{domestic eggs,	-	-				
##		root vegetables,						
##		soft cheese}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
##	[323]	{frankfurter,						
##		sliced cheese,					000100	0.001071
##	[204]	yogurt}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
## ##	[324]	root vegetables,						
##		shopping bags}	=> {whole	e milk}	0.001016777	0.8333333 0.001	220132	3.261374
##	[325]	{bottled water,	, ("1101"	, m	0.001010111	0.0000000 0.001	.220102	0.2010.1
##		butter,						
##		onions}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
##	[326]	{berries,						
##		butter,	_	_				
##	F00=7	whipped/sour cream}	=> {whole	e milk}	0.001016777	0.8333333 0.001	.220132	3.261374
	[327]	{hamburger meat,						
## ##		root vegetables,	=> {whole	n millel	0.001016777	0.8333333 0.001	220122	3 26127/
##		whipped/sour cream}	-> [MIIOT	2 mttv).	0.001010111	0.0000000 0.001	.220132	0.2013/4

## ##	[328]	<pre>{hygiene articles, margarine,</pre>							
##		rolls/buns}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[329]	{butter,							
##		citrus fruit,							
##		hygiene articles}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[330]	{hygiene articles,							
##		tropical fruit,		_	_				
##	[004]	whipped/sour cream}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[331]	{long life bakery product,							
## ##		other vegetables, salty snack}	_<	[rebolo	m:11-1	0 001016777	0000000	0.001220132	2 261274
##	[330]	{butter,	-/	{whole	MITTKL	0.001016777	0.0333333	0.001220132	3.261374
##	[002]	sugar,							
##		whipped/sour cream}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[333]	{long life bakery product,		Ç					
##		sausage,							
##		whipped/sour cream}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[334]	{cream cheese,							
##		pork,							
##		yogurt}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[335]	{cream cheese,							
##		frankfurter,							
##	[006]	yogurt}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[336]	{chocolate,							
## ##		<pre>domestic eggs, sausage}</pre>	=>	{whole	milkl	0.001016777	0 8333333	0.001220132	3.261374
##	[337]	{bottled beer,	_/	CMIOIE	штткј	0.001010777	0.0000000	0.001220132	J.2013/4
##	[001]	coffee,							
##		yogurt}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[338]	{beef,							
##		butter,							
##		curd}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[339]	{brown bread,							
##		domestic eggs,		<b>.</b>		0 001505105		0.001000100	0.004074
##	[240]	root vegetables}	=>	{whole	milk}	0.001525165	0.8333333	0.001830198	3.261374
	[340]	{bottled water,							
##		<pre>margarine, whipped/sour cream}</pre>	=>	{whole	milk}	0 001016777	0 8333333	0.001220132	3 261374
##	[341]	{herbs,		CWILOTO	mili	0.001010///	0.000000	0.001220102	0.2010/1
##	[011]	other vegetables,							
##		rolls/buns,							
##		root vegetables}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[342]	{butter milk,							
##		other vegetables,							
##		root vegetables,							
##	[040]	yogurt}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
## ##	[343]	9							
##		sliced cheese, tropical fruit,							
##		yogurt}	=>	{whole	milk}	0.001016777	0.8333333	0.001220132	3.261374
##	[344]	{pip fruit,	-				3.000000		J. 20101 F
##		root vegetables,							
##		white bread,							

## ##	[345]	yogurt} {citrus fruit,	=> -	{whole milk}	0	.001016777	0.8333333	0.001220132	3.261374
##		frozen vegetables,							
##		fruit/vegetable juice,							
##	F0 4 67	other vegetables}	=> -	{whole milk}	0	.001016777	0.8333333	0.001220132	3.261374
##	[346]	{bottled water,							
##		frozen vegetables,							
## ##		other vegetables, root vegetables}	-> .	{whole milk}	0	.001016777	U 8333333	0.001220132	3.261374
##	[347]	{curd,	-/	(MHOIE HIIK)	U	.001010777	0.6555555	0.001220132	3.2013/4
##	[011]	other vegetables,							
##		pip fruit,							
##		whipped/sour cream}	=> -	{whole milk}	0	.001016777	0.8333333	0.001220132	3.261374
##	[348]	{frankfurter,							
##		other vegetables,							
##		pip fruit,							
##		root vegetables}	=> -	{whole milk}	0	.001016777	0.8333333	0.001220132	3.261374
##	[349]	{domestic eggs,							
##		root vegetables,							
##		tropical fruit,		(1111-1	^	001505165	^ ^^	0.001020100	2 001274
##	[SEV]	<pre>yogurt} {fruit/vegetable juice,</pre>	=> -	{whole milk}	U	.001525165	0.8333333	0.001830198	3.261374
## ##	[350]	other vegetables,							
##		root vegetables,							
##		yogurt}	=> -	{whole milk}	0	.002033554	0.8333333	0.002440264	3.261374
##	[351]	{citrus fruit,		Ç	_				
##		other vegetables,							
##		root vegetables,							
##		whipped/sour cream,							
##		yogurt}	=> -	{whole milk}	0	.001016777	0.8333333	0.001220132	3.261374
##	[352]	{hard cheese,							
##		tropical fruit,		(111-1	^	001402400	0.0025004	0 001700501	2 002005
## ##	[SES]	<pre>yogurt} {butter,</pre>	=> -	{whole milk}	U	.001423488	0.8235294	0.001728521	3.223005
##	[333]	hygiene articles,							
##		root vegetables}	=> -	{whole milk}	0	.001423488	0.8235294	0.001728521	3.223005
##	[354]	{curd,							
##		domestic eggs,							
##		other vegetables}	=> -	{whole milk}	0	.002846975	0.8235294	0.003457041	3.223005
##	[355]	{butter,							
##		napkins,							
##	F0 = 43	whipped/sour cream}	=> -	{whole milk}	0	.001423488	0.8235294	0.001728521	3.223005
## ##	[356]	{butter,							
##		<pre>pork, yogurt}</pre>	=> -	{whole milk}	0	.001423488	0 8235204	0.001728521	3.223005
##	[357]	{domestic eggs,	_/	(whole milk)	O	.001420400	0.0233234	0.001720021	3.225005
##	[001]	pip fruit,							
##		sausage}	=> -	{whole milk}	0	.001423488	0.8235294	0.001728521	3.223005
##	[358]	{beef,							
##		rolls/buns,							
##		root vegetables,		_					
##		tropical fruit}	=> -	{whole milk}	0	.001423488	0.8235294	0.001728521	3.223005
##	[359]	{frankfurter,							
##		other vegetables,							

## ## ## ## ##	[360]	<pre>tropical fruit, yogurt} {citrus fruit, other vegetables, root vegetables, tropical fruit,</pre>	=>	{whole milk}	0.001423488	0.8235294 0.001728521	3.223005
##	[261]	yogurt}	=>	{whole milk}	0.001423488	0.8235294 0.001728521	3.223005
## ##		<pre>{herbs,   tropical fruit}</pre>	=>	{whole milk}	0.002338587	0.8214286 0.002846975	3.214783
## ##	[362]	<pre>{citrus fruit,   other vegetables,</pre>					
## ##		<pre>root vegetables, yogurt}</pre>	=>	{whole milk}	0.002338587	0.8214286 0.002846975	3.214783
##	[363]	{other vegetables,	•	(whole milk)	0.00200001	0.0211200 0.002010070	0.211700
## ##		<pre>rice, root vegetables}</pre>	=>	{whole milk}	0.001830198	0.8181818 0.002236909	3.202076
## ##	[364]	<pre>{curd, pip fruit,</pre>					
##	<b>.</b>	whipped/sour cream}	=>	{whole milk}	0.001830198	0.8181818 0.002236909	3.202076
## ##	[365]	<pre>{rolls/buns, root vegetables,</pre>					
## ##		<pre>tropical fruit, yogurt}</pre>	=>	{whole milk}	0.002236909	0.8148148 0.002745297	3.188899
##	[366]	{house keeping products,					
## ##	[367]	<pre>napkins} {other vegetables,</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##		<pre>specialty cheese, yogurt}</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
##	[368]	{citrus fruit,		(who is milling	0.001021010	0.012000 0.001020010	3.170010
## ##		herbs, root vegetables}	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##	[369]	<pre>{herbs,   other vegetables,</pre>					
##	[070]	tropical fruit}	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##	[370]	{butter, hard cheese,					
## ##	[371]	<pre>yogurt} {butter milk,</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##		dessert, yogurt}	->	{whole milk}	0 001221010	0.8125000 0.001626843	3.179840
##	[372]	{butter,	-/	(whole mirk)	0.001321810	0.8123000 0.001020843	3.179040
## ##		<pre>onions, yogurt}</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##	[373]	<pre>{hygiene articles, pip fruit,</pre>					
##		sausage}	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##	[374]	<pre>{bottled water,   other vegetables,</pre>					
##	[375]	<pre>sugar} {cream cheese,</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
## ##	[3/3]	domestic eggs,					
## ##	[376]	<pre>yogurt} {root vegetables,</pre>	=>	{whole milk}	0.001321810	0.8125000 0.001626843	3.179840
##		whipped/sour cream,					

## ## ##	[377]	<pre>white bread} {frozen vegetables, napkins,</pre>	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ##	[378]	other vegetables} {beef,	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ##	[270]	tropical fruit, whipped/sour cream}	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ## ##	[3/9]	<pre>{curd, margarine, rolls/buns}</pre>	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ##	[380]	{domestic eggs, napkins,		(whole		0.001021010	0.012000	0.001020010	0.110010
## ##	[381]		=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ## ##	[382]	<pre>butter, pip fruit} {domestic eggs,</pre>	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
##		<pre>pastry, tropical fruit}</pre>	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ## ##	[383]	<pre>{frozen vegetables,   other vegetables,   root vegetables,</pre>							
## ##	[384]	whipped/sour cream}	=>	{whole	milk}	0.001321810	0.8125000	0.001626843	3.179840
## ## ##		<pre>pip fruit, root vegetables, soda}</pre>	->	{whole	millel	0.001321810	0 8125000	0.001626843	3.179840
## ##	[385]	{cereals, yogurt}		{whole		0.001321610		0.002135231	3.168192
## ##	[386]	{bottled beer, hamburger meat}		{whole	-	0.001728521		0.002135231	3.168192
## ##	[387]	<pre>{rolls/buns, waffles,</pre>		<b>.</b>					
## ## ##	[388]	<pre>whipped/sour cream} {long life bakery product, whipped/sour cream,</pre>	=>	{whole	milk}	0.001728521	0.8095238	0.002135231	3.168192
	[389]	yogurt} {butter,	=>	{whole	milk}	0.001728521	0.8095238	0.002135231	3.168192
## ## ##	[390]	<pre>pip fruit, root vegetables} {curd,</pre>	=>	{whole	milk}	0.001728521	0.8095238	0.002135231	3.168192
## ##		<pre>hamburger meat} {herbs,</pre>		{whole		0.002541942		0.003152008	3.156169
## ## ##	[392]	<pre>rolls/buns} {butter, soft cheese,</pre>	=>	{whole	milk}	0.002440264	0.8000000	0.003050330	3.130919
## ##	[393]	yogurt} {frankfurter,	=>	{whole	milk}	0.001220132	0.8000000	0.001525165	3.130919
## ## ##	[394]	<pre>frozen meals, other vegetables} {frozen meals,</pre>	=>	{whole	milk}	0.001220132	0.8000000	0.001525165	3.130919
## ##		<pre>tropical fruit, yogurt}</pre>	=>	{whole	milk}	0.001626843	0.8000000	0.002033554	3.130919
##	[395]	{curd,							

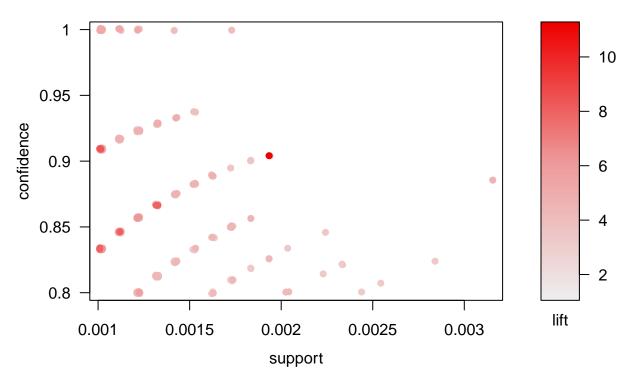
## ## ##	[396]	<pre>hamburger meat, other vegetables} {butter,</pre>	=>	{whole milk}	0.	001626843	0.8000000	0.002033554	3.130919
## ## ##	[397]	• •	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ## ##	[398]	<pre>napkins, tropical fruit} {butter, chicken,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[399]	whipped/sour cream} {chocolate, napkins,	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[400]	root vegetables} {butter, curd,	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[401]	<pre>pip fruit} {bottled beer, napkins,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[402]	rolls/buns} {domestic eggs, margarine,	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[403]	<pre>whipped/sour cream} {butter, citrus fruit,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[404]	<pre>tropical fruit} {pip fruit, sausage,</pre>	=>	{whole milk}	0.	001626843	0.8000000	0.002033554	3.130919
## ## ##	[405]	<pre>whipped/sour cream} {chicken, domestic eggs,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ## ##	[406]	<pre>other vegetables, root vegetables} {butter, curd,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ##	[407]	tropical fruit, yogurt} {butter,	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##		tropical fruit, whipped/sour cream, yogurt}	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##	[408]	<pre>{butter,   other vegetables,   rolls/buns,</pre>							
## ## ##	[409]	<pre>whipped/sour cream} {citrus fruit,   other vegetables,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ## ##	[410]	<pre>sausage, whipped/sour cream} {citrus fruit, tropical fruit,</pre>	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919
## ## ##		whipped/sour cream, yogurt}	=>	{whole milk}	0.	001220132	0.8000000	0.001525165	3.130919

#### Plotting various graphs for the rules

```
plot(pd_rules)
```

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

#### Scatter plot for 410 rules



```
plot(pd_rules,method="grouped", jitter = 0)
```

```
## Warning: Unknown control parameters: jitter
## Available control parameters (with default values):
## main = Grouped Matrix for 410 Rules
## k
## rhs_max
               10
## lhs items
## aggr.fun = function (x, ...) UseMethod("mean")
        = c("#EE0000FF", "#EE0303FF", "#EE0606FF", "#EE0909FF", "#EE0COCFF", "#EE0F0FFF", "#EE1212FF"
## col
## reverse
            = TRUE
           NULL
## xlab
## ylab
           NULL
## legend
            = Size: support Color: lift
            = -1
## panel.function
                    = function (row, size, shading, spacing) { size[size == 0] <- NA
                                                                                              shading
            = list(cex = 1.2, fontface = "bold", font = c(bold = 2))
## gp_main
                = list(cex = 0.8)
## gp_labels
           = list(cex = 1.2, fontface = "bold", font = c(bold = 2))
## gp_lines = list(col = "gray", lty = 3)
```

```
## newpage
                 TRUE
## max.shading
                     NA
## engine
                 default
## verbose
                FALSE
```

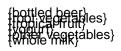
33 rules: {whole milk, dessert, +27 items}
31 rules: {meat, newspapers, +30 items}
47 rules: {turkey, candy, +41 items}
19 rules: {canned fish, flour, +23 items}
28 rules: {white bread, soft cheese, +17 items}
57 rules: {soups, sweet spreads, +38 items}
10 rules: {butter milk, beef, +15 items}
29 rules: {mustard, pickled vegetables, +30 items}
31 rules: {baking powder, frozen meals, +29 items}
36 rules: {detergent, jam, +37 items}
13 rules: {hard cheese, frankfurter, +18 items}
23 rules: {specialty cheese, cereals, +30 items}
49 rules: {chicken, hamburger meat, +21 items}
86 14 rules: {sliced cheese, margarine, +16 items} 2 rules: {cream cheese, butter, +1 items} Size: support Color: lift

# tems in LHS Group

2 rules: {ham, grapes, +5 items} 1 rules: {liquor, red/blush wine} 5 rules: {oil, soda, +8 items}

8 rules: {ham, newspapers, +14 items} 2 rules: {white bread, butter, +1 items}

## **RHS**

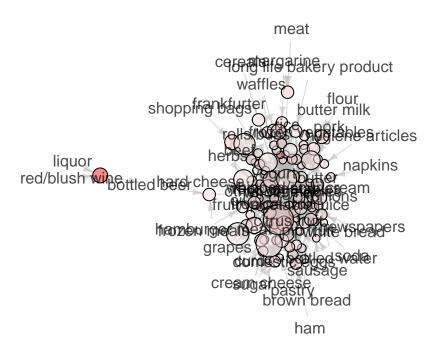


#### plot(pd\_rules,method="graph")

```
## Warning: plot: Too many rules supplied. Only plotting the best 100 rules using
## 'support' (change control parameter max if needed)
```

# **Graph for 100 rules**

size: support (0.001 – 0.003) color: lift (3.131 – 11.235)

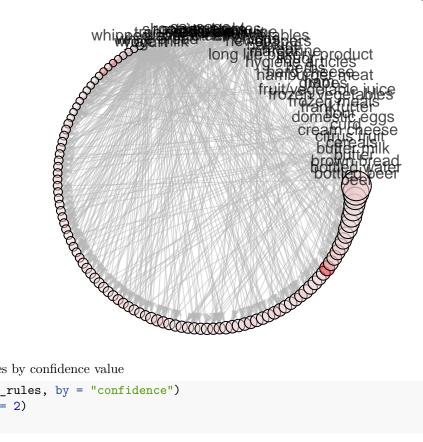


```
plot(pd_rules, method="graph", control=list(layout=igraph::in_circle()))
```

## Warning: plot: Too many rules supplied. Only plotting the best 100 rules using
## 'support' (change control parameter max if needed)

# **Graph for 100 rules**

size: support (0.001 - 0.003) color: lift (3.131 – 11.235)



# Sorting the rules by confidence value

```
rules = sort(pd_rules, by = "confidence")
options(digits = 2)
inspect(rules)
```

##		lhs	1	rhs	support	confidence	coverage	lift	count
##	[1]	{rice,							
##		sugar}	=> +	{whole milk}	0.0012	1.00	0.0012	3.9	12
##	[2]	{canned fish,							
##		hygiene articles}	=> -	{whole milk}	0.0011	1.00	0.0011	3.9	11
##	[3]	{butter,							
##		rice,							
##		root vegetables}	=> +	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[4]	{flour,							
##		root vegetables,							
##		whipped/sour cream}	=> +	{whole milk}	0.0017	1.00	0.0017	3.9	17
##	[5]	{butter,							
##		domestic eggs,							
##		soft cheese}	=> +	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[6]	{citrus fruit,							
##		root vegetables,							
##		soft cheese}	=> +	{other vegetables}	0.0010	1.00	0.0010	5.2	10
##	[7]	{butter,		_					
##		hygiene articles,							
##		pip fruit}	=> +	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[8]	{hygiene articles,							

## ## ##	[9]	<pre>root vegetables, whipped/sour cream} {hygiene articles,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	[10]	<pre>pip fruit, root vegetables} {cream cheese,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	[11]	<pre>domestic eggs, sugar} {curd,</pre>	=> {whole milk}	0.0011	1.00	0.0011	3.9	11
## ## ##	[12]	<pre>domestic eggs, sugar} {cream cheese,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	[13]	<pre>domestic eggs, napkins} {brown bread,</pre>	=> {whole milk}	0.0011	1.00	0.0011	3.9	11
## ## ##	[14]	<pre>pip fruit, whipped/sour cream} {grapes,</pre>	=> {other vegetables}	0.0011	1.00	0.0011	5.2	11
## ## ##	-	tropical fruit, whole milk, yogurt}	=> {other vegetables}	0.0010	1.00	0.0010	5.2	10
## ## ##	[15]	<pre>{ham, pip fruit, tropical fruit,</pre>		-				-
## ## ##	[16]	yogurt} {ham, pip fruit,	=> {other vegetables}	0.0010	1.00	0.0010	5.2	10
## ## ##	[17]	tropical fruit, whole milk} {oil,	=> {other vegetables}	0.0011	1.00	0.0011	5.2	11
## ## ##	[11]	<pre>root vegetables, tropical fruit, yogurt}</pre>	=> {whole milk}	0.0011	1.00	0.0011	3.9	11
## ## ##	[18]	<pre>{oil,   other vegetables,   root vegetables,</pre>						
##	[19]	<pre>yogurt} {butter, other vegetables,</pre>	=> {whole milk}	0.0014	1.00	0.0014	3.9	14
## ## ##	[20]	<pre>root vegetables, white bread} {butter,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	<b>50.43</b>	other vegetables, pork, whipped/sour cream}	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	[21]	{butter, domestic eggs, other vegetables,		0.0010	4 00	0.0010	0.0	40
## ## ##	[22]	<pre>whipped/sour cream} {butter, fruit/vegetable juice,</pre>	=> {whole milk}	0.0012	1.00	0.0012	3.9	12
## ## ##	[23]	<pre>tropical fruit, whipped/sour cream} {newspapers,</pre>	=> {other vegetables}	0.0010	1.00	0.0010	5.2	10

## ## ## ##	[24]	<pre>rolls/buns, soda, whole milk} {citrus fruit, pastry,</pre>	=> {other vegetables}	0.0010	1.00	0.0010	5.2	10
## ## ## ##	[25]	<pre>rolls/buns, whipped/sour cream} {citrus fruit, root vegetables,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ## ##	[26]	<pre>tropical fruit, whipped/sour cream} {bottled water, other vegetables,</pre>	=> {other vegetables}	0.0012	1.00	0.0012	5.2	12
## ## ## ##	[27]	<pre>pip fruit, root vegetables} {rolls/buns,</pre>	=> {whole milk}	0.0011	1.00	0.0011	3.9	11
## ## ##	[28]	<pre>root vegetables, sausage, tropical fruit} {oil,</pre>	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ## ##		other vegetables, root vegetables, tropical fruit, yogurt}	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ## ##	[30]	<pre>{cream cheese,   other vegetables,   sugar} {root vegetables,</pre>	=> {whole milk}	0.0015	0.94	0.0016	3.7	15
## ## ##		<pre>sausage, tropical fruit, yogurt}</pre>	=> {whole milk}	0.0015	0.94	0.0016	3.7	15
## ## ## ##	[31]	<pre>{citrus fruit,   domestic eggs,   sugar} {domestic eggs,</pre>	=> {whole milk}	0.0014	0.93	0.0015	3.7	14
## ## ## ##	[33]	<pre>sugar, yogurt} {oil, root vegetables,</pre>	=> {whole milk}	0.0014	0.93	0.0015	3.7	14
## ## ##		whole milk, yogurt}	=> {other vegetables}					14
##	[34]	{citrus fruit, root vegetables,	· (comor vegeoustes)	0.0014	0.93	0.0015	4.8	14
	[34]	{citrus fruit,	=> {other vegetables}		0.93	0.0015		14
## ## ## ##	[35]	<pre>{citrus fruit,   root vegetables,   tropical fruit,   whole milk,   yogurt}</pre>					4.8	

## ## ##	[38]	<pre>pip fruit} {other vegetables,</pre>	=>	{other	vegetables}	0.0013	0.93	0.0014	4.8	13
## ## ##	[39]	<pre>rice, root vegetables, yogurt} {rice,</pre>	=>	{whole	milk}	0.0013	0.93	0.0014	3.6	13
## ## ## ##	[40]	<pre>root vegetables, whole milk, yogurt} {beef,</pre>	=>	{other	vegetables}	0.0013	0.93	0.0014	4.8	13
## ## ##		rolls/buns, tropical fruit, yogurt}	=>	{whole	milkŀ	0.0013	0.93	0.0014	3.6	13
## ##	[41]	{house keeping products, whipped/sour cream}		{whole		0.0012	0.92	0.0013	3.6	12
## ##	[42]	{bottled water, rice}		{whole		0.0012	0.92	0.0013	3.6	12
## ##	[43]	<pre>{soft cheese,   tropical fruit,</pre>								
## ##	[44]	whipped/sour cream} {root vegetables,	=>	{other	vegetables}	0.0012	0.92	0.0013	4.8	12
## ## ##	[45]	<pre>soft cheese, whipped/sour cream} {butter,</pre>	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
##	[10]	sliced cheese, whipped/sour cream}	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ##	[46]	{butter, hygiene articles,		(-1-1-1-		0.0040	0.00	0.0012	2.6	10
## ## ##	[47]	<pre>tropical fruit} {domestic eggs, hygiene articles,</pre>	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ##	[48]	<pre>tropical fruit} {root vegetables,</pre>	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[49]	<pre>sugar, whipped/sour cream} {long life bakery product,</pre>	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ##	[40]	napkins, tropical fruit}	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ##	[50]	{citrus fruit, cream cheese,		_						
## ## ##	[51]	<pre>root vegetables} {butter, coffee,</pre>	=>	{other	vegetables}	0.0012	0.92	0.0013	4.8	12
## ## ##	[52]	whipped/sour cream} {hard cheese, other vegetables,	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[53]	root vegetables, yogurt} {frankfurter,	=>	{whole	milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[00]	root vegetables, tropical fruit, yogurt}	=>	{whole	milkl	0.0012	0.92	0.0013	3 6	12
## ## ##	[54]	<pre>{brown bread, other vegetables,</pre>	-/	этопил	шттк	0.0012	0.92	0.0013	3.0	12

## ## ## ##	[55]	<pre>pip fruit, root vegetables} {butter, domestic eggs,</pre>	=> {whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ## ##	[56]	<pre>tropical fruit, yogurt} {domestic eggs, other vegetables,</pre>	=> {whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ## ##	[57]	pip fruit, whipped/sour cream} {citrus fruit, domestic eggs,	=> {whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[58]	<pre>whipped/sour cream, whole milk} {bottled beer,</pre>	=> {other vegetables}	0.0012	0.92	0.0013		12
##	[59]	soups} {grapes,	=> {whole milk}	0.0011	0.92	0.0012		11
##	[60]	onions} {hard cheese,	=> {other vegetables}	0.0011	0.92	0.0012		11
##	[61]	oil} {citrus fruit,	=> {other vegetables}	0.0011	0.92	0.0012	4.7	11
## ##	[en]	herbs, tropical fruit}	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[62]	<pre>{domestic eggs,   sugar,   tropical fruit}</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ##	[63]	{dessert, tropical fruit,	/ (whole milk)	0.0011	0.02	0.0012	0.0	
## ##	[64]	<pre>whipped/sour cream} {butter,</pre>	=> {other vegetables}	0.0011	0.92	0.0012	4.7	11
## ## ##	[65]	<pre>root vegetables, white bread} {butter,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[66]	<pre>curd, domestic eggs} {butter,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ##		citrus fruit, curd}	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[67]	<pre>{domestic eggs, fruit/vegetable juice, margarine}</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ##	[68]	{citrus fruit, cream cheese,						
## ## ##	[60]	whipped/sour cream, whole milk}	=> {other vegetables}	0.0011	0.92	0.0012	4.7	11
## ## ##	[69]	<pre>{cream cheese,   other vegetables,   pip fruit,   yogurt}</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ##	[70]	<pre>{curd,   domestic eggs,</pre>						
## ## ##	[71]	<pre>tropical fruit, yogurt} {butter,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11

## ## ## ##	[72]	<pre>domestic eggs, root vegetables, yogurt} {domestic eggs, tropical fruit,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ## ##	[73]	<pre>whipped/sour cream, yogurt} {domestic eggs, other vegetables,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[74]	<pre>tropical fruit, whipped/sour cream} {fruit/vegetable juice,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ## ##	[75]	<pre>tropical fruit, whipped/sour cream, yogurt} {fruit/vegetable juice,</pre>	=> {other vegetables}	0.0011	0.92	0.0012	4.7	11
## ## ## ##	[76]	<pre>pip fruit, root vegetables, yogurt} {bottled water,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ## ##	[77]	<pre>rolls/buns, root vegetables, tropical fruit} {cereals,</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
##	[78]	curd} {pastry,	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ##	[79]	<pre>sweet spreads} {fruit/vegetable juice,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[80]	<pre>herbs, whole milk} {frankfurter,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[81]	<pre>frozen meals, tropical fruit} {frankfurter,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[82]	<pre>frozen meals, tropical fruit} {butter,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[83]	<pre>frozen meals, tropical fruit} {hard cheese,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[84]	<pre>tropical fruit, whipped/sour cream} {butter milk,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[85]	<pre>pork, whole milk} {butter milk,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[86]	<pre>fruit/vegetable juice, pip fruit} {frankfurter,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[87]	<pre>root vegetables, sliced cheese} {coffee,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
##	- <b>-</b>	oil, yogurt}	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10

##	[88]	{napkins,							
##		onions,	_<	[	0.0010	0.01	0 0011	1 7	10
##	[00]	root vegetables}	=>	{other vegetables}	0.0010	0.91	0.0011	4.7	10
##	[89]	<pre>{berries, butter,</pre>							
##		sausage}	=>	{whole milk}	0.0010	0.91	0.0011	3 6	10
##	[90]	{hamburger meat,		(AIIII SIOIN)	0.0010	0.31	0.0011	5.0	10
##	[30]	tropical fruit,							
##		whipped/sour cream}	=>	{other vegetables}	0.0010	0.91	0.0011	4.7	10
##	[91]	{butter,		(001101 1000001010)	0.0020	0.01	0.0011		
##	2.4 = 3	hygiene articles,							
##		napkins}	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
##	[92]	{pork,							
##		rolls/buns,							
##		waffles}	=>	<pre>{whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
##	[93]	{long life bakery product,							
##		napkins,							
##		whipped/sour cream}	=>	<pre>{whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
##	[94]	{butter,							
##		long life bakery product,							
##	5 <b>3</b>	sausage}	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
##	[95]	{butter,							
##		cream cheese,		c	0.0040	0.04	0 0044	0 5	4.0
##	[06]	root vegetables}	=>	{yogurt}	0.0010	0.91	0.0011	6.5	10
##	[96]	{butter,							
## ##		<pre>cream cheese, root vegetables}</pre>	->	{whole milk}	0.0010	0.91	0.0011	3 6	10
##	[97]	{cream cheese,	-/	(AIIII SIOIN)	0.0010	0.31	0.0011	5.0	10
		(Cream Cheese,							
##		nin fruit							
##		pip fruit,	=>	√whole milk}	0.0010	0.91	0.0011	3.6	10
##	[98]	sausage}	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
	[98]	<pre>sausage} {coffee,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ##	[98]	<pre>sausage} {coffee, domestic eggs,</pre>		<pre>{whole milk}</pre>	0.0010	0.91			10
## ## ##	[98] [99]	<pre>sausage} {coffee,</pre>					0.0011		
## ## ## ##		<pre>sausage} {coffee, domestic eggs, root vegetables}</pre>							
## ## ## ##		<pre>sausage} {coffee, domestic eggs, root vegetables} {bottled beer,</pre>	=>						
## ## ## ## ##	[99]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ## ## ##	[99]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ## ## ##	[99]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,</pre>	=>	<pre>{whole milk} {whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit}</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,</pre>	=>	<pre>{whole milk} {whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
## ## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,</pre>	=>	<pre>{whole milk} {whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
## ###################################	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,</pre>	=> =>	<pre>{whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10
## ## ## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt}</pre>	=> =>	<pre>{whole milk} {whole milk}</pre>	0.0010	0.91	0.0011	3.6 3.6 3.6	10
## ## ## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,</pre>	=> =>	<pre>{whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10
## ## ## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,</pre>	=> =>	<pre>{whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10
## ## ## ## ## ## ## ## ##	[99] [100]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,</pre>	=> => =>	<pre>{whole milk}  {whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10 10
## ## ## ## ## ## ## ## ## ##	[99] [100] [101]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt}</pre>	=> => =>	<pre>{whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10
## ## ## ## ## ## ## ## ##	[99] [100] [101]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt} {butter,</pre>	=> => =>	<pre>{whole milk}  {whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10 10
## ## ## ## ## ## ## ## ## ## ##	[99] [100] [101]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt}</pre>	=> => =>	<pre>{whole milk}  {whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6	10 10 10
## ## ## ## ## ## ## ## ## ## ## ##	[99] [100] [101]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt} {butter,</pre>	=> => =>	<pre>{whole milk}  {whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010	0.91 0.91 0.91	0.0011 0.0011 0.0011	3.6 3.6 3.6 3.6	10 10 10
## ## ## ## ## ## ## ## ## ## ##	[99] [100] [101]	<pre>sausage} {coffee,   domestic eggs,   root vegetables} {bottled beer,   domestic eggs,   margarine} {herbs,   other vegetables,   root vegetables,   tropical fruit} {frozen meals,   pip fruit,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt} {butter,   sliced cheese,   tropical fruit,   yogurt} </pre>	=> => =>	<pre>{whole milk}  {whole milk}  {whole milk}  {whole milk}</pre>	0.0010 0.0010 0.0010 0.0010	0.91 0.91 0.91 0.91	0.0011 0.0011 0.0011 0.0011	3.6 3.6 3.6 3.6	10 10 10 10

## ## ## ##	[105]	<pre>tropical fruit, yogurt} {other vegetables, root vegetables,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[106]	<pre>waffles, yogurt} {cream cheese,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[107]	<pre>curd, other vegetables, whipped/sour cream} {cream cheese,</pre>	=> {yogurt}	0.0010	0.91	0.0011	6.5	10
## ## ## ##	[108]	<pre>other vegetables, pip fruit, root vegetables} {butter,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##		<pre>tropical fruit, white bread, yogurt}</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ## ##	[109]	<pre>{butter,   other vegetables,   tropical fruit,   white bread}</pre>	=> {yogurt}	0.0010	0.91	0.0011	6.5	10
## ## ##	[110]	<pre>{butter,   root vegetables,   white bread,</pre>						
## ## ## ##	[111]	whole milk} {citrus fruit, frozen vegetables, other vegetables,	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[112]	yogurt} {citrus fruit, curd,	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[113]	<pre>tropical fruit, yogurt} {butter, napkins,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[114]	other vegetables, whipped/sour cream} {butter,	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[115]	<pre>other vegetables, pork, root vegetables} {brown bread,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##		other vegetables, rolls/buns, root vegetables}	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[116]	<pre>{butter, soda, whipped/sour cream, whole milk}</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ##	[117]	<pre>{bottled water, butter, citrus fruit,</pre>						
##		other vegetables}	=> {whole milk}	0.0010	0.91	0.0011	3.6	10

## ## ## ##		<pre>{citrus fruit,   domestic eggs,   other vegetables,   tropical fruit} {fruit/vegetable juice,</pre>	=> {whole milk}	0.0010	0.91	0.0011 3	3.6	10
## ## ## ## ##		tropical fruit, whipped/sour cream, whole milk} {citrus fruit, fruit/vegetable juice,	=> {other vegetables}	0.0010	0.91	0.0011 4	1.7	10
## ## ##	[121]	other vegetables, soda} {pastry,	=> {root vegetables}	0.0010	0.91	0.0011 8	3.3	10
## ## ##	[400]	<pre>root vegetables, tropical fruit, yogurt}</pre>	=> {whole milk}	0.0010	0.91	0.0011 3	3.6	10
## ## ## ##	[122]	<pre>{oil,   root vegetables,   tropical fruit,   whole milk,</pre>						
## ## ##	[123]	<pre>yogurt} {oil, other vegetables,</pre>	=> {other vegetables}	0.0010	0.91	0.0011 4	1.7	10
## ## ## ##	[124]	<pre>tropical fruit, whole milk, yogurt} {butter,</pre>	=> {root vegetables}	0.0010	0.91	0.0011 8	3.3	10
## ## ##	[124]	domestic eggs, other vegetables, tropical fruit,						
## ## ##	[125]	yogurt} {citrus fruit, root vegetables,	=> {whole milk}	0.0010	0.91	0.0011 3	3.6	10
## ## ## ##	[126]	<pre>whipped/sour cream, whole milk, yogurt} {liquor,</pre>	=> {other vegetables}	0.0010	0.91	0.0011 4	1.7	10
## ## ##		red/blush wine} {fruit/vegetable juice, tropical fruit,	=> {bottled beer}	0.0019	0.90	0.0021 11	1.2	19
## ## ##	[128]	whipped/sour cream} {butter, pip fruit,	=> {other vegetables}	0.0019	0.90	0.0021 4		19
## ## ## ##	[129]	<pre>whipped/sour cream} {domestic eggs,   tropical fruit,   whipped/sour cream}</pre>	<pre>=&gt; {whole milk} =&gt; {whole milk}</pre>	0.0018	0.90	0.0020 3	3.5	18 18
## ## ##	[130]	{butter, root vegetables, tropical fruit,						-
## ## ##	[131]	pip fruit,	=> {whole milk}	0.0017	0.89		3.5	17
##		tropical fruit}	=> {other vegetables}	0.0016	0.89	0.0018 4	1.6	16

##	[132]	{onions,								
##		root vegetables,		( a + h a		0.0016	0.00	0 0010	1 6	1.0
##	[133]	<pre>tropical fruit} {citrus fruit,</pre>	=>	forner	vegetables}	0.0016	0.89	0.0018	4.0	16
##	[100]	cream cheese,								
##		domestic eggs}	=>	{whole	milk}	0.0016	0.89	0.0018	3.5	16
##	[134]	{margarine,		•	-					
##		rolls/buns,								
##		whipped/sour cream}	=>	{whole	milk}	0.0016	0.89	0.0018	3.5	16
##	[135]	{citrus fruit,								
##		root vegetables,								
##		tropical fruit,								
##	[400]	whole milk}	=>	{other	vegetables}	0.0032	0.89	0.0036	4.6	31
##	[136]	{herbs,								
##		<pre>root vegetables, tropical fruit}</pre>	=>	{whole	milbl	0.0015	0.88	0.0017	3.5	15
##	[137]	{butter milk,	_/	CMITOILE	LATEM	0.0013	0.00	0.0017	0.0	10
##	[10]	root vegetables,								
##		yogurt}	=>	{whole	milk}	0.0015	0.88	0.0017	3.5	15
##	[138]	{citrus fruit,								
##		pastry,								
##		whipped/sour cream}	=>	{whole	milk}	0.0015	0.88	0.0017	3.5	15
##	[139]	{citrus fruit,								
##		pastry,								
##	[440]	root vegetables}	=>	{other	vegetables}	0.0015	0.88	0.0017	4.6	15
##	[140]	<pre>{frozen vegetables, whipped/sour cream,</pre>								
##		whole milk,								
##		yogurt}	=>	{other	vegetables}	0.0015	0.88	0.0017	4.6	15
##	[141]	{frozen vegetables,		(001101		0.0010	0.00	0.002.		
##		root vegetables,								
##		whole milk,								
##		yogurt}	=>	$\{ {\tt other}$	vegetables}	0.0015	0.88	0.0017	4.6	15
##	[142]	{beef,								
##		other vegetables,								
##		rolls/buns,		(h - 7 -		0.0015	0.00	0 0017	2 -	15
##	[1/2]	<pre>tropical fruit} {rice,</pre>	=>	{whole	mirk}	0.0015	0.88	0.0017	3.5	15
##	[140]	root vegetables,								
##		yogurt}	=>	{other	vegetables}	0.0014	0.88	0.0016	4.5	14
##	[144]	{rice,								
##		root vegetables,								
##		yogurt}	=>	$\{ {\tt whole}$	milk}	0.0014	0.88	0.0016	3.4	14
##	[145]	{cream cheese,								
##		tropical fruit,								
##	[4 4 Q]	whipped/sour cream}	=>	{other	vegetables}	0.0014	0.88	0.0016	4.5	14
##	[146]	{root vegetables,								
## ##		<pre>whipped/sour cream, white bread}</pre>	=>	{other	vegetables}	0.0014	0.88	0.0016	4.5	14
##	[147]	{beef,	-/	Conner	AgRenantesl	0.0014	0.00	0.0010	T.U	1.4
##		tropical fruit,								
##		whipped/sour cream}	=>	{other	vegetables}	0.0014	0.88	0.0016	4.5	14
##	[148]	{butter,								
##		pork,								

## ##	[149]	whipped/sour cream} {brown bread,	=>	{whole milk}	0.0014	0.88	0.0016	3.4	14
## ## ##	[150]	<pre>pip fruit, root vegetables} {frozen vegetables,</pre>	=>	{whole milk}	0.0014	0.88	0.0016	3.4	14
## ##		onions, root vegetables}	=>	{other vegetables}	0.0013	0.87	0.0015	4.5	13
## ##	[151]	{frozen vegetables, margarine,		(	0.0012	0.07	0 0015	2.4	10
## ## ##	[152]	<pre>rolls/buns} {other vegetables, rice,</pre>	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
##		whole milk, yogurt}	=>	{root vegetables}	0.0013	0.87	0.0015	8.0	13
## ## ##	[153]	<pre>{oil,   root vegetables,   tropical fruit,</pre>							
## ##	[154]	whole milk} {oil,	=>	{other vegetables}	0.0013	0.87	0.0015	4.5	13
## ##		other vegetables, tropical fruit,			0.0040	0.07	0 0045	0.0	40
## ## ##	[155]	<pre>whole milk} {butter, onions,</pre>	=>	{root vegetables}	0.0013	0.87	0.0015	8.0	13
## ##	<b>5.15.0</b> 3	other vegetables, root vegetables}	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ## ##	[156]	<pre>{butter,   other vegetables,   pip fruit,</pre>							
## ##	[157]	whipped/sour cream} {fruit/vegetable juice,	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ## ##		<pre>other vegetables, pip fruit, root vegetables}</pre>	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ##	[158]	{bottled water, citrus fruit,		(	0.0020		0.0020	0.1	
## ## ##	[159]	<pre>other vegetables, tropical fruit} {other vegetables,</pre>	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ##	[100]	<pre>pip fruit, root vegetables,</pre>							
## ## ##	[160]	<pre>tropical fruit, yogurt} {mustard,</pre>	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ##		oil} {chocolate,	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[162]	<pre>pickled vegetables} {butter milk,</pre>		{whole milk}	0.0012	0.86	0.0014		12
## ## ##	[163]	<pre>pork} {frozen fish, root vegetables,</pre>	=>	{other vegetables}	0.0018	0.86	0.0021	4.4	18
## ## ##	[164]	yogurt} {frozen fish, other vegetables,	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12

## ##	[165]	yogurt} {curd,	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##		herbs, root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[166]	{flour, other vegetables,							
##	[167]	<pre>sugar} {meat,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[160]	<pre>root vegetables, yogurt} {butter milk,</pre>	=>	{other vegetables}	0.0012	0.86	0.0014	4.4	12
## ##	[100]	pip fruit, root vegetables}	=>	{other vegetables}	0.0012	0.86	0.0014	4.4	12
##	[169]	{pip fruit, sausage,		(00000000000000000000000000000000000000	******		010011		
## ##	[170]	<pre>sliced cheese} {fruit/vegetable juice,</pre>	=>	{yogurt}	0.0012	0.86	0.0014	6.1	12
##	53	oil, tropical fruit}	=>	{other vegetables}	0.0012	0.86	0.0014	4.4	12
## ## ##	[171]	{butter, onions, transical fruit}	-\	{whole milk}	0.0012	0.86	0.0014	2 4	12
## ##	[172]	<pre>tropical fruit} {bottled water, butter,</pre>	-/	fwhore mirk	0.0012	0.86	0.0014	3.4	12
## ##	[173]	hygiene articles} {citrus fruit,	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##		hygiene articles, root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[174]	{hygiene articles, root vegetables,							
## ##	[175]	yogurt} {root vegetables,	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[176]	<pre>salty snack, yogurt} {long life bakery product,</pre>	=>	{other vegetables}	0.0012	0.86	0.0014	4.4	12
## ##	[170]	napkins, other vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[177]	{cream cheese, domestic eggs,							
## ##	[178]	<pre>whipped/sour cream} {chicken,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[170]	<pre>domestic eggs, sausage}</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[179]	<pre>{butter, domestic eggs, pip fruit}</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ##	[180]	{bottled water, butter,	•	()			3.0011		
## ##	[181]	<pre>whipped/sour cream} {domestic eggs,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[182]	<pre>pastry, whipped/sour cream} {domestic eggs,</pre>	=>	{other vegetables}	0.0012	0.86	0.0014	4.4	12
##		pastry,							

## ## ##	[183]	<pre>root vegetables} {long life bakery product, other vegetables,</pre>	=>	{other	vegetables}	0.0012	0.86	0.0014	4.4	12
## ## ## ##	[184]	whipped/sour cream, yogurt} {frozen vegetables, fruit/vegetable juice,	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[185]	<pre>other vegetables, root vegetables} {butter,</pre>	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ##		curd, tropical fruit,								
## ##	[186]	<pre>whole milk} {curd,</pre>	=>	{yogurt	:}	0.0012	0.86	0.0014	6.1	12
## ##		domestic eggs, other vegetables,		_	_					
## ##	[187]	root vegetables} {citrus fruit,	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ## ##		<pre>curd, other vegetables, yogurt}</pre>	=>	{whole	milkl	0.0012	0.86	0.0014	3 4	12
## ##	[188]	{brown bread, pip fruit,		(WIIOTG		0.0012	3.00	0.0014	J. 1	12
## ##		root vegetables, whole milk}	=>	{other	vegetables}	0.0012	0.86	0.0014	4.4	12
## ##	[189]	{brown bread, citrus fruit,								
## ## ##	[190]	<pre>other vegetables, root vegetables} {citrus fruit,</pre>	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ##	[130]	domestic eggs, other vegetables,								
## ##	[191]	whipped/sour cream} {domestic eggs,	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ##		other vegetables, pip fruit,		( ) ]		0.0040	0.00	0.0044	0.4	40
## ## ##	[192]	<pre>root vegetables} {citrus fruit, domestic eggs,</pre>	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
##		root vegetables, whole milk}	=>	{other	vegetables}	0.0012	0.86	0.0014	4.4	12
## ##	[193]	<pre>{pip fruit,   root vegetables,</pre>								
## ##	[104]	soda, yogurt}	=>	{whole	milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[194]	<pre>{margarine,   meat} foil.</pre>	=>	{other	vegetables}	0.0017	0.85	0.0020	4.4	17
## ##	[200]	root vegetables, tropical fruit}	=>	{other	vegetables}	0.0017	0.85	0.0020	4.4	17
## ##	[196]	<pre>{butter, onions,</pre>			_					
## ##	[197]	<pre>root vegetables} {cream cheese,</pre>	=>	{whole	milk}	0.0017	0.85	0.0020	3.3	17

##		curd,		C-+1		0.0017	0.05	0.0000	4 4	17
## ##	[100]	<pre>root vegetables} {tropical fruit,</pre>	=>	lotner	vegetables}	0.0017	0.85	0.0020	4.4	17
##	[190]	whipped/sour cream,								
##		white bread}	=>	{other	vegetables}	0.0017	0.85	0.0020	4.4	17
##	[199]	{other vegetables,		101100	vegetables	0.0017	0.00	0.0020	1.1	Τ,
##	[100]	pip fruit,								
##		root vegetables,								
##		whipped/sour cream}	=>	{whole	milk}	0.0017	0.85	0.0020	3.3	17
##	[200]	{domestic eggs,			,					
##		rice}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[201]	{frozen fish,								
##		pip fruit,								
##		whole milk}	=>	$\{ {\tt other}$	vegetables}	0.0011	0.85	0.0013	4.4	11
##	[202]	{herbs,								
##		root vegetables,								
##		shopping bags}	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
##	[203]	{baking powder,								
##		tropical fruit,								
##	F0047	yogurt}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[204]	{citrus fruit,								
## ##		fruit/vegetable juice,	-\	1+ronic	ol fmitt	0.0011	0.85	0.0013	0 1	11
##	[205]	<pre>grapes} {curd,</pre>	-/	friobic	cal fruit}	0.0011	0.65	0.0013	0.1	11
##	[200]	frozen meals,								
##		yogurt}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[206]	{frozen meals,		<b>C</b> ======	,					
##		root vegetables,								
##		tropical fruit}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[207]	{butter milk,								
##		sausage,								
##		yogurt}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[208]	{citrus fruit,								
##		fruit/vegetable juice,								
##	[000]	oil}	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
##	[209]	{curd,								
##		onions,	_\	[ho]o	m : 7 1-1	0 0011	0 OE	0 0012	2 2	11
##	[210]	yogurt} {butter,	-/	{whole	MITKL	0.0011	0.85	0.0013	3.3	11
##	[210]	domestic eggs,								
##		onions}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[211]	{pip fruit,		(		0.0011	*****	0.0020		
##		salty snack,								
##		yogurt}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[212]	{beef,								
##		root vegetables,								
##		sugar}	=>	$\{ {\tt other}$	vegetables}	0.0011	0.85	0.0013	4.4	11
##	[213]	{citrus fruit,								
##		sugar,								
##	F0 4 : 7	whipped/sour cream}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
##	[214]	<pre>{long life bakery product,</pre>								
## ##		<pre>root vegetables, tropical fruit}</pre>		10+ha~	vegetables}	0 0011	0 OF	0 0012	1 1	11
	[215]	{butter,	-/	torner	veRerantes}	0.0011	0.85	0.0013	4.4	11
##	[210]	(Dutter,								

## ## ##	[216]	<pre>cream cheese, whipped/sour cream} {cream cheese,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[217]	<pre>domestic eggs, pip fruit} {butter,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[218]	<pre>tropical fruit, white bread} {butter,</pre>	=> {yogurt}	0.0011	0.85	0.0013	6.1	11
## ## ##	[219]	<pre>tropical fruit, white bread} {citrus fruit,</pre>	=> {other vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ##	[220]		=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[221]		=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[222]		=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[223]	<pre>pork, rolls/buns} {butter,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[224]	<pre>other vegetables, pork} {pip fruit,</pre>	=> {whole milk}	0.0022	0.85	0.0026	3.3	22
## ## ##	[225]	<pre>pork, soda} {butter,</pre>	=> {other vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ##	[226]	<pre>margarine, tropical fruit} {pastry,</pre>	=> {yogurt}	0.0011	0.85	0.0013	6.1	11
## ## ##	[227]	<pre>root vegetables, shopping bags} {cream cheese,</pre>	=> {other vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ##	[000]	curd, whipped/sour cream, yogurt}	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[228]	{cream cheese, curd, whipped/sour cream,	-> [m.mb]	0.0011	0.05	0.0012	C 1	11
## ## ## ##	[229]	whole milk} {citrus fruit, cream cheese,	=> {yogurt}	0.0011	0.85	0.0013	0.1	11
## ##	[230]	<pre>domestic eggs, other vegetables} {citrus fruit, croam choose</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ## ##	[231]	<pre>cream cheese, other vegetables, whipped/sour cream} {root vegetables, whipped/sour cream, white bread,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11

## ## ##	[232]	<pre>whole milk} {beef, tropical fruit,</pre>	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[233]	whipped/sour cream, whole milk} {citrus fruit, curd,	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ##	[234]	root vegetables, whole milk} {brown bread,	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[235]	<pre>pip fruit, tropical fruit, yogurt} {brown bread,</pre>	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	F7	other vegetables, soda, yogurt}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[236]	<pre>{margarine,   rolls/buns,   root vegetables,   yogurt}</pre>	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[237]	<pre>{margarine,   other vegetables,   rolls/buns,</pre>								
## ## ## ##	[238]	<pre>root vegetables} {butter, domestic eggs, tropical fruit,</pre>	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[239]	yogurt} {butter, root vegetables,	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[240]	tropical fruit, whipped/sour cream} {butter,	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ##	[241]	<pre>root vegetables, whipped/sour cream, yogurt} {newspapers,</pre>	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[040]	<pre>soda, tropical fruit, whole milk}</pre>	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[242]	<pre>{fruit/vegetable juice, root vegetables, tropical fruit, yogurt}</pre>	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ##	[243]	<pre>{citrus fruit,   rolls/buns,   root vegetables,</pre>								
## ## ## ##	[244]	<pre>tropical fruit} {beef,   other vegetables,   rolls/buns,</pre>	=>	{other	vegetables}	0.0011	0.85	0.0013	4.4	11
## ##		root vegetables, tropical fruit}	=>	{whole	milk}	0.0011	0.85	0.0013	3.3	11

## ## ##	[245]	<pre>{butter,   other vegetables,   root vegetables,</pre>						
## ## ##	[246]	<pre>tropical fruit, yogurt} {rolls/buns,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[247]	<pre>root vegetables, waffles} {citrus fruit,</pre>	=> {whole milk}	0.0016	0.84	0.0019	3.3	16
## ##		<pre>frozen vegetables, fruit/vegetable juice}</pre>	=> {whole milk}	0.0016	0.84	0.0019	3.3	16
## ## ##		<pre>{butter, domestic eggs, whipped/sour cream}</pre>	=> {whole milk}	0.0016	0.84	0.0019	3.3	16
## ## ##	[249]	<pre>{citrus fruit, newspapers, root vegetables}</pre>	=> {other vegetables}	} 0.0016	0.84	0.0019	4.4	16
## ## ##		<pre>{butter,   jam} {butter,</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ##		<pre>rice} {other vegetables,</pre>	=> {whole milk}	0.0015	0.83	0.0018	3.3	15
## ## ##	[253]	<pre>rice, tropical fruit} {rice,</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[254]	<pre>whole milk, yogurt} {frozen fish,</pre>	=> {other vegetables}	0.0015	0.83	0.0018	4.3	15
## ## ##	[255]	<pre>pip fruit,   tropical fruit} {domestic eggs,</pre>	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
## ## ##		herbs, other vegetables} {fruit/vegetable juice,	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ##		herbs, other vegetables}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##		<pre>{citrus fruit, herbs, tropical fruit}</pre>	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
## ## ##	[258]	<pre>{herbs, tropical fruit, yogurt}</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[259]	<pre>{herbs,   rolls/buns,   root vegetables}</pre>	=> {whole milk}	0.0015	0.83	0.0018	3.3	15
## ## ##	[260]	<pre>{detergent,   other vegetables,   whipped/sour cream}</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[261]	{flour, rolls/buns, root vegetables}	=> {other vegetables}		0.83	0.0012		10
## ##	[262]	{domestic eggs, root vegetables,	-					
##		soft cheese}	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10

##	[263]	{domestic eggs,								
##		root vegetables,		( 1 7		0.0040	0.00	0 0040	0 0	4.0
##	F0 0 4 7	soft cheese}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[264]	{grapes,								
##		pork,								
##	<b>5 - 7</b>	whole milk}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10
##	[265]	{meat,								
##		tropical fruit,								
##	F0 0 0 7	whole milk}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10
##	[266]	{candy,								
##		rolls/buns,							4.0	
##	F0.077	root vegetables}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10
##	[267]	<u> </u>								
##		ham,		C		0.0010	0.00	0 0010	4 0	4.0
##	[0.00]	whole milk}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10
##	[268]	{frankfurter,								
##		sliced cheese,		( 1 7		0.0040	0.00	0 0040	0 0	4.0
##	[000]	yogurt}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[269]	•								
##		root vegetables,	_\	[ho]o	m:11-1	0.0010	0.83	0.0012	2 2	10
##	[270]	<pre>shopping bags} {bottled water,</pre>	-/	{whole	III T K &	0.0010	0.03	0.0012	3.3	10
##	[270]	butter,								
##		onions}	-\	{whole	m i 1 lz l	0.0010	0.83	0.0012	2 2	10
##	[271]	{berries,		GILOIG	MILLE,	0.0010	0.00	0.0012	0.0	10
##	[211]	butter,								
##		whipped/sour cream}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[272]			<b>C-</b>						
##		root vegetables,								
##		whipped/sour cream}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[273]	{hygiene articles,								
##		margarine,								
##		rolls/buns}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[274]	{butter,								
##		citrus fruit,								
##		hygiene articles}	=>	$\{ {\tt whole}$	milk}	0.0010	0.83	0.0012	3.3	10
##	[275]	{hygiene articles,								
##		tropical fruit,								
##		whipped/sour cream}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[276]	{long life bakery product,								
##		other vegetables,			_					
##		salty snack}	=>	{whole	milk}	0.0010	0.83	0.0012	3.3	10
##	[277]	{butter,								
##		sugar,							4.0	
##	F0207	whipped/sour cream}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10
##	[2/8]	{butter,								
##		sugar,		( 1 7		0.0040	0.00	0 0040	0 0	4.0
##	[070]	whipped/sour cream}	=>	{whole	mirk}	0.0010	0.83	0.0012	3.3	10
## ##	[2/9]	{long life bakery product,								
##		<pre>sausage, whipped/sour cream}</pre>	=>	{whole	milkl	0.0010	0.83	0.0012	3 3	10
##	[000]	{dessert,	-/	CMITOTE		0.0010	0.00	0.0012	0.0	10
11 11	12801									
##	[280]									
## ##	[280]	sausage, whipped/sour cream}	=>	{other	vegetables}	0.0010	0.83	0.0012	4.3	10

## ##	[281]	{cream cheese, pork,							
##		yogurt}	=>	{whole milk}	0.0010	0.83	0.0012	3 3	10
##	[282]	{cream cheese,		(WHOLE MILK)	0.0010	0.00	0.0012	0.0	10
##	[	frankfurter,							
##		yogurt}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[283]	{cream cheese,							
##		margarine,							
##		whipped/sour cream}	=>	{yogurt}	0.0010	0.83	0.0012	6.0	10
##	[284]	{chicken,		-V 0 -					
##		pastry,							
##		root vegetables}	=>	{other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[285]	{butter,							
##		root vegetables,							
##		white bread}	=>	{other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[286]	{chocolate,							
##		domestic eggs,							
##	<b>5 7</b>	sausage}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[287]	{bottled beer,							
##		coffee,		<b></b>					
##	[000]	yogurt}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[288]	{beef,							
##		<pre>butter, curd}</pre>	_<	{whole milk}	0.0010	0.83	0.0012	2 2	10
## ##	โอยดา	{beef,	-/	(MHOIE HIIK)	0.0010	0.65	0.0012	3.3	10
##	[209]	butter,							
##		tropical fruit}	=>	{yogurt}	0.0010	0.83	0.0012	6.0	10
##	[290]	{butter,		() 08 41 0)	0.0010	0.00	0.0012	0.0	
##	[_00]	curd,							
##		domestic eggs}	=>	{other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[291]	{fruit/vegetable juice,		· G					
##		pork,							
##		tropical fruit}	=>	{yogurt}	0.0010	0.83	0.0012	6.0	10
##	[292]	{brown bread,							
##		domestic eggs,							
##		root vegetables}	=>	{whole milk}	0.0015	0.83	0.0018	3.3	15
##	[293]	{brown bread,							
##		sausage,		f	0.0040	0.00	0 0010	4 6	4.0
##	F0047	whipped/sour cream}	=>	{other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[294]	{bottled water,							
## ##		<pre>margarine, whipped/sour cream}</pre>	-\	{whole milk}	0.0010	0.83	0.0012	2 2	10
##	[205]	{herbs,	-/	fanore mirkl	0.0010	0.03	0.0012	3.3	10
##	[290]	other vegetables,							
##		rolls/buns,							
##		root vegetables}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[296]	_							
##	_	root vegetables,							
##		whipped/sour cream,							
##		whole milk}	=>	{other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[297]	{butter milk,							
##		other vegetables,							
##		root vegetables,							
##		yogurt}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10

## ##	[298]	{ham, other vegetables,						
##		pip fruit,						
##		yogurt}	=> {tropical fruit}	0.0010	0.83	0.0012	7.9	10
##	[299]	{root vegetables,	(cloploal llale)	0.0010	0.00	******		
##		sliced cheese,						
##		tropical fruit,						
##		yogurt}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
##	[300]	{onions,						
##		root vegetables,						
##		tropical fruit,						
##		whole milk}	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[301]	{butter,						
##		white bread,						
##		whole milk,						
##		yogurt}	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[302]	{pip fruit,						
##		root vegetables,						
##		white bread,	. ( ) 7 ( ) 1	0.0040	0.00	0 0040	0.0	4.0
##	[2007	yogurt}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
##	[303]	{citrus fruit,						
##		<pre>frozen vegetables, fruit/vegetable juice,</pre>						
##		other vegetables}	=> {whole milk}	0.0010	0.83	0.0012	2 2	10
##	[304]	{bottled water,	-> fmiore mirk	0.0010	0.65	0.0012	3.3	10
##	[204]	frozen vegetables,						
##		other vegetables,						
##		root vegetables}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
##	[305]	{bottled water,	Ç					
##		frozen vegetables,						
##		root vegetables,						
##		whole milk}	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[306]	{beef,						
##		citrus fruit,						
##		root vegetables,						
##		tropical fruit}	=> {other vegetables}	0.0010	0.83	0.0012	4.3	10
##	[307]	{beef,						
##		citrus fruit,						
##		other vegetables,	-> (++-1-11	0.0010	0.00	0 0010	7.0	10
##	[one]	tropical fruit}	=> {root vegetables}	0.0010	0.83	0.0012	7.6	10
## ##	[300]	{butter, curd,						
##		other vegetables,						
##		tropical fruit}	=> {yogurt}	0.0010	0.83	0.0012	6.0	10
##	[309]	{curd,		0.0010	0.00	******		
##		other vegetables,						
##		pip fruit,						
##		whipped/sour cream}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
##	[310]	{frankfurter,						
##		other vegetables,						
##		pip fruit,						
##		root vegetables}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
##	[311]	{frankfurter,						
##		pip fruit,						

## ## ## ##	[312]	<pre>root vegetables, whole milk} {margarine, root vegetables,</pre>	=> {	other vegetables}	0.0010	0.83	0.0012	4.3	10
## ## ## ##	[313]	<pre>tropical fruit, whole milk} {citrus fruit, newspapers</pre>	=> {	[yogurt]	0.0010	0.83	0.0012	6.0	10
## ## ##	[314]	<pre>newspapers, root vegetables, whole milk} {domestic eggs,</pre>	=> {	other vegetables}	0.0010	0.83	0.0012	4.3	10
## ## ## ##	[315]	<pre>root vegetables, tropical fruit, yogurt} {fruit/vegetable juice,</pre>	=> {	[whole milk]	0.0015	0.83	0.0018	3.3	15
## ## ## ##	[316]	<pre>other vegetables, root vegetables, yogurt} {butter,</pre>	=> {	whole milk}	0.0020	0.83	0.0024	3.3	20
## ## ##	[010]	<pre>domestic eggs, tropical fruit, whole milk,</pre>			0.0040	0.00	0.0010	1.0	1.0
## ## ## ##	[317]	yogurt} {citrus fruit, other vegetables, root vegetables,	=> {	other vegetables}	0.0010	0.83	0.0012	4.3	10
## ## ##	[318]	<pre>whipped/sour cream, yogurt} {rice,</pre>	=> {	whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ## ##		yogurt} {herbs, shopping bags} {grapes,		Other vegetables	0.0019	0.83	0.0023	4.3	19 19
## ## ##		tropical fruit, yogurt} {hard cheese,	=> {	Other vegetables	0.0014	0.82	0.0017	4.3	14
## ## ##	[322]	<pre>tropical fruit, yogurt} {citrus fruit,</pre>	=> {	whole milk}	0.0014	0.82	0.0017	3.2	14
## ## ## ##	[323]	<pre>onions, root vegetables} {butter, hygiene articles,</pre>	=> {	other vegetables}	0.0014	0.82	0.0017	4.3	14
## ## ## ##	[324]	<pre>root vegetables} {curd, domestic eggs, ather vegetables}</pre>		whole milk}	0.0014	0.82	0.0017		14
## ## ##	[325]	<pre>other vegetables} {butter, napkins, whipped/sour cream}</pre>		<pre>whole milk} whole milk}</pre>	0.0028	0.82	0.0033		28 14
## ## ##		<pre>{butter, pork, yogurt} {domestic eggs,</pre>	=> {	whole milk}	0.0014	0.82	0.0017	3.2	14
		<b>55</b> ,							

## ## ##	[รวร]	<pre>pip fruit, sausage} {beef,</pre>	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
##	[320]	rolls/buns,							
##		root vegetables,							
##		tropical fruit}	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
##	[329]	{frankfurter,							
##		other vegetables,							
##		tropical fruit,							
##	<b>5</b> 7	yogurt}	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
##	[330]	{citrus fruit,							
##		fruit/vegetable juice,							
##		whole milk, yogurt}	=>	{other vegetables}	0.0014	0.82	0.0017	<b>43</b>	14
##	[331]	{citrus fruit,	_/	(other vegetables)	0.0014	0.02	0.0017	4.0	17
##	[001]	other vegetables,							
##		root vegetables,							
##		tropical fruit,							
##		yogurt}	=>	<pre>{whole milk}</pre>	0.0014	0.82	0.0017	3.2	14
##	[332]	{herbs,							
##	<b>5 3</b>	tropical fruit}	=>	{whole milk}	0.0023	0.82	0.0028	3.2	23
##	[333]	{citrus fruit,							
##		other vegetables,							
##		root vegetables,	->	{whole milk}	0.0023	0.82	0.0028	3.2	23
##	[334]	yogurt} {other vegetables,	-/	(MIIOIG MIIK)	0.0023	0.62	0.0028	3.2	23
##	[004]	rice,							
##		root vegetables}	=>	{whole milk}	0.0018	0.82	0.0022	3.2	18
##	[335]	{curd,							
##		pip fruit,							
##		whipped/sour cream}	=>	<pre>{whole milk}</pre>	0.0018	0.82	0.0022	3.2	18
##	[336]	{rolls/buns,							
##		root vegetables,							
##		tropical fruit,	_<	(rehala mille)	0 0000	0 01	0 0007	3.2	22
##	[337]	<pre>yogurt} {house keeping products,</pre>	-/	{whole milk}	0.0022	0.81	0.0027	3.2	22
##	[001]	napkins}	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
##	[338]	{butter milk,		Ç,					
##		onions}	=>	{other vegetables}	0.0013	0.81	0.0016	4.2	13
##	[339]	{other vegetables,							
##		specialty cheese,							
##	<b>5 5</b>	yogurt}	=>	<pre>{whole milk}</pre>	0.0013	0.81	0.0016	3.2	13
##	[340]	{citrus fruit,							
## ##		herbs,	_<	{other vegetables}	0.0013	0.81	0.0016	4.0	13
##	[341]	<pre>root vegetables} {citrus fruit,</pre>	-/	former Aedergores!	0.0013	0.01	0.0010	4.2	13
##	[041]	herbs,							
##		root vegetables}	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
##	[342]	{herbs,		-					
##		other vegetables,							
##	_	tropical fruit}	=>	<pre>{whole milk}</pre>	0.0013	0.81	0.0016	3.2	13
##	[343]	{semi-finished bread,							
##		tropical fruit,		(a+h-m 13 3	0.0012	0.01	0 0010	4.0	4.0
##		yogurt}	=>	{other vegetables}	0.0013	0.81	0.0016	4.2	13

## ##	[344]	{butter, hard cheese,								
##		yogurt}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[345]	{hard cheese,								
##		root vegetables,								
##		whipped/sour cream}	=>	{other vegetables	} 0	.0013	0.81	0.0016	4.2	13
##	[346]	{butter milk,								
##		dessert,		6	_					
##	[047]	yogurt}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[347]	{butter,								
##		onions,		(11	^	0012	0.01	0 0016	2.0	10
##	Lovel	yogurt}	=>	{whole milk}	U	.0013	0.81	0.0016	3.2	13
##	[348]	{hygiene articles,								
##		<pre>pip fruit, sausage}</pre>	->	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[3/10]	{salty snack,	-/	(MHOIG HIIK)	U	.0013	0.01	0.0010	3.2	13
##	[040]	tropical fruit,								
##		yogurt}	=>	{other vegetables	.} O	.0013	0.81	0.0016	4.2	13
##	[350]	{bottled water,	•	(00001 000000100	, 0	.0010	0.01	0.0010		10
##	[000]	other vegetables,								
##		sugar}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[351]	{cream cheese,								
##		domestic eggs,								
##		yogurt}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[352]	{citrus fruit,								
##		cream cheese,								
##		whipped/sour cream}	=>	{other vegetables	} 0	.0013	0.81	0.0016	4.2	13
##	[353]	{root vegetables,								
##		whipped/sour cream,								
##	<b>5 3</b>	white bread}	=>	<pre>{whole milk}</pre>	0	.0013	0.81	0.0016	3.2	13
##	[354]	{frozen vegetables,								
##		napkins,		(1, 7, 1, 1)	^	0040	0.04	0 0046	0.0	4.0
##	[מבב]	other vegetables}	=>	{whole milk}	U	.0013	0.81	0.0016	3.2	13
##	[333]	{beef, tropical fruit,								
##		whipped/sour cream}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
	[356]	{curd,		(WHOIC MIIN)	Ū	.0010	0.01	0.0010	0.2	10
##	[000]	margarine,								
##		rolls/buns}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[357]									
##		napkins,								
##		tropical fruit}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[358]	{brown bread,								
##		pip fruit,								
##		root vegetables}	=>	{other vegetables	} 0	.0013	0.81	0.0016	4.2	13
##	[359]	{bottled water,								
##		butter,		6	_					
##	[000]	pip fruit}	=>	{whole milk}	0	.0013	0.81	0.0016	3.2	13
##	[360]									
##		pastry,	_~	\rtholo == 11-1	^	0012	0 01	0.0016	2 0	19
## ##	[361]	<pre>tropical fruit} {bottled water,</pre>	=>	{whole milk}	U	.0013	0.81	0.0016	3.2	13
##	[201]	sausage,								
##		whipped/sour cream}	=>	{other vegetables	} ^	.0013	0.81	0.0016	4.2	13
ππ		wirthboat pour cream?	.,	Cource AeReconter	٠, ٠	.0010	0.01	0.0010	I. 4	10

## ## ##	[362]	<pre>{frozen vegetables,   other vegetables,   root vegetables,</pre>								
## ##	[363]		=>	{whole	milk}	0.0013	0.81	0.0016	3.2	13
##		fruit/vegetable juice,								
## ##		<pre>tropical fruit, whole milk}</pre>	=>	{other	vegetables}	0.0013	0.81	0.0016	4.2	13
##	[364]									
##		pip fruit,								
##		root vegetables,			2					
##	[26E]	soda}	=>	{whole	milk}	0.0013	0.81	0.0016	3.2	13
## ##	[305]	{cereals, yogurt}	=>	{whole	milkl	0.0017	0.81	0.0021	3.2	17
##	[366]	{bottled beer,	_/	OTOIN	mitk)	0.0017	0.01	0.0021	0.2	11
##	[000]	hamburger meat}	=>	{whole	milk}	0.0017	0.81	0.0021	3.2	17
##	[367]	{rolls/buns,								
##		waffles,								
##	<b>5 7</b>	whipped/sour cream}	=>	{whole	milk}	0.0017	0.81	0.0021	3.2	17
##	[368]	{long life bakery product,								
## ##		<pre>whipped/sour cream, yogurt}</pre>	->	{whole	millel	0.0017	0.81	0.0021	3 7	17
##	[369]	<pre>foutter,</pre>	-/	fwhore	III I I K J	0.0017	0.01	0.0021	3.2	11
##	[000]	pip fruit,								
##		root vegetables}	=>	{whole	milk}	0.0017	0.81	0.0021	3.2	17
##	[370]	{citrus fruit,								
##		root vegetables,								
##		tropical fruit,								
##	[074]	yogurt}	=>	{other	vegetables}	0.0017	0.81	0.0021	4.2	17
## ##	[3/1]	<pre>{curd, hamburger meat}</pre>	=>	{whole	milbl	0.0025	0.81	0.0032	3 2	25
##	[372]	{curd,	_/	OTOIN	mitk)	0.0025	0.01	0.0052	0.2	20
##	202	turkey}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[373]	{fruit/vegetable juice,			G					
##		herbs}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[374]									
##	[275]	rolls/buns}	=>	{whole	milk}	0.0024	0.80	0.0031	3.1	24
##	[3/5]	<pre>{onions, waffles}</pre>	=>	{other	vegetables}	0 0012	0.80	0.0015	/l 1	12
##	[376]	{root vegetables,	_/	Tenton	vegecables	0.0012	0.00	0.0015	4.1	12
##	[0,0]	tropical fruit,								
##		turkey}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[377]	{root vegetables,								
##		turkey,								
##	[070]	whole milk}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
## ##	[378]	<pre>{butter, soft cheese,</pre>								
##		yogurt}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[379]			(		010012	0.00	0.0020	0.1	
##	_	root vegetables,								
##		tropical fruit}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[380]	{grapes,								
##		tropical fruit,		( . ± 1-		0.0000	0.00	0 0005	1 1	00
##		whole milk}	=>	tother	vegetables}	0.0020	0.80	0.0025	4.1	20

## ##	[381]	{frankfurter, frozen meals,							
## ## ##	[382]	<pre>other vegetables} {frozen meals, tropical fruit,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##	[383]	yogurt} {butter milk,	=>	{whole milk}	0.0016	0.80	0.0020	3.1	16
## ## ##	[384]	<pre>other vegetables, pastry} {napkins,</pre>	=>	{yogurt}	0.0012	0.80	0.0015	5.7	12
## ##		onions, whole milk}	=>	{other vegetables}	0.0012	0.80	0.0015	4.1	12
## ## ##	[385]	<pre>{curd, hamburger meat, other vegetables}</pre>	=>	{whole milk}	0.0016	0.80	0.0020	3.1	16
## ## ##	[386]	<pre>{butter, hamburger meat, whipped/sour cream}</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##	[387]	<pre>{hygiene articles, napkins,</pre>							
## ## ##	[388]	<pre>tropical fruit} {salty snack, tropical fruit,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##	[389]	<pre>whipped/sour cream} {butter,</pre>	=>	{other vegetables}	0.0012	0.80	0.0015	4.1	12
## ## ##	[390]	<pre>long life bakery product, whipped/sour cream} {butter,</pre>	=>	{other vegetables}	0.0012	0.80	0.0015	4.1	12
## ## ##	[391]	<pre>chicken, whipped/sour cream} {chocolate,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##		<pre>napkins, root vegetables}</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[392]	<pre>{butter, curd, pip fruit}</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[393]	<pre>{bottled beer, napkins, rolls/buns}</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3 1	12
## ##	[394]	{domestic eggs, margarine,							12
## ## ##	[395]	<pre>whipped/sour cream} {butter, citrus fruit,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##	[396]	tropical fruit} {fruit/vegetable juice,	=>	{whole milk}	0.0016	0.80	0.0020	3.1	16
## ## ##	[397]	<pre>pastry, whipped/sour cream} {pip fruit,</pre>	=>	{yogurt}	0.0012	0.80	0.0015	5.7	12
## ## ##	[398]	<pre>sausage, whipped/sour cream} {cream cheese,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##		<pre>tropical fruit, whole milk,</pre>							

## ##	[399]	yogurt} {chicken,	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##		domestic eggs, other vegetables,								
##		root vegetables}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[400]	{butter,								
##		curd,								
##		tropical fruit,	_<	(h - 7 -		0.0010	0.00	0 0015	2 1	10
##	[401]	yogurt} {butter,	=>	{whole	mirk}	0.0012	0.80	0.0015	3.1	12
##	[401]	tropical fruit,								
##		whipped/sour cream,								
##		yogurt}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[402]	{butter,			_					
##		tropical fruit,								
##		whipped/sour cream,		_						
##	[400]	yogurt}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[403]	{butter,								
##		other vegetables, rolls/buns,								
##		whipped/sour cream}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[404]			(wildid		0.0012	0.00	0.0010	0.1	
##		pip fruit,								
##		whipped/sour cream,								
##		whole milk}	=>	$\{ {\tt other}$	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[405]	{fruit/vegetable juice,								
##		root vegetables,								
##		whole milk,	_ 、	C-+1		0.0000	0.00	0 0005	1 1	00
##	[406]	<pre>yogurt} {pip fruit,</pre>	=>	lotner	vegetables}	0.0020	0.80	0.0025	4.1	20
##	[406]	tropical fruit,								
##		whipped/sour cream,								
##		whole milk}	=>	{other	vegetables}	0.0016	0.80	0.0020	4.1	16
##	[407]	{citrus fruit,			J					
##		other vegetables,								
##		sausage,		_						
##	[400]	whipped/sour cream}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[408]	{citrus fruit,								
##		<pre>sausage, whipped/sour cream,</pre>								
##		whole milk}	=>	{other	vegetables}	0.0012	0.80	0.0015	4.1	12
##	[409]			(001101		0.0012	0.00	0.0020		
##		tropical fruit,								
##		whipped/sour cream,								
##		yogurt}	=>	{whole	milk}	0.0012	0.80	0.0015	3.1	12
##	[410]									
##		root vegetables,								
## ##		<pre>tropical fruit, whipped/sour cream}</pre>	=>	{other	vegetables}	0.0012	0.80	0.0015	<b>Δ</b> 1	12
ππ		wurbher/ pour cream?	-/	COUNTEL	Aggenantesl	0.0012	0.00	0.0010	7.1	12

## removing redundant rules

inspect	(rules l	is	redundant.	(r11	les)])
THOPCCO	$(\pm u\pm cb)$	2	. I Caunaan	$\sigma \leftarrow \sigma$	

##	[1]	lhs {oil,	rhs	support	confidence	coverage	lift	count
## ## ## ## ##	[2]	other vegetables, root vegetables, tropical fruit, yogurt} {butter, soda,	=> {whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##	[3]	<pre>whipped/sour cream, whole milk} {oil,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ## ##	[4]	<pre>root vegetables, tropical fruit, whole milk, yogurt} {butter,</pre>	=> {other vegetables}	0.0010	0.91	0.0011	4.7	10
## ## ## ##		<pre>domestic eggs, other vegetables, tropical fruit, yogurt}</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[5]	<pre>{butter,   other vegetables,   pip fruit,   whipped/sour cream}</pre>	=> {whole milk}	0.0013	0.87	0.0015	3.4	13
## ## ## ##	[6] [7]	<pre>{citrus fruit,   cream cheese,   domestic eggs,   other vegetables} {root vegetables,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[8]	whipped/sour cream, white bread, whole milk} {beef,	=> {other vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[9]	<pre>tropical fruit, whipped/sour cream, whole milk} {beef,</pre>	=> {other vegetables}	0.0011	0.85	0.0013	4.4	11
## ## ## ##	[10]	<pre>other vegetables, rolls/buns, root vegetables, tropical fruit} {butter,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[11]	other vegetables, root vegetables, tropical fruit, yogurt} {herbs,	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##		other vegetables, rolls/buns, root vegetables}	=> {whole milk}	0.0010	0.83	0.0012	3.3	10

```
## [12] {butter milk,
##
         other vegetables,
##
         root vegetables,
                                 => {whole milk}
                                                         0.0010
                                                                       0.83
                                                                              0.0012 3.3
##
         yogurt}
                                                                                              10
##
   [13] {onions,
##
         root vegetables,
         tropical fruit,
##
                                 => {other vegetables} 0.0010
##
         whole milk}
                                                                       0.83
                                                                              0.0012 4.3
                                                                                              10
##
   [14] {citrus fruit,
##
         frozen vegetables,
##
         fruit/vegetable juice,
         other vegetables}
                                 => {whole milk}
                                                         0.0010
                                                                       0.83
                                                                              0.0012 3.3
                                                                                              10
##
##
   [15] {citrus fruit,
         newspapers,
##
##
         root vegetables,
##
         whole milk}
                                 => {other vegetables} 0.0010
                                                                       0.83
                                                                              0.0012 4.3
                                                                                              10
##
   [16] {butter,
         domestic eggs,
##
##
         tropical fruit,
##
         whole milk,
##
         yogurt}
                                 => {other vegetables} 0.0010
                                                                       0.83
                                                                              0.0012 4.3
                                                                                              10
  [17] {herbs,
##
##
         other vegetables,
         tropical fruit}
                                 => {whole milk}
                                                         0.0013
                                                                       0.81
                                                                              0.0016 3.2
##
                                                                                              13
##
  [18] {curd,
##
         hamburger meat,
##
         other vegetables}
                                 => {whole milk}
                                                         0.0016
                                                                       0.80
                                                                              0.0020 3.1
                                                                                              16
rules = rules[!is.redundant(rules)]
inspect(rules[1:5])
##
       lhs
                                rhs
                                              support confidence coverage lift count
##
   [1] {rice,
        sugar}
                             => {whole milk} 0.0012
                                                                    0.0012 3.9
                                                                                   12
##
##
   [2] {canned fish,
                             => {whole milk} 0.0011
                                                                    0.0011 3.9
##
        hygiene articles}
                                                                                   11
## [3] {butter,
##
        rice,
##
        root vegetables}
                             => {whole milk} 0.0010
                                                                    0.0010 3.9
                                                                                   10
   [4] {flour,
##
        root vegetables,
##
        whipped/sour cream} => {whole milk} 0.0017
                                                                    0.0017 3.9
                                                                                   17
  [5] {butter,
##
##
        domestic eggs,
                             => {whole milk} 0.0010
##
        soft cheese}
                                                                   0.0010 3.9
                                                                                   10
```

## Rules for "Whole milk" (Most bought product)

##
## Parameter specification:

```
confidence minval smax arem aval original Support maxtime support minlen
##
##
                          1 none FALSE
                                                   TRUE
                                                                   0.001
           0.8
                  0.1
##
    maxlen target ext
##
        10 rules TRUE
##
## Algorithmic control:
    filter tree heap memopt load sort verbose
       0.1 TRUE TRUE FALSE TRUE
##
                                           TRUE
##
## Absolute minimum support count: 9
##
## set item appearances ...[1 item(s)] done [0.00s].
## set transactions ...[169 item(s), 9835 transaction(s)] done [0.00s].
## sorting and recoding items ... [157 item(s)] done [0.00s].
## creating transaction tree ... done [0.00s].
## checking subsets of size 1 2 3 4 5 6 done [0.01s].
## writing ... [252 rule(s)] done [0.00s].
## creating S4 object ... done [0.00s].
options(digits = 2)
inspect(rules1)
##
         lhs
                                        rhs
                                                      support confidence coverage lift count
##
  [1]
         {cereals,
##
          curd}
                                     => {whole milk}
                                                       0.0010
                                                                     0.91
                                                                            0.0011 3.6
                                                                                            10
##
   [2]
         {cereals,
##
                                     => {whole milk}
                                                      0.0017
                                                                     0.81
                                                                            0.0021
                                                                                   3.2
          yogurt}
                                                                                            17
##
  [3]
         {butter,
          jam}
                                     => {whole milk}
                                                       0.0010
                                                                                   3.3
##
                                                                     0.83
                                                                            0.0012
                                                                                            10
##
  [4]
         {bottled beer,
##
                                     => {whole milk}
                                                       0.0011
                                                                     0.92
                                                                            0.0012 3.6
          soups}
                                                                                            11
##
   [5]
         {house keeping products,
                                     => {whole milk}
                                                                     0.81
##
          napkins}
                                                       0.0013
                                                                            0.0016
                                                                                    3.2
                                                                                            13
         {house keeping products,
   [6]
##
##
          whipped/sour cream}
                                     => {whole milk}
                                                       0.0012
                                                                     0.92
                                                                            0.0013
                                                                                    3.6
                                                                                            12
##
   [7]
         {pastry,
          sweet spreads}
                                     => {whole milk}
                                                       0.0010
                                                                     0.91
                                                                            0.0011
                                                                                    3.6
##
                                                                                            10
         {rice,
## [8]
##
                                     => {whole milk}
                                                      0.0012
                                                                     1.00
                                                                            0.0012 3.9
                                                                                            12
          sugar}
##
   [9]
         {butter,
##
          rice}
                                     => {whole milk}
                                                      0.0015
                                                                     0.83
                                                                            0.0018
                                                                                    3.3
                                                                                            15
## [10]
         {domestic eggs,
##
          rice}
                                     => {whole milk}
                                                       0.0011
                                                                     0.85
                                                                            0.0013
                                                                                    3.3
                                                                                            11
## [11]
         {bottled water,
##
          rice}
                                     => {whole milk}
                                                      0.0012
                                                                     0.92
                                                                            0.0013
                                                                                    3.6
                                                                                            12
## [12]
         {mustard,
##
          oil}
                                     => {whole milk}
                                                       0.0012
                                                                     0.86
                                                                            0.0014
                                                                                    3.4
                                                                                            12
         {canned fish,
##
   [13]
##
          hygiene articles}
                                     => {whole milk}
                                                       0.0011
                                                                     1.00
                                                                            0.0011
                                                                                    3.9
                                                                                            11
##
  [14]
         {herbs,
          tropical fruit}
                                     => {whole milk}
                                                       0.0023
                                                                     0.82
                                                                            0.0028
                                                                                    3.2
                                                                                            23
##
         {herbs,
## [15]
          rolls/buns}
                                     => {whole milk}
##
                                                       0.0024
                                                                     0.80
                                                                            0.0031
                                                                                            24
## [16]
         {chocolate,
##
          pickled vegetables}
                                     => {whole milk} 0.0012
                                                                     0.86
                                                                            0.0014
                                                                                            12
```

##	[17]	{curd,							
##		hamburger meat}	=>	<pre>{whole milk}</pre>	0.0025	0.81	0.0032	3.2	25
##	[18]	{bottled beer,							
##		hamburger meat}	=>	{whole milk}	0.0017	0.81	0.0021	3.2	17
##	[19]	{other vegetables,							
##		specialty cheese,							
##		yogurt}	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
##	[20]	{butter,							
##		rice,		(	0.0010	1 00	0 0010	2.0	10
##	[04]	root vegetables}	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[21]	{other vegetables,							
##		rice,		{whole milk}	0.0010	0.83	0.0012	2 2	10
##	[22]	<pre>tropical fruit} {rice,</pre>	-/	(whore mirk)	0.0010	0.03	0.0012	3.3	10
##		root vegetables,							
##		yogurt}	=>	{whole milk}	0.0014	0.88	0.0016	3 4	14
##	[23]	{other vegetables,		(WHOIC MIII)	0.0011	0.00	0.0010	0.1	
##		rice,							
##		root vegetables}	=>	{whole milk}	0.0018	0.82	0.0022	3.2	18
##	[24]	{frozen fish,							
##		root vegetables,							
##		yogurt}	=>	<pre>{whole milk}</pre>	0.0012	0.86	0.0014	3.4	12
##	[25]	{frozen fish,							
##		other vegetables,							
##		yogurt}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
##	[26]	{curd,							
##		herbs,							4.0
##	[07]	root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
##	[27]	{domestic eggs,							
##		herbs,		{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[28]	<pre>other vegetables} {fruit/vegetable juice,</pre>	-/	(whore mirk)	0.0010	0.65	0.0012	3.3	10
##	[20]	herbs,							
##		other vegetables}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[29]	{citrus fruit,		(WIIOTO INTILITY	0.0010	0.00	0.0012	0.0	
##		herbs,							
##		tropical fruit}	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
##	[30]	{citrus fruit,							
##		herbs,							
##		root vegetables}	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
##	[31]	{herbs,							
##		root vegetables,							
##	57	tropical fruit}	=>	{whole milk}	0.0015	0.88	0.0017	3.5	15
##	[32]	{herbs,							
##		tropical fruit,		(	0.0010	0.00	0 0010	0 0	10
## ##	[33]	<pre>yogurt} {herbs,</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[33]	other vegetables,							
##		tropical fruit}	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
##	[34]	{herbs,		(wifore mirk)	0.0010	0.01	0.0010	0.2	10
##	-~ -J	rolls/buns,							
##		root vegetables}	=>	{whole milk}	0.0015	0.83	0.0018	3.3	15
##	[35]	{detergent,							
##		other vegetables,							

## ## ##	[36]	<pre>whipped/sour cream} {baking powder, tropical fruit,</pre>	=> {who	le milk}	0.0010	0.83	0.0012	3.3	10
## ##	[37]	yogurt} {flour,	=> {who	le milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[38]	<pre>other vegetables, sugar} {flour,</pre>	=> {who	le milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[39]	<pre>root vegetables, whipped/sour cream} {butter,</pre>	=> {who	le milk}	0.0017	1.00	0.0017	3.9	17
## ## ##	[40]	<pre>domestic eggs, soft cheese} {butter,</pre>	=> {who	le milk}	0.0010	1.00	0.0010	3.9	10
## ##		soft cheese, yogurt}	=> {who	le milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[41]	<pre>{domestic eggs,   root vegetables,   soft cheese}</pre>	=> {who	le milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[42]	<pre>{root vegetables, soft cheese, whipped/sour cream}</pre>	=> {who	le milk}	0.0012	0.92	0.0013	3.6	12
## ##	[43]	<pre>{curd, frozen meals,</pre>							4.4
## ## ##	[44]	yogurt} {frankfurter, frozen meals,		le milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[45]	<pre>tropical fruit} {frankfurter, frozen meals,</pre>	=> {who	le milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[46]	<pre>other vegetables} {butter,</pre>	=> {who	le milk}	0.0012	0.80	0.0015	3.1	12
## ##	[47]	<pre>frozen meals, tropical fruit} {frozen meals,</pre>	=> {who	le milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[48]	<pre>root vegetables, tropical fruit} {frozen meals,</pre>	=> {who	le milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[49]	<pre>tropical fruit, yogurt} {butter,</pre>	=> {who	le milk}	0.0016	0.80	0.0020	3.1	16
## ## ##	[50]	hard cheese, yogurt} {hard cheese,	=> {who	le milk}	0.0013	0.81	0.0016	3.2	13
## ##		<pre>tropical fruit, yogurt}</pre>	=> {who	le milk}	0.0014	0.82	0.0017	3.2	14
## ## ##	[51]	<pre>{butter milk,   dessert,   yogurt}</pre>	=> {who	le milk}	0.0013	0.81	0.0016	3.2	13
## ## ##	[52]	{butter milk, sausage, yogurt}		le milk}		0.85	0.0013		11
## ## ##	[53]	<pre>fourt; {butter milk,   root vegetables,</pre>	-/ \wiio.	TE MITK	0.0011	0.00	0.0013	0.0	11

## ##	[54]	yogurt} {frankfurter,	=> {whole milk}	0.0015	0.88	0.0017	3.5	15
## ## ##	[55]	<pre>root vegetables, sliced cheese} {frankfurter,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ##		<pre>sliced cheese, yogurt}</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[56]	<pre>{butter,   sliced cheese,   whipped/sour cream}</pre>	=> {whole milk}	0.0012	0.92	0.0013	3.6	12
## ##	[57]	<pre>{oil, root vegetables,</pre>						
## ## ##	[58]	<pre>shopping bags} {curd, onions,</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ##	[59]	<pre>yogurt} {butter,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[60]	<pre>domestic eggs, onions} {bottled water,</pre>	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ##	[04]	<pre>butter, onions}</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[61]	<pre>{butter, onions, tropical fruit}</pre>	=> {whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[62]	<pre>{butter, onions, root vegetables}</pre>	=> {whole milk}	0.0017	0.85	0.0020	3.3	17
## ##	[63]	{butter, onions,	-> (whole milk)	0.0017	0.03	0.0020	3.3	11
## ## ##	[64]	<pre>yogurt} {berries, butter,</pre>	=> {whole milk}	0.0013	0.81	0.0016	3.2	13
## ##	[65]	<pre>whipped/sour cream} {berries,</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[66]	<pre>butter, sausage} {curd,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[67]	<pre>hamburger meat, other vegetables} {butter,</pre>	=> {whole milk}	0.0016	0.80	0.0020	3.1	16
## ##		hamburger meat, whipped/sour cream}	=> {whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[68]	<pre>{hamburger meat, root vegetables, whipped/sour cream}</pre>	=> {whole milk}	0.0010	0.83	0.0012	3.3	10
## ##	[69]	{butter, hygiene articles,						
## ## ##	[70]	<pre>napkins} {hygiene articles, napkins,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[71]	<pre>tropical fruit} {hygiene articles, margarine,</pre>	=> {whole milk}	0.0012	0.80	0.0015	3.1	12

## ##	[72]	rolls/buns} {butter,	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##		hygiene articles,							
##	[70]	pip fruit}	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
## ##	[73]	{butter, citrus fruit,							
##		hygiene articles}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[74]	{bottled water,		(**11010 111111)	0.0010	0.00	0.0012	0.0	
##		butter,							
##		hygiene articles}	=>	<pre>{whole milk}</pre>	0.0012	0.86	0.0014	3.4	12
	[75]	{butter,							
##		hygiene articles,							
##	[70]	tropical fruit}	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ##	[76]	{butter,							
##		<pre>hygiene articles, root vegetables}</pre>	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
##	[77]	{domestic eggs,		(WHOIC MILK)	0.0014	0.02	0.0017	0.2	1-1
##	22	hygiene articles,							
##		tropical fruit}	=>	<pre>{whole milk}</pre>	0.0012	0.92	0.0013	3.6	12
##	[78]	{hygiene articles,							
##		tropical fruit,							
##	[20]	whipped/sour cream}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[79]	{hygiene articles,							
## ##		<pre>root vegetables, whipped/sour cream}</pre>	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[80]	{hygiene articles,		(WHOIC MILK)	0.0010	1.00	0.0010	0.5	10
##		pip fruit,							
##		sausage}	=>	<pre>{whole milk}</pre>	0.0013	0.81	0.0016	3.2	13
##	[81]	{hygiene articles,							
##		pip fruit,		<b>.</b>					
##	[00]	root vegetables}	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
## ##	[82]	<pre>{citrus fruit, hygiene articles,</pre>							
##		root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
##	[83]	{hygiene articles,		(	0.0012	0.00	0.0021	0.1	
##		root vegetables,							
##		yogurt}	=>	<pre>{whole milk}</pre>	0.0012	0.86	0.0014	3.4	12
	[84]	{long life bakery product,							
##		other vegetables,		(h - ]: 11-1	0.0010	0.00	0 0010	2 2	10
##	[85]	<pre>salty snack} {pip fruit,</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
##	[00]	salty snack,							
##		yogurt}	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
##	[86]	{cream cheese,							
##		domestic eggs,							
##	Fa-7	sugar}	=>	{whole milk}	0.0011	1.00	0.0011	3.9	11
##	[87]	{cream cheese,							
## ##		other vegetables, sugar}	->	{whole milk}	0.0015	0.94	0.0016	3.7	15
##	[88]	{curd,	-/	(MITOTE HITTE)	0.0013	0.34	0.0010	J.1	10
##	[]	domestic eggs,							
##		sugar}	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
##	[89]	{butter,							
##		sugar,							

## ## ##	[90]	<pre>whipped/sour cream} {citrus fruit, domestic eggs,</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ##	[91]	<pre>sugar} {domestic eggs,</pre>	=>	{whole milk}	0.0014	0.93	0.0015	3.7	14
## ## ##	[92]	<pre>sugar, tropical fruit} {domestic eggs,</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[93]	<pre>sugar, yogurt} {citrus fruit,</pre>	=>	{whole milk}	0.0014	0.93	0.0015	3.7	14
## ##		<pre>sugar, whipped/sour cream}</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[94]	<pre>{root vegetables,   sugar,   whipped/sour cream}</pre>	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[95]	<pre>{bottled water,   other vegetables,   sugar}</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ##	[96]	<pre>{pork,  rolls/buns,</pre>							
## ## ##	[97]	<pre>waffles} {rolls/buns, waffles,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[98]	<pre>whipped/sour cream} {rolls/buns, root vegetables,</pre>	=>	{whole milk}	0.0017	0.81	0.0021	3.2	17
## ## ##	[99]	<pre>waffles} {long life bakery product, napkins,</pre>	=>	{whole milk}	0.0016	0.84	0.0019	3.3	16
## ##	[100]	<pre>whipped/sour cream} {long life bakery product,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[101]	<pre>napkins, tropical fruit} {long life bakery product,</pre>	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[102]	<pre>napkins, other vegetables} {butter,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[103]	<pre>long life bakery product, sausage} {long life bakery product,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ##		<pre>sausage, whipped/sour cream}</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##		<pre>{long life bakery product, whipped/sour cream, yogurt}</pre>	=>	{whole milk}	0.0017	0.81	0.0021	3.2	17
## ## ##	[105]	<pre>{cream cheese, domestic eggs, napkins}</pre>	=>	{whole milk}	0.0011	1.00	0.0011	3.9	11
## ## ##	[106]	{cream cheese, pork, yogurt}		{whole milk}		0.83	0.0012		10
## ## ##	[107]	{cream cheese, frankfurter,	-/	(MHOTA HITER)	0.0010	0.03	0.0012	0.0	10

## ##	[108]	yogurt} {butter,	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[109]	<pre>cream cheese, whipped/sour cream} {butter,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[110]	<pre>cream cheese, root vegetables} {cream cheese,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[111]	<pre>domestic eggs, whipped/sour cream} {cream cheese,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[112]	<pre>domestic eggs, pip fruit} {citrus fruit,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##		cream cheese, domestic eggs} {cream cheese,	=>	{whole milk}	0.0016	0.89	0.0018	3.5	16
## ## ##		domestic eggs, yogurt} {cream cheese,	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##		pip fruit, whipped/sour cream} {cream cheese,	=>	{whole milk}	0.0013	0.93	0.0014	3.6	13
## ##		<pre>pip fruit, sausage}</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##		{butter, chicken, whipped/sour cream}	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##		<pre>{chicken,   domestic eggs,   sausage}</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[118]	<pre>{butter, root vegetables, white bread}</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##		<pre>{root vegetables, whipped/sour cream, white bread}</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##	[120]	<pre>{chocolate,   napkins,   root vegetables}</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[121]	{chocolate, domestic eggs, sausage}		{whole milk}		0.83	0.0012		10
## ## ##	[122]	{bottled beer, coffee, yogurt}		{whole milk}		0.83	0.0012		10
## ##	[123]	<pre>{butter, coffee,</pre>							
## ## ##	[124]	<pre>whipped/sour cream} {coffee,   domestic eggs,</pre>		{whole milk}		0.92	0.0013		12
## ## ##	[125]	<pre>root vegetables} {citrus fruit, frozen vegetables,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10

## ##	[126]	<pre>napkins} {frozen vegetables,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[127]	<pre>napkins, other vegetables} {frozen vegetables,</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##	[128]	<pre>margarine, rolls/buns} {citrus fruit,</pre>	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
## ## ##		<pre>frozen vegetables, fruit/vegetable juice} {beef,</pre>	=>	{whole milk}	0.0016	0.84	0.0019	3.3	16
## ##		<pre>butter, curd}</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[130]	<pre>{beef, tropical fruit, whipped/sour cream}</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##	[131]	<pre>{curd, margarine, rolls/buns}</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##	[132]	<pre>{butter,   curd,   domestic eggs}</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ##	[133]	<pre>{butter, curd,</pre>							
## ## ##	[134]	<pre>pip fruit} {butter,   citrus fruit,</pre>		{whole milk}		0.80	0.0015	3.1	12
## ## ##	[135]	<pre>curd} {curd, domestic eggs,</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[136]	<pre>other vegetables} {curd, pip fruit,</pre>	=>	{whole milk}	0.0028	0.82	0.0035	3.2	28
## ## ##	[137]	whipped/sour cream} {bottled beer, napkins,	=>	{whole milk}	0.0018	0.82	0.0022	3.2	18
## ##	[138]	<pre>rolls/buns} {butter,</pre>	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[139]	<pre>napkins, whipped/sour cream} {bottled water,</pre>	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
## ## ##	[140]	<pre>butter, napkins} {butter,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[141]	<pre>napkins, yogurt} {domestic eggs,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##		<pre>napkins, tropical fruit} {bottled beer,</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13
## ## ##		pork, rolls/buns} {butter,	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
##	[140]	pork,							

## ## ##	[144]	<pre>whipped/sour cream} {butter, pork,</pre>	=>	{whole milk}	0.0014	0.88	0.0016	3.4	14
## ##	[145]	yogurt} {butter,	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
## ## ##	[146]	<pre>other vegetables, pork} {bottled beer,</pre>	=>	{whole milk}	0.0022	0.85	0.0026	3.3	22
## ## ##	[147]	<pre>domestic eggs, margarine} {brown bread,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[148]	<pre>domestic eggs, root vegetables} {brown bread,</pre>	=>	{whole milk}	0.0015	0.83	0.0018	3.3	15
## ## ##	[149]	<pre>pip fruit, root vegetables} {domestic eggs,</pre>	=>	{whole milk}	0.0014	0.88	0.0016	3.4	14
## ## ##		<pre>fruit/vegetable juice, margarine} {domestic eggs,</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##		margarine, whipped/sour cream} {bottled water,	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ##		<pre>margarine, whipped/sour cream}</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##		<pre>{margarine,   rolls/buns,   whipped/sour cream}</pre>	=>	{whole milk}	0.0016	0.89	0.0018	3.5	16
## ## ##	[153]	{butter, domestic eggs, whipped/sour cream}	=>	{whole milk}	0.0016	0.84	0.0019	3.3	16
## ## ##	[154]	<pre>{butter, domestic eggs, pip fruit}</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[155]	<pre>{butter, pip fruit, whipped/sour cream}</pre>	=>	{whole milk}	0.0018	0.90	0.0020	3.5	18
## ## ##	[156]	{bottled water, butter, whipped/sour cream}		{whole milk}		0.86	0.0014	3 4	12
## ##	[157]	{bottled water, butter,							
## ## ##	[158]	<pre>pip fruit} {butter, pip fruit,</pre>		{whole milk}		0.81	0.0016		13
## ## ##	[159]	<pre>root vegetables} {butter, citrus fruit,</pre>	=>	{whole milk}	0.0017	0.81	0.0021	3.2	17
## ## ##	[160]	<pre>tropical fruit} {domestic eggs, tropical fruit,</pre>	=>	{whole milk}	0.0016	0.80	0.0020	3.1	16
## ## ##	[161]	whipped/sour cream} {domestic eggs, pip fruit,	=>	{whole milk}	0.0018	0.90	0.0020	3.5	18

[162]	<pre>sausage} {domestic eggs,</pre>	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
	pastry, tropical fruit}	=>	{whole milk}	0 0013	0.81	0 0016	3 2	13
[163]	_		(WHOIC MILK)	0.0010	0.01	0.0010	0.2	10
	sausage,		( ) 7 .713	0.0040	0.00	0 0045	0.4	40
[164]		=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
	pastry,							
[405]	whipped/sour cream}	=>	{whole milk}	0.0015	0.88	0.0017	3.5	15
[165]	•							
	•							
	yogurt}	=>	{whole milk}	0.0013	0.93	0.0014	3.6	13
[166]								
	_	=>	√whole milk}	0 0010	0 91	0 0011	3.6	10
[167]	_	·	(who is a mining	0.0010	0.01	0.0011	0.0	10
	other vegetables,							
	rolls/buns,		6					
[169]	_	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
[100]								
	tropical fruit,							
	yogurt}	=>	<pre>{whole milk}</pre>	0.0010	0.91	0.0011	3.6	10
[169]								
	_							
	_	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
[170]								
	other vegetables,							
	_		( )	0 0040	0.00	0 0040	0 0	4.0
[171]		=>	{wnoie milk}	0.0010	0.83	0.0012	3.3	10
[111]	sliced cheese,							
	tropical fruit,							
[470]		=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
[172]	_							
	yogurt}	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
[173]								
	_							
	<u>-</u>	=>	{whole milk}	0.0011	1.00	0.0011	3.9	11
[174]		·	(who is a mining	0.0011	1.00	0.0011	0.0	
	other vegetables,							
	root vegetables,			0.00::		0 00:	0 -	
[175]		=>	{whole milk}	0.0014	1.00	0.0014	3.9	14
[110]								
	other vegetables,							
	root vegetables}	=>	{whole milk}	0.0013	0.87	0.0015	3.4	13
	[163] [164] [165] [166] [167] [168] [170] [171] [172] [173] [174]	[162] {domestic eggs,	<pre>[162] {domestic eggs,</pre>	<pre>[162] {domestic eggs,</pre>	<pre>[162] {domestic eggs,</pre>	[162] {domestic eggs, pastry, tropical fruit} => {whole milk} 0.0013  0.81  [163] {pip fruit, sausage, whipped/sour cream} => {whole milk} 0.0012  0.80  [164] {citrus fruit, pastry, whipped/sour cream} => {whole milk} 0.0015  0.88  [165] {other vegetables, rice, root vegetables, yogurt} => {whole milk} 0.0015  0.88  [166] {herbs, other vegetables, root vegetables, root vegetables, rolis/buns, root vegetables, rolis/buns, root vegetables} => {whole milk} 0.0010  0.91  [167] {herbs, other vegetables, rolls/buns, root vegetables} => {whole milk} 0.0010  0.83  [168] {frozen meals, pip fruit, tropical fruit, yogurt} => {whole milk} 0.0010  0.91  [169] {hard cheese, other vegetables, root vegetables, sliced cheese, tropical fruit, yogurt} => {whole milk} 0.0010  0.91  [171] {butter, sliced cheese, tropical fruit, yogurt} => {whole milk} 0.0010  0.91  [173] {oil, root vegetables, tropical fruit, yogurt} => {whole milk} 0.0010  0.91  [173] {oil, root vegetables, tropical fruit, yogurt} => {whole milk} 0.0011  1.00  [174] {oil, other vegetables, root vegetables, onlons, other vegetables, other	[162] {domestic eggs, pastry, tropical fruit} => {whole milk} 0.0013	[162] {domestic eggs, pastry, tropical fruit}

## ## ##	[176]	<pre>{other vegetables, root vegetables, waffles,</pre>							
## ## ##	[177]	<pre>yogurt} {long life bakery product, other vegetables,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ## ##	[178]	<pre>whipped/sour cream, yogurt} {cream cheese, curd,</pre>	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[179]	whipped/sour cream, yogurt} {citrus fruit,	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[180]	<pre>cream cheese, domestic eggs, other vegetables} {citrus fruit,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##		<pre>cream cheese, other vegetables, whipped/sour cream}</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[181]	<pre>{cream cheese,   other vegetables,   pip fruit,   root vegetables}</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[182]	{cream cheese, other vegetables, pip fruit,	·	(whole milk)	0.0010	0.31	0.0011	0.0	10
## ## ## ##	[183]	yogurt} {chicken, domestic eggs, other vegetables,	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[184]	root vegetables, fbutter, other vegetables,	=>	{whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[185]	<pre>root vegetables, white bread} {pip fruit, root vegetables</pre>	=>	{whole milk}	0.0010	1.00	0.0010	3.9	10
## ## ## ##	[186]	<pre>root vegetables, white bread, yogurt} {citrus fruit,</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ## ##	[1 <b>9</b> 7]	<pre>frozen vegetables, fruit/vegetable juice, other vegetables} {frozen vegetables,</pre>	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[107]	fruit/vegetable juice, other vegetables, root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[188]	{frozen vegetables, other vegetables, root vegetables,		(-17 · · · · · · · · · · · · · · · · · · ·	0.0040	0.04	0 0012	2.0	46
## ## ##	[189]	<pre>whipped/sour cream} {citrus fruit, frozen vegetables,</pre>	=>	{whole milk}	0.0013	0.81	0.0016	3.2	13

## ## ## ##	[190]	<pre>other vegetables, yogurt} {bottled water, frozen vegetables,</pre>	=> {whole mil	k} 0.0010	0.91	0.0011	3.6	10
## ## ##	[191]	<pre>other vegetables, root vegetables} {beef,</pre>	=> {whole mil	k} 0.0010	0.83	0.0012	3.3	10
## ## ##	[400]	<pre>rolls/buns, root vegetables, tropical fruit}</pre>	=> {whole mil	k} 0.0014	0.82	0.0017	3.2	14
## ## ## ##	[192]	<pre>{beef,   rolls/buns,   tropical fruit,   yogurt}</pre>	=> {whole mil	k} 0.0013	0.93	0.0014	3 6	13
## ## ##	[193]	{beef, other vegetables, rolls/buns,	-> (whole mil	a) 0.0013	0.93	0.0014	3.0	13
## ## ##	[194]	tropical fruit} {butter, curd,	=> {whole mil	k} 0.0015	0.88	0.0017	3.5	15
## ## ##	[195]	tropical fruit, yogurt} {curd,	=> {whole mil	k} 0.0012	0.80	0.0015	3.1	12
## ## ##		<pre>domestic eggs, tropical fruit, yogurt}</pre>	=> {whole mil	k} 0.0011	0.92	0.0012	3.6	11
## ## ##	[196]	<pre>{curd,   domestic eggs,   other vegetables,</pre>						
## ## ##	[197]	<pre>root vegetables} {curd, other vegetables,</pre>	=> {whole mil	k} 0.0012	0.86	0.0014	3.4	12
## ## ## ##	[198]	pip fruit, whipped/sour cream} {citrus fruit,	=> {whole mil	k} 0.0010	0.83	0.0012	3.3	10
## ## ##	[199]	<pre>curd, tropical fruit, yogurt} {citrus fruit,</pre>	=> {whole mil	k} 0.0010	0.91	0.0011	3.6	10
## ## ##	[100]	curd, other vegetables, yogurt}	=> {whole mil	k} 0.0012	0.86	0.0014	3.4	12
## ## ##	[200]	{butter, napkins, other vegetables,						
## ## ##	[201]	<pre>whipped/sour cream} {butter,   other vegetables,</pre>	=> {whole mil	k} 0.0010	0.91	0.0011	3.6	10
## ## ##	[202]	<pre>pork, whipped/sour cream} {butter,</pre>	=> {whole mil	k} 0.0010	1.00	0.0010	3.9	10
## ## ##		<pre>other vegetables, pork, root vegetables}</pre>	=> {whole mil	k} 0.0010	0.91	0.0011	3.6	10

## ## ##	[203]	<pre>{frankfurter,   other vegetables,   pip fruit,</pre>							
## ## ##	[204]	root vegetables} {frankfurter, root vegetables,	=>	{whole milk}	0.0010	0.83	0.0012	3.3	10
## ## ##	[205]	tropical fruit, yogurt} {frankfurter,	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[200]	other vegetables, tropical fruit, yogurt}	=>	{whole milk}	0.0014	0.82	0.0017	3.2	14
## ## ##	[206]	{brown bread, pip fruit, tropical fruit,							
## ## ##	[207]	yogurt} {brown bread, other vegetables,	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[208]	<pre>pip fruit, root vegetables} {brown bread,</pre>	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##		citrus fruit, other vegetables, root vegetables}	=>	{whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[209]	{brown bread, other vegetables, rolls/buns,							
## ## ##	[210]	<pre>root vegetables} {brown bread, other vegetables,</pre>	=>	{whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[211]	<pre>soda, yogurt} {margarine,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##		<pre>rolls/buns, root vegetables, yogurt}</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[212]	other vegetables, rolls/buns,							
## ## ##	[213]	<pre>root vegetables} {butter, domestic eggs,</pre>	=>	{whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ##	[214]	other vegetables, whipped/sour cream} {butter,	=>	{whole milk}	0.0012	1.00	0.0012	3.9	12
## ## ##	[045]	<pre>domestic eggs, tropical fruit, yogurt}</pre>	=>	{whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ##	[215]	<pre>{butter, domestic eggs, root vegetables,</pre>			0.0011	0.00	0.0015	0.0	, ,
## ## ##	[216]	<pre>yogurt} {butter, other vegetables,</pre>	=>	{whole milk}	0.0011	0.92	0.0012	3.6	11

## ## ## ##	[217]	<pre>pip fruit, whipped/sour cream} {butter, tropical fruit,</pre>	=> {whole milk}	0.0013	0.87	0.0015	3.4	13
## ## ## ##	[218]	<pre>whipped/sour cream, yogurt} {butter, root vegetables,</pre>	=> {whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[219]	whipped/sour cream, yogurt} {butter,	=> {whole milk}	0.0011	0.85	0.0013	3.3	11
## ## ## ##	[220]	<pre>other vegetables, rolls/buns, whipped/sour cream} {bottled water,</pre>	=> {whole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[220]	butter, citrus fruit, other vegetables}	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[221]	<pre>{butter, root vegetables, tropical fruit, vegurt}</pre>	=> {whole milk}	0.0017	N 90	0.0019	3 F	17
## ## ## ##	[222]	<pre>yogurt} {domestic eggs,   other vegetables,   pip fruit,</pre>	-> fwhote mirk}	0.0017	0.89	0.0019	3.5	11
## ## ##	[223]	whipped/sour cream} {citrus fruit, domestic eggs,	=> {whole milk}	0.0012	0.92	0.0013	3.6	12
## ## ## ##	[224]	<pre>other vegetables, whipped/sour cream} {domestic eggs, tropical fruit,</pre>	=> {whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[225]	whipped/sour cream, yogurt} {domestic eggs,	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ## ##	[226]	other vegetables, tropical fruit, whipped/sour cream} {domestic eggs,	=> {whole milk}	0.0011	0.92	0.0012	3.6	11
## ## ##	[220]	other vegetables, pip fruit, root vegetables}	=> {whole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[227]	{citrus fruit, domestic eggs, other vegetables,	. (1.2)	0.0040	0.04	0.0044	0.0	4.0
## ## ## ##	[228]	<pre>tropical fruit} {domestic eggs, root vegetables, tropical fruit,</pre>	=> {whole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##	[229]	<pre>yogurt} {fruit/vegetable juice, pip fruit,</pre>	=> {whole milk}	0.0015	0.83	0.0018	3.3	15
## ##		<pre>root vegetables, yogurt}</pre>	=> {whole milk}	0.0011	0.92	0.0012	3.6	11

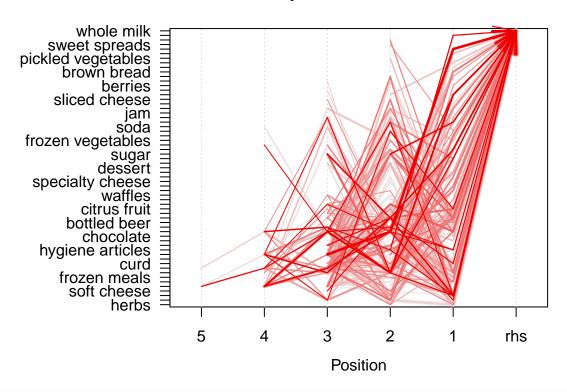
## ## ##	[230]	<pre>{fruit/vegetable juice,   other vegetables,   pip fruit,</pre>							
## ## ##	[231]	<pre>root vegetables} {fruit/vegetable juice,   other vegetables,</pre>	=> {who	ole milk}	0.0013	0.87	0.0015	3.4	13
## ## ## ##	[232]	<pre>root vegetables, yogurt} {other vegetables, pip fruit,</pre>	=> {who	ole milk}	0.0020	0.83	0.0024	3.3	20
## ## ##	[233]	<pre>root vegetables, whipped/sour cream} {citrus fruit,</pre>	=> {who	ole milk}	0.0017	0.85	0.0020	3.3	17
## ## ## ##	[234]	<pre>pastry, rolls/buns, whipped/sour cream} {citrus fruit,</pre>	=> {who	ole milk}	0.0010	1.00	0.0010	3.9	10
## ## ##		other vegetables, sausage, whipped/sour cream}	=> {who	ole milk}	0.0012	0.80	0.0015	3.1	12
## ## ## ##	[235]	<pre>{citrus fruit, tropical fruit, whipped/sour cream, yogurt}</pre>	=> {trbo	ole milk}	0.0012	0.80	0.0015	3.1	12
## ## ##	[236]	{bottled water, other vegetables, pip fruit,	-> [wiic	re mirkj	0.0012	0.00	0.0013	5.1	12
## ## ##	[237]	root vegetables,	=> {who	ole milk}	0.0011	1.00	0.0011	3.9	11
## ## ## ##	[238]	<pre>soda, yogurt} {other vegetables, pip fruit,</pre>	=> {who	ole milk}	0.0012	0.86	0.0014	3.4	12
## ## ##	[239]	root vegetables, soda} {pastry,	=> {who	ole milk}	0.0013	0.81	0.0016	3.2	13
## ## ## ##	[240]	<pre>root vegetables, tropical fruit, yogurt} {bottled water,</pre>	=> {who	ole milk}	0.0010	0.91	0.0011	3.6	10
## ## ##		<pre>citrus fruit, other vegetables, tropical fruit}</pre>	=> {who	ole milk}	0.0013	0.87	0.0015	3.4	13
## ## ##	[241]	{citrus fruit, other vegetables, root vegetables,	(	.lo ===1-1	0.0003	0.80	0 0000	2.0	00
## ## ## ##	[242]	<pre>yogurt} {root vegetables, sausage, tropical fruit,</pre>	=> {Wnc	ole milk}	0.0023	0.82	0.0028	3.2	23
## ## ##	[243]	yogurt} {rolls/buns, root vegetables,	=> {who	ole milk}	0.0015	0.94	0.0016	3.7	15

```
##
          sausage,
##
                                     => {whole milk} 0.0010
                                                                     1.00
                                                                            0.0010 3.9
                                                                                            10
          tropical fruit}
##
   [244] {bottled water,
##
          rolls/buns,
##
          root vegetables,
          tropical fruit}
                                     => {whole milk} 0.0011
                                                                     0.92
                                                                            0.0012 3.6
##
                                                                                            11
   [245] {rolls/buns,
##
##
          root vegetables,
##
          tropical fruit,
                                     => {whole milk} 0.0022
                                                                     0.81
                                                                            0.0027 3.2
                                                                                            22
##
          yogurt}
##
   [246] {oil,
##
          other vegetables,
##
          root vegetables,
##
          tropical fruit,
##
                                     => {whole milk} 0.0010
                                                                     1.00
                                                                            0.0010 3.9
                                                                                            10
          yogurt}
##
   [247] {beef,
##
          other vegetables,
##
          rolls/buns,
##
          root vegetables,
##
          tropical fruit}
                                     => {whole milk} 0.0011
                                                                     0.85
                                                                            0.0013 3.3
                                                                                            11
##
   [248] {butter,
##
          domestic eggs,
##
          other vegetables,
          tropical fruit,
##
                                     => {whole milk} 0.0010
                                                                     0.91
                                                                            0.0011 3.6
                                                                                            10
##
          yogurt}
##
   [249] {butter,
##
          other vegetables,
##
          root vegetables,
##
          tropical fruit,
                                     => {whole milk} 0.0011
                                                                     0.85
                                                                            0.0013 3.3
##
          yogurt}
                                                                                            11
##
   [250] {citrus fruit,
##
          other vegetables,
##
          root vegetables,
##
          whipped/sour cream,
##
          vogurt}
                                     => {whole milk} 0.0010
                                                                     0.83
                                                                            0.0012 3.3
                                                                                            10
##
   [251] {other vegetables,
##
          pip fruit,
##
          root vegetables,
##
          tropical fruit,
##
                                                                     0.87
          yogurt}
                                     => {whole milk} 0.0013
                                                                            0.0015 3.4
                                                                                            13
   [252] {citrus fruit,
##
##
          other vegetables,
##
          root vegetables,
##
          tropical fruit,
                                     => {whole milk} 0.0014
                                                                     0.82
                                                                            0.0017
                                                                                            14
          yogurt}
```

## Plotting graphs for the new rules

```
# Only for interactive sessions
# plot(rules1, method = "graph", engine = "interactive")
```

## Parallel coordinates plot for 252 rules



```
plot(rules1, method = "matrix", control = list(reorder = "none"))
```

```
## Itemsets in Antecedent (LHS)
     [1] "{cereals,curd}"
##
##
     [2] "{cereals, yogurt}"
##
     [3] "{butter, jam}"
     [4] "{bottled beer, soups}"
##
     [5] "{house keeping products, napkins}"
##
     [6] "{house keeping products, whipped/sour cream}"
##
     [7] "{pastry,sweet spreads}"
##
     [8] "{rice, sugar}"
##
##
     [9] "{butter,rice}"
##
    [10] "{domestic eggs,rice}"
   [11] "{bottled water, rice}"
##
    [12] "{mustard,oil}"
##
##
    [13] "{canned fish, hygiene articles}"
   [14] "{herbs,tropical fruit}"
##
   [15] "{herbs,rolls/buns}"
    [16] "{chocolate, pickled vegetables}"
   [17] "{curd, hamburger meat}"
##
   [18] "{bottled beer, hamburger meat}"
   [19] "{other vegetables, specialty cheese, yogurt}"
##
    [20] "{butter, rice, root vegetables}"
   [21] "{other vegetables, rice, tropical fruit}"
```

```
[22] "{rice,root vegetables,vogurt}"
##
    [23] "{other vegetables, rice, root vegetables}"
##
    [24] "{frozen fish,root vegetables,yogurt}"
    [25] "{frozen fish,other vegetables,yogurt}"
##
##
    [26] "{curd,herbs,root vegetables}"
##
    [27] "{domestic eggs,herbs,other vegetables}"
    [28] "{fruit/vegetable juice, herbs, other vegetables}"
    [29] "{citrus fruit, herbs, tropical fruit}"
##
##
    [30] "{citrus fruit, herbs, root vegetables}"
##
    [31] "{herbs,root vegetables,tropical fruit}"
    [32] "{herbs,tropical fruit,yogurt}"
    [33] "{herbs,other vegetables,tropical fruit}"
##
    [34] "{herbs,rolls/buns,root vegetables}"
##
##
    [35] "{detergent, other vegetables, whipped/sour cream}"
##
    [36] "{baking powder, tropical fruit, yogurt}"
##
    [37] "{flour,other vegetables,sugar}"
##
    [38] "{flour,root vegetables,whipped/sour cream}"
##
    [39] "{butter,domestic eggs,soft cheese}"
##
    [40] "{butter, soft cheese, yogurt}"
    [41] "{domestic eggs,root vegetables,soft cheese}"
##
##
    [42] "{root vegetables, soft cheese, whipped/sour cream}"
##
    [43] "{curd,frozen meals,yogurt}"
    [44] "{frankfurter,frozen meals,tropical fruit}"
##
    [45] "{frankfurter, frozen meals, other vegetables}"
##
    [46] "{butter, frozen meals, tropical fruit}"
    [47] "{frozen meals,root vegetables,tropical fruit}"
##
    [48] "{frozen meals, tropical fruit, yogurt}"
    [49] "{butter, hard cheese, yogurt}"
##
    [50] "{hard cheese, tropical fruit, yogurt}"
    [51] "{butter milk,dessert,yogurt}"
##
    [52] "{butter milk, sausage, yogurt}"
##
    [53] "{butter milk,root vegetables,yogurt}"
    [54] "{frankfurter,root vegetables,sliced cheese}"
##
##
    [55] "{frankfurter, sliced cheese, yogurt}"
##
    [56] "{butter, sliced cheese, whipped/sour cream}"
##
    [57] "{oil,root vegetables,shopping bags}"
##
    [58] "{curd,onions,yogurt}"
##
    [59] "{butter,domestic eggs,onions}"
##
    [60] "{bottled water, butter, onions}"
##
    [61] "{butter, onions, tropical fruit}"
    [62] "{butter, onions, root vegetables}"
##
    [63] "{butter, onions, yogurt}"
    [64] "{berries, butter, whipped/sour cream}"
##
    [65] "{berries, butter, sausage}"
    [66] "{curd, hamburger meat, other vegetables}"
    [67] "{butter, hamburger meat, whipped/sour cream}"
##
    [68] "{hamburger meat,root vegetables,whipped/sour cream}"
##
##
    [69] "{butter, hygiene articles, napkins}"
    [70] "{hygiene articles, napkins, tropical fruit}"
    [71] "{hygiene articles, margarine, rolls/buns}"
##
##
    [72] "{butter, hygiene articles, pip fruit}"
##
   [73] "{butter,citrus fruit,hygiene articles}"
##
   [74] "{bottled water, butter, hygiene articles}"
   [75] "{butter, hygiene articles, tropical fruit}"
```

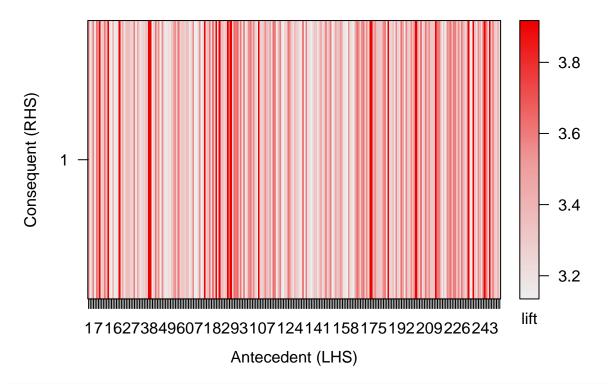
```
[76] "{butter, hygiene articles, root vegetables}"
##
    [77] "{domestic eggs, hygiene articles, tropical fruit}"
    [78] "{hygiene articles, tropical fruit, whipped/sour cream}"
##
    [79] "{hygiene articles,root vegetables,whipped/sour cream}"
##
    [80] "{hygiene articles,pip fruit,sausage}"
##
    [81] "{hygiene articles,pip fruit,root vegetables}"
    [82] "{citrus fruit, hygiene articles, root vegetables}"
##
    [83] "{hygiene articles,root vegetables,yogurt}"
    [84] "{long life bakery product, other vegetables, salty snack}"
##
    [85] "{pip fruit, salty snack, yogurt}"
    [86] "{cream cheese, domestic eggs, sugar}"
    [87] "{cream cheese,other vegetables,sugar}"
##
    [88] "{curd,domestic eggs,sugar}"
##
    [89] "{butter, sugar, whipped/sour cream}"
##
   [90] "{citrus fruit,domestic eggs,sugar}"
##
    [91] "{domestic eggs, sugar, tropical fruit}"
##
    [92] "{domestic eggs, sugar, yogurt}"
   [93] "{citrus fruit, sugar, whipped/sour cream}"
##
   [94] "{root vegetables, sugar, whipped/sour cream}"
   [95] "{bottled water,other vegetables, sugar}"
##
##
  [96] "{pork,rolls/buns,waffles}"
  [97] "{rolls/buns,waffles,whipped/sour cream}"
  [98] "{rolls/buns,root vegetables,waffles}"
##
  [99] "{long life bakery product, napkins, whipped/sour cream}"
## [100] "{long life bakery product, napkins, tropical fruit}"
## [101] "{long life bakery product, napkins, other vegetables}"
## [102] "{butter,long life bakery product,sausage}"
## [103] "{long life bakery product, sausage, whipped/sour cream}"
## [104] "{long life bakery product, whipped/sour cream, yogurt}"
## [105] "{cream cheese, domestic eggs, napkins}"
## [106] "{cream cheese,pork,yogurt}"
## [107] "{cream cheese, frankfurter, yogurt}"
## [108] "{butter, cream cheese, whipped/sour cream}"
## [109] "{butter,cream cheese,root vegetables}"
## [110] "{cream cheese, domestic eggs, whipped/sour cream}"
## [111] "{cream cheese, domestic eggs, pip fruit}"
## [112] "{citrus fruit,cream cheese,domestic eggs}"
## [113] "{cream cheese, domestic eggs, yogurt}"
## [114] "{cream cheese,pip fruit,whipped/sour cream}"
## [115] "{cream cheese,pip fruit,sausage}"
## [116] "{butter, chicken, whipped/sour cream}"
## [117] "{chicken, domestic eggs, sausage}"
## [118] "{butter, root vegetables, white bread}"
## [119] "{root vegetables, whipped/sour cream, white bread}"
## [120] "{chocolate,napkins,root vegetables}"
## [121] "{chocolate,domestic eggs,sausage}"
## [122] "{bottled beer,coffee,yogurt}"
## [123] "{butter, coffee, whipped/sour cream}"
## [124] "{coffee,domestic eggs,root vegetables}"
## [125] "{citrus fruit,frozen vegetables,napkins}"
## [126] "{frozen vegetables,napkins,other vegetables}"
## [127] "{frozen vegetables,margarine,rolls/buns}"
## [128] "{citrus fruit,frozen vegetables,fruit/vegetable juice}"
## [129] "{beef,butter,curd}"
```

```
## [130] "{beef, tropical fruit, whipped/sour cream}"
## [131] "{curd,margarine,rolls/buns}"
## [132] "{butter, curd, domestic eggs}"
## [133] "{butter,curd,pip fruit}"
## [134] "{butter,citrus fruit,curd}"
## [135] "{curd,domestic eggs,other vegetables}"
## [136] "{curd,pip fruit,whipped/sour cream}"
## [137] "{bottled beer,napkins,rolls/buns}"
## [138] "{butter, napkins, whipped/sour cream}"
## [139] "{bottled water, butter, napkins}"
## [140] "{butter, napkins, yogurt}"
## [141] "{domestic eggs,napkins,tropical fruit}"
## [142] "{bottled beer,pork,rolls/buns}"
## [143] "{butter,pork,whipped/sour cream}"
## [144] "{butter,pork,yogurt}"
## [145] "{butter,other vegetables,pork}"
## [146] "{bottled beer, domestic eggs, margarine}"
## [147] "{brown bread,domestic eggs,root vegetables}"
## [148] "{brown bread,pip fruit,root vegetables}"
## [149] "{domestic eggs,fruit/vegetable juice,margarine}"
## [150] "{domestic eggs,margarine,whipped/sour cream}"
## [151] "{bottled water, margarine, whipped/sour cream}"
## [152] "{margarine,rolls/buns,whipped/sour cream}"
## [153] "{butter,domestic eggs,whipped/sour cream}"
## [154] "{butter,domestic eggs,pip fruit}"
## [155] "{butter,pip fruit,whipped/sour cream}"
## [156] "{bottled water,butter,whipped/sour cream}"
## [157] "{bottled water,butter,pip fruit}"
## [158] "{butter,pip fruit,root vegetables}"
## [159] "{butter,citrus fruit,tropical fruit}"
## [160] "{domestic eggs,tropical fruit,whipped/sour cream}"
## [161] "{domestic eggs,pip fruit,sausage}"
## [162] "{domestic eggs,pastry,tropical fruit}"
## [163] "{pip fruit,sausage,whipped/sour cream}"
## [164] "{citrus fruit,pastry,whipped/sour cream}"
## [165] "{other vegetables, rice, root vegetables, yogurt}"
## [166] "{herbs,other vegetables,root vegetables,tropical fruit}"
## [167] "{herbs,other vegetables,rolls/buns,root vegetables}"
## [168] "{frozen meals,pip fruit,tropical fruit,yogurt}"
## [169] "{hard cheese,other vegetables,root vegetables,yogurt}"
## [170] "{butter milk,other vegetables,root vegetables,yogurt}"
## [171] "{butter, sliced cheese, tropical fruit, yogurt}"
## [172] "{root vegetables, sliced cheese, tropical fruit, yogurt}"
## [173] "{oil,root vegetables,tropical fruit,yogurt}"
## [174] "{oil,other vegetables,root vegetables,yogurt}"
## [175] "{butter, onions, other vegetables, root vegetables}"
## [176] "{other vegetables,root vegetables,waffles,yogurt}"
## [177] "{long life bakery product, other vegetables, whipped/sour cream, yogurt}"
## [178] "{cream cheese, curd, whipped/sour cream, yogurt}"
## [179] "{citrus fruit,cream cheese,domestic eggs,other vegetables}"
## [180] "{citrus fruit,cream cheese,other vegetables,whipped/sour cream}"
## [181] "{cream cheese,other vegetables,pip fruit,root vegetables}"
## [182] "{cream cheese,other vegetables,pip fruit,yogurt}"
## [183] "{chicken,domestic eggs,other vegetables,root vegetables}"
```

```
## [184] "{butter,other vegetables,root vegetables,white bread}"
## [185] "{pip fruit,root vegetables,white bread,yogurt}"
## [186] "{citrus fruit,frozen vegetables,fruit/vegetable juice,other vegetables}"
## [187] "{frozen vegetables,fruit/vegetable juice,other vegetables,root vegetables}"
## [188] "{frozen vegetables,other vegetables,root vegetables,whipped/sour cream}"
## [189] "{citrus fruit,frozen vegetables,other vegetables,yogurt}"
## [190] "{bottled water, frozen vegetables, other vegetables, root vegetables}"
## [191] "{beef,rolls/buns,root vegetables,tropical fruit}"
## [192] "{beef,rolls/buns,tropical fruit,yogurt}"
## [193] "{beef,other vegetables,rolls/buns,tropical fruit}"
## [194] "{butter, curd, tropical fruit, yogurt}"
## [195] "{curd,domestic eggs,tropical fruit,yogurt}"
## [196] "{curd,domestic eggs,other vegetables,root vegetables}"
## [197] "{curd,other vegetables,pip fruit,whipped/sour cream}"
## [198] "{citrus fruit,curd,tropical fruit,yogurt}"
## [199] "{citrus fruit, curd, other vegetables, yogurt}"
## [200] "{butter,napkins,other vegetables,whipped/sour cream}"
## [201] "{butter,other vegetables,pork,whipped/sour cream}"
## [202] "{butter,other vegetables,pork,root vegetables}"
## [203] "{frankfurter,other vegetables,pip fruit,root vegetables}"
## [204] "{frankfurter,root vegetables,tropical fruit,yogurt}"
## [205] "{frankfurter,other vegetables,tropical fruit,yogurt}"
## [206] "{brown bread,pip fruit,tropical fruit,yogurt}"
## [207] "{brown bread,other vegetables,pip fruit,root vegetables}"
## [208] "{brown bread, citrus fruit, other vegetables, root vegetables}"
## [209] "{brown bread,other vegetables,rolls/buns,root vegetables}"
## [210] "{brown bread,other vegetables,soda,yogurt}"
## [211] "{margarine,rolls/buns,root vegetables,yogurt}"
## [212] "{margarine,other vegetables,rolls/buns,root vegetables}"
## [213] "{butter,domestic eggs,other vegetables,whipped/sour cream}"
## [214] "{butter,domestic eggs,tropical fruit,yogurt}"
## [215] "{butter,domestic eggs,root vegetables,yogurt}"
## [216] "{butter,other vegetables,pip fruit,whipped/sour cream}"
## [217] "{butter,tropical fruit,whipped/sour cream,yogurt}"
## [218] "{butter,root vegetables,whipped/sour cream,vogurt}"
## [219] "{butter,other vegetables,rolls/buns,whipped/sour cream}"
## [220] "{bottled water, butter, citrus fruit, other vegetables}"
## [221] "{butter,root vegetables,tropical fruit,yogurt}"
## [222] "{domestic eggs,other vegetables,pip fruit,whipped/sour cream}"
## [223] "{citrus fruit,domestic eggs,other vegetables,whipped/sour cream}"
## [224] "{domestic eggs,tropical fruit,whipped/sour cream,yogurt}"
## [225] "{domestic eggs,other vegetables,tropical fruit,whipped/sour cream}"
## [226] "{domestic eggs,other vegetables,pip fruit,root vegetables}"
## [227] "{citrus fruit,domestic eggs,other vegetables,tropical fruit}"
## [228] "{domestic eggs,root vegetables,tropical fruit,yogurt}"
## [229] "{fruit/vegetable juice,pip fruit,root vegetables,yogurt}"
## [230] "{fruit/vegetable juice, other vegetables, pip fruit, root vegetables}"
## [231] "{fruit/vegetable juice,other vegetables,root vegetables,yogurt}"
## [232] "{other vegetables,pip fruit,root vegetables,whipped/sour cream}"
## [233] "{citrus fruit,pastry,rolls/buns,whipped/sour cream}"
## [234] "{citrus fruit,other vegetables,sausage,whipped/sour cream}"
## [235] "{citrus fruit, tropical fruit, whipped/sour cream, yogurt}"
## [236] "{bottled water,other vegetables,pip fruit,root vegetables}"
## [237] "{pip fruit,root vegetables,soda,yogurt}"
```

```
## [238] "{other vegetables,pip fruit,root vegetables,soda}"
## [239] "{pastry,root vegetables,tropical fruit,yogurt}"
## [240] "{bottled water,citrus fruit,other vegetables,tropical fruit}"
## [241] "{citrus fruit,other vegetables,root vegetables,yogurt}"
## [242] "{root vegetables,sausage,tropical fruit,yogurt}"
## [243] "{rolls/buns,root vegetables,sausage,tropical fruit}"
## [244] "{bottled water,rolls/buns,root vegetables,tropical fruit}"
## [245] "{rolls/buns,root vegetables,tropical fruit,yogurt}"
## [246] "{oil,other vegetables,root vegetables,tropical fruit,yogurt}"
## [247] "{beef,other vegetables,rolls/buns,root vegetables,tropical fruit}"
## [248] "{butter,domestic eggs,other vegetables,tropical fruit,yogurt}"
## [249] "{butter,other vegetables,root vegetables,tropical fruit,yogurt}"
## [250] "{citrus fruit,other vegetables,root vegetables,whipped/sour cream,yogurt}"
## [251] "{other vegetables,pip fruit,root vegetables,tropical fruit,yogurt}"
## [252] "{citrus fruit,other vegetables,root vegetables,tropical fruit,yogurt}"
## Itemsets in Consequent (RHS)
## [1] "{whole milk}"
```

## Matrix with 252 rules



plot(rules1, jitter = 0)

## Scatter plot for 252 rules

