Experiment-1.3

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1. Aim:

Demonstration of association rule mining using Apriori algorithm

2. Code:

```
library(arulesViz)
library(arules)
library(RColorBrewer)
#import dataset
data("Groceries")

#using apriori() function
rules<-apriori(Groceries, parameter=list(supp=0.01, conf=0.2))

#using inspect() function
inspect(rules[1:10])

#using itemFrequencyPlot() function
arules::itemFrequencyPlot(Groceries, topN=20, col=brewer.pal(8,'Pastel2'),

main='Relative Item Frequency Plot', type="relative", ylab="Item Frequency(Relative)")
```

3. Output:

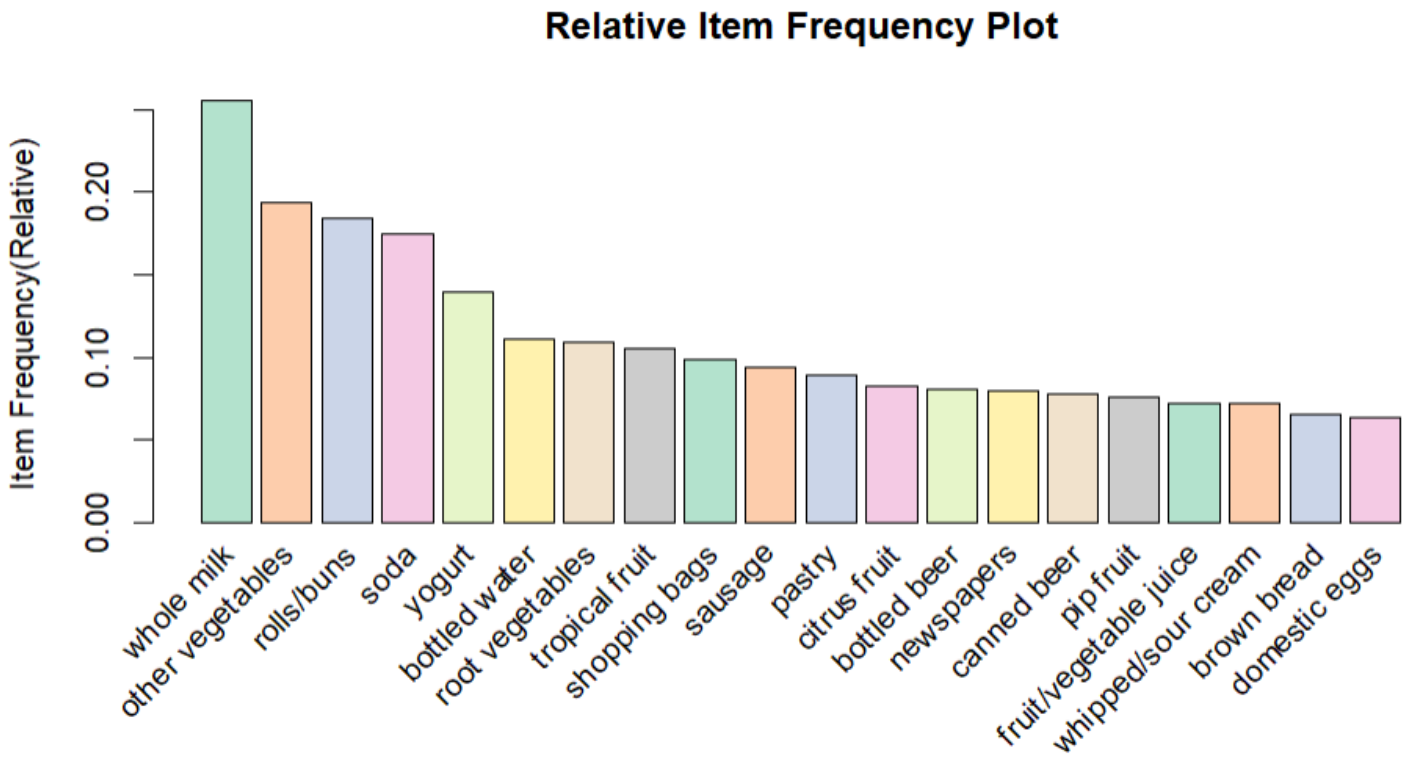
```
> library(arulesViz)
> library(RColorBrewer)
> librarya(ar)\
Error: unexpected '\\' in "librarya(ar)\"
> library(arules)
> library(arulesViz)
> library(RColorBrewer)
> data("Groceries")
> rules<-apriori(Groceries, parameter=list(supp=0.01, conf=0.2))
Apriori

Parameter specification:
 confidence minval smax arem  aval originalSupport
        0.2    0.1    1 none FALSE            TRUE
 maxtime support minlen maxlen target  ext
       5    0.01      1     10  rules TRUE

Algorithmic control:
 filter tree heap memopt load sort verbose
    0.1 TRUE TRUE  FALSE TRUE    2    TRUE

Absolute minimum support count: 98

set item appearances ...[0 item(s)] done [0.00s].
set transactions ...[169 item(s), 9835 transaction(s)] done [0.00s].
sorting and recoding items ... [88 item(s)] done [0.00s].
creating transaction tree ... done [0.00s].
checking subsets of size 1 2 3 4 done [0.00s].
creating S4 object  ... done [0.00s].
> inspect(rules[1:10])
     lhs                rhs                  support
[1]  {}              => {whole milk}       0.25551601
[2]  {hard cheese}   => {whole milk}       0.01006609
[3]  {butter milk}   => {other vegetables} 0.01037112
[4]  {butter milk}   => {whole milk}       0.01159126
[5]  {ham}           => {whole milk}       0.01148958
[6]  {sliced cheese} => {whole milk}       0.01077783
[7]  {oil}           => {whole milk}       0.01128622
[8]  {onions}        => {other vegetables} 0.01423488
[9]  {onions}        => {whole milk}       0.01209964
[10] {berries}       => {yogurt}           0.01057448
     confidence coverage   lift     count
[1]  0.2555160  1.00000000 1.000000 2513
[2]  0.4107884  0.02450432 1.607682   99
[3]  0.3709091  0.02796136 1.916916  102
[4]  0.4145455  0.02796136 1.622385  114
[5]  0.4414062  0.02602949 1.727509  113
[6]  0.4398340  0.02450432 1.721356  106
[7]  0.4021739  0.02806304 1.573968  111
[8]  0.4590164  0.03101169 2.372268  140
[9]  0.3901639  0.03101169 1.526965  119
[10] 0.3180428  0.03324860 2.279848  104
> arules::itemFrequencyPlot(Groceries, topN=20, col=brewer.pal(8,'Pastel2'),
+                           main='Relative Item Frequency Plot', type="relative", ylab="Item Frequ
elative)")
```


Relative Item Frequency Plot
Item Frequency(Relative)
0.00
0.10
0.20
whole milk
other vegetables
rolls/buns
soda
yogurt
bottled water
root vegetables
tropical fruit
shopping bags
sausage
pastry
citrus fruit
bottled beer
newspapers
canned beer
pip fruit
fruit/vegetable juice
whipped/sour cream
brown bread
domestic eggs