Experiment 1.3

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Subject Name: DM LAB **Subject Code: 20CSP_376**

AIM :-

Demonstration of association rule mining using Apriory algorithm on supermarket data.

$$Rule: X \Rightarrow Y$$

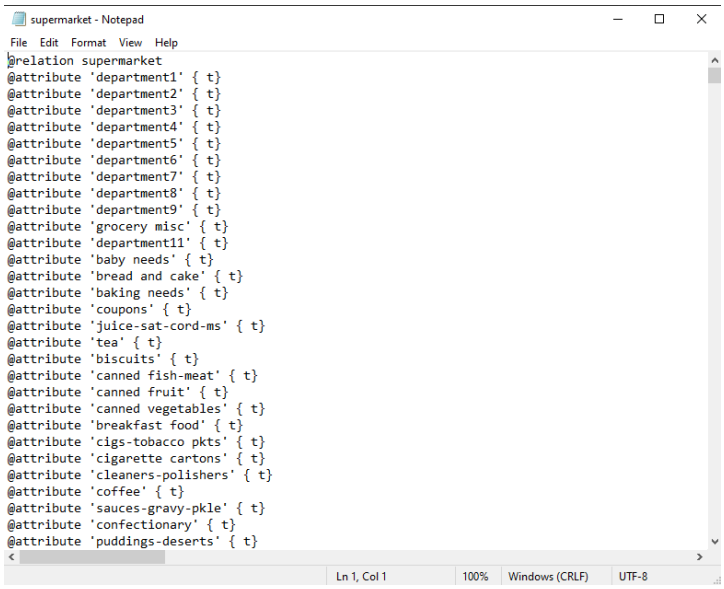
$$Support = \frac{frq(X,Y)}{N}$$

$$Confidence = \frac{frq(X,Y)}{frq(X)}$$

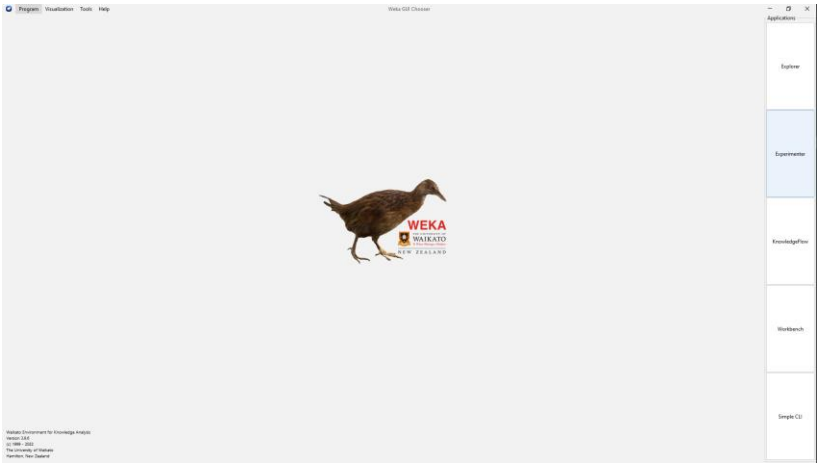
$$Lift = \frac{Support}{Supp(X) \times Supp(Y)}$$

Output :-

Downloading database “supermarket”.



Open WEKA → Workbench → select file → Associate



Program File Edit — Weka Workbench

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize | Experiment | Data mining processes | Simple CLI

Open file... | Open URL... | Open DB... | Generate... | Undo | Edit... | Save...

Filter

Choose **AllFilter** | Apply | Stop

Current relation

Relation: supermarket
Instances: 4627
Attributes: 217
Sum of weights: 4627

Attributes

All | None | Invert | Pattern

No.		Name
1	☑	department1
2	☑	department2
3	☑	department3
4	☑	department4
5	☑	department5
6	☑	department6
7	☐	department7
8	☐	department8
9	☑	department9
10	☑	grocery misc
11	☐	department11
12	☑	baby needs
13	☐	bread and cake
14	☑	baking needs
15	☑	coupons
16	☑	juice-sat-cord-ms
17	☑	tea
18	☐	biscuits
19	☐	canned fish-meat

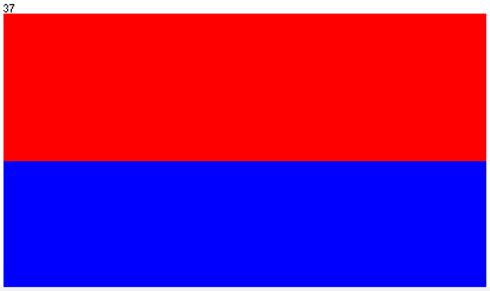
Remove

Selected attribute

Name: cigarette cartons
Missing: 4590 (99%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)

No.	Label	Count	Weight
1	t	37	37

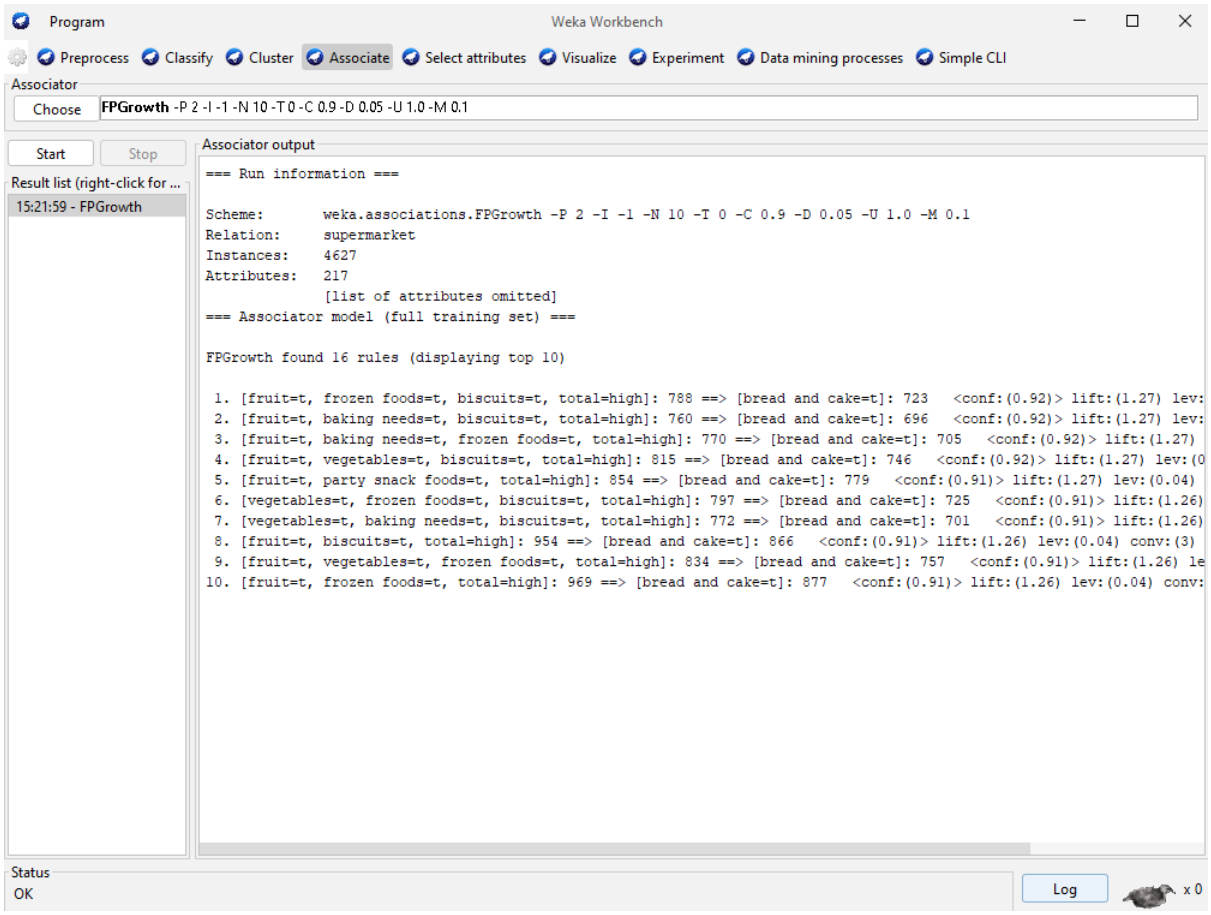
Class: total (Nom) | Visualize All



Status

OK

Log | x 0


Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Associator
Choose
FPGrowth -P 2 -I -1 -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1
Start
Stop
Result list (right-click for ...
15:21:59 - FPGrowth
Associator output
=== Run information ===
Scheme: weka.associations.FPGrowth -P 2 -I -1 -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1
Relation: supermarket
Instances: 4627
Attributes: 217
[list of attributes omitted]
=== Associator model (full training set) ===
FPGrowth found 16 rules (displaying top 10)
1. [fruit=t, frozen foods=t, biscuits=t, total=high]: 788 ==> [bread and cake=t]: 723 <conf:(0.92)> lift:(1.27) lev:
2. [fruit=t, baking needs=t, biscuits=t, total=high]: 760 ==> [bread and cake=t]: 696 <conf:(0.92)> lift:(1.27) lev:
3. [fruit=t, baking needs=t, frozen foods=t, total=high]: 770 ==> [bread and cake=t]: 705 <conf:(0.92)> lift:(1.27)
4. [fruit=t, vegetables=t, biscuits=t, total=high]: 815 ==> [bread and cake=t]: 746 <conf:(0.92)> lift:(1.27) lev:(0
5. [fruit=t, party snack foods=t, total=high]: 854 ==> [bread and cake=t]: 779 <conf:(0.91)> lift:(1.27) lev:(0.04)
6. [vegetables=t, frozen foods=t, biscuits=t, total=high]: 797 ==> [bread and cake=t]: 725 <conf:(0.91)> lift:(1.26)
7. [vegetables=t, baking needs=t, biscuits=t, total=high]: 772 ==> [bread and cake=t]: 701 <conf:(0.91)> lift:(1.26)
8. [fruit=t, biscuits=t, total=high]: 954 ==> [bread and cake=t]: 866 <conf:(0.91)> lift:(1.26) lev:(0.04) conv:(3)
9. [fruit=t, vegetables=t, frozen foods=t, total=high]: 834 ==> [bread and cake=t]: 757 <conf:(0.91)> lift:(1.26) le
10. [fruit=t, frozen foods=t, total=high]: 969 ==> [bread and cake=t]: 877 <conf:(0.91)> lift:(1.26) lev:(0.04) conv:
Status
OK
Log
x 0