

CSC487: Data Mining - Homework #5

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Refer to the table below for questions 1-4 and suppose the minimum support is 2.

TID	Basket
T1	A,B,E
T2	B,D
T3	B,C
T4	A,B,D
T5	A,C
T6	B,C
T7	A,C
T8	A,B,C,E
T9	A,B,C

1. Compute the confidences for the following rules. (20 points total)

a.) $\{A, B\} \Rightarrow E$.

Given $\{A, B\}$ is observed, we have the following baskets bought:

$\langle \{A, B, E\}, \{A, B, D\}, \{A, B, C, E\}, \{A, B, C\} \rangle$

Of these four baskets two contain E . Our confidence is thus $P(E|\{A, B\}) = 2/4 = 0.5$

b.) $A \Rightarrow \{B, E\}$.

Given A is observed, we have the following baskets bought:

$\langle \{A, B, E\}, \{A, B, D\}, \{A, C\}, \{A, C\}, \{A, B, C, E\}, \{A, B, C\} \rangle$

Of these six baskets two contain $\{B, E\}$. Our confidence is thus $P(\{B, E\}|A) = 2/6 = 0.333$

2. Apply the Apriori procedure by using join operations as described on slide (see slide1) #15. You need to report all frequent k-itemsets. (25 points)

k=1	k=2	k=3	k=4
{A} : 6	{A, B} : 4	{A, B, C} : 2	{A, B, C, E} : 1
{B} : 7	{A, C} : 4	{A, B, E} : 2	
{C} : 6	{A, D} : 1	{B, D, E} : 0	
{D} : 2	{A, E} : 2		
{E} : 2	{B, C} : 4		
	{B, D} : 2		
	{B, E} : 2		
	{C, D} : 0		
	{C, E} : 1		
	{D, E} : 0		

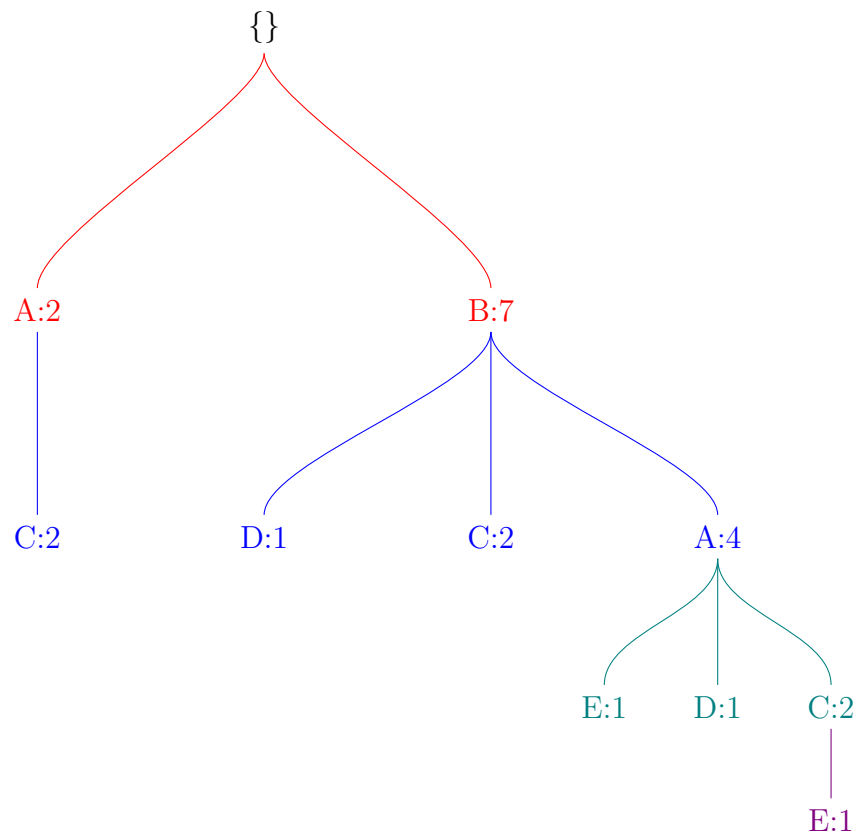
All Blue item sets are frequent.

3. Draw the FP-Tree (see slide #28). (25 points)

We have the header table and ordered sets as follows:

Item	Frequency	TID	Ordered Set
B	7	T1	{B, A, E}
A	6	T2	{B, D}
C	6	T3	{B, C}
D	2	T4	{B, A, D}
E	2	T5	{A, C}
		T6	{B, C}
		T7	{A, C}
		T8	{B, A, C, E}
		T9	{B, A, C}

The growth tree can be visualized as follows:



4. Import this table by preparing an appropriate input format for Weka and run Apriori algorithm. Please use either .arff or csv format by inspecting sample Weka files. Please report the association rules you find. (15 points)

Best rules found:

1. B=n 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
2. E=y 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
3. D=y 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
4. E=y 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
5. B=n 2 ==> C=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
6. B=n 2 ==> D=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
7. B=n 2 ==> E=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
8. D=y 2 ==> C=n 2 <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)
9. E=y 2 ==> D=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
10. D=y 2 ==> E=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
11. A=y C=n 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
12. B=y E=y 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
13. A=y E=y 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
14. E=y 2 ==> A=y B=y 2 <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)
15. B=n C=y 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
16. A=y B=n 2 ==> C=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
17. B=n 2 ==> A=y C=y 2 <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)
18. B=n D=n 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
19. A=y B=n 2 ==> D=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
20. B=n 2 ==> A=y D=n 2 <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)
21. B=n E=n 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
22. A=y B=n 2 ==> E=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
23. B=n 2 ==> A=y E=n 2 <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)
24. D=n E=y 2 ==> A=y 2 <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)
25. A=y E=y 2 ==> D=n 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
26. E=y 2 ==> A=y D=n 2 <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)
27. A=n C=y 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)
28. A=n D=n 2 ==> B=y 2 <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)

29. $A=n \ D=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
30. $A=n \ C=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
31. $A=n \ C=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
32. $A=n \ D=n \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
33. $C=n \ D=y \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
34. $B=y \ D=y \ 2 \implies C=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
35. $D=y \ 2 \implies B=y \ C=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
36. $C=n \ E=n \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
37. $D=n \ E=y \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
38. $B=y \ E=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
39. $E=y \ 2 \implies B=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
40. $D=y \ E=n \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
41. $B=y \ D=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
42. $D=y \ 2 \implies B=y \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
43. $B=n \ D=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
44. $B=n \ C=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
45. $B=n \ 2 \implies C=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
46. $B=n \ E=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
47. $B=n \ C=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
48. $B=n \ 2 \implies C=y \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
49. $B=n \ E=n \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
50. $B=n \ D=n \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
51. $B=n \ 2 \implies D=n \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
52. $D=y \ E=n \ 2 \implies C=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
53. $C=n \ E=n \ 2 \implies D=y \ 2 \text{ <conf:(1)> lift:(4.5) lev:(0.17) [1] conv:(1.56)}$
54. $C=n \ D=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
55. $D=y \ 2 \implies C=n \ E=n \ 2 \text{ <conf:(1)> lift:(4.5) lev:(0.17) [1] conv:(1.56)}$
56. $A=y \ B=y \ C=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
57. $B=y \ D=n \ E=y \ 2 \implies A=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
58. $A=y \ D=n \ E=y \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
59. $A=y \ B=y \ E=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
60. $D=n \ E=y \ 2 \implies A=y \ B=y \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
61. $B=y \ E=y \ 2 \implies A=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$

62. $A=y \ E=y \ 2 \implies B=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
63. $E=y \ 2 \implies A=y \ B=y \ D=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
64. $B=n \ C=y \ D=n \ 2 \implies A=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
65. $A=y \ B=n \ D=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
66. $A=y \ B=n \ C=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
67. $B=n \ D=n \ 2 \implies A=y \ C=y \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
68. $B=n \ C=y \ 2 \implies A=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
69. $A=y \ B=n \ 2 \implies C=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
70. $B=n \ 2 \implies A=y \ C=y \ D=n \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
71. $B=n \ C=y \ E=n \ 2 \implies A=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
72. $A=y \ B=n \ E=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
73. $A=y \ B=n \ C=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
74. $B=n \ E=n \ 2 \implies A=y \ C=y \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
75. $B=n \ C=y \ 2 \implies A=y \ E=n \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
76. $A=y \ B=n \ 2 \implies C=y \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
77. $B=n \ 2 \implies A=y \ C=y \ E=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
78. $B=n \ D=n \ E=n \ 2 \implies A=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
79. $A=y \ B=n \ E=n \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
80. $A=y \ B=n \ D=n \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
81. $B=n \ E=n \ 2 \implies A=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
82. $B=n \ D=n \ 2 \implies A=y \ E=n \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
83. $A=y \ B=n \ 2 \implies D=n \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
84. $B=n \ 2 \implies A=y \ D=n \ E=n \ 2 \text{ <conf:(1)> lift:(3) lev:(0.15) [1] conv:(1.33)}$
85. $A=n \ C=y \ D=n \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
86. $A=n \ B=y \ D=n \ 2 \implies C=y \ 2 \text{ <conf:(1)> lift:(1.5) lev:(0.07) [0] conv:(0.67)}$
87. $A=n \ B=y \ C=y \ 2 \implies D=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
88. $A=n \ D=n \ 2 \implies B=y \ C=y \ 2 \text{ <conf:(1)> lift:(2.25) lev:(0.12) [1] conv:(1.11)}$
89. $A=n \ C=y \ 2 \implies B=y \ D=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
90. $A=n \ C=y \ E=n \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
91. $A=n \ B=y \ C=y \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
92. $A=n \ C=y \ 2 \implies B=y \ E=n \ 2 \text{ <conf:(1)> lift:(1.8) lev:(0.1) [0] conv:(0.89)}$
93. $A=n \ D=n \ E=n \ 2 \implies B=y \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$
94. $A=n \ B=y \ D=n \ 2 \implies E=n \ 2 \text{ <conf:(1)> lift:(1.29) lev:(0.05) [0] conv:(0.44)}$

95. $A=n \ D=n \ 2 \implies B=y \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.8) \ \text{lev}:(0.1) \ [0] \ \text{conv}:(0.89)$
96. $A=n \ D=n \ E=n \ 2 \implies C=y \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.5) \ \text{lev}:(0.07) \ [0] \ \text{conv}:(0.67)$
97. $A=n \ C=y \ E=n \ 2 \implies D=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.29) \ \text{lev}:(0.05) \ [0] \ \text{conv}:(0.44)$
98. $A=n \ C=y \ D=n \ 2 \implies E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.29) \ \text{lev}:(0.05) \ [0] \ \text{conv}:(0.44)$
99. $A=n \ D=n \ 2 \implies C=y \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.8) \ \text{lev}:(0.1) \ [0] \ \text{conv}:(0.89)$
100. $A=n \ C=y \ 2 \implies D=n \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.8) \ \text{lev}:(0.1) \ [0] \ \text{conv}:(0.89)$
101. $C=n \ D=y \ E=n \ 2 \implies B=y \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.29) \ \text{lev}:(0.05) \ [0] \ \text{conv}:(0.44)$
102. $B=y \ D=y \ E=n \ 2 \implies C=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(3) \ \text{lev}:(0.15) \ [1] \ \text{conv}:(1.33)$
103. $B=y \ C=n \ E=n \ 2 \implies D=y \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(4.5) \ \text{lev}:(0.17) \ [1] \ \text{conv}:(1.56)$
104. $B=y \ C=n \ D=y \ 2 \implies E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.29) \ \text{lev}:(0.05) \ [0] \ \text{conv}:(0.44)$
105. $D=y \ E=n \ 2 \implies B=y \ C=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(3) \ \text{lev}:(0.15) \ [1] \ \text{conv}:(1.33)$
106. $C=n \ E=n \ 2 \implies B=y \ D=y \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(4.5) \ \text{lev}:(0.17) \ [1] \ \text{conv}:(1.56)$
107. $C=n \ D=y \ 2 \implies B=y \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.8) \ \text{lev}:(0.1) \ [0] \ \text{conv}:(0.89)$
108. $B=y \ D=y \ 2 \implies C=n \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(4.5) \ \text{lev}:(0.17) \ [1] \ \text{conv}:(1.56)$
109. $D=y \ 2 \implies B=y \ C=n \ E=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(4.5) \ \text{lev}:(0.17) \ [1] \ \text{conv}:(1.56)$
110. $B=n \ D=n \ E=n \ 2 \implies C=y \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.5) \ \text{lev}:(0.07) \ [0] \ \text{conv}:(0.67)$
111. $B=n \ C=y \ E=n \ 2 \implies D=n \ 2 \ \langle \text{conf}:(1) \rangle \ \text{lift}:(1.29) \ \text{lev}:(0.05) \ [0] \ \text{conv}:(0.44)$

The list goes on ...

5. Using Weka, implement Apriori and FP-Growth algorithms on Supermarket data, which is a sample data set coming with Weka installation. You can find it under Weka folder in your system. Please report your results with screen shots. You don't have to report all. Top of the results is enough for this question. (15 points)

```
Associator
Choose Apriori -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1

Start Stop
Result list (right-click for ...)
07:09:08 - Apriori

Associator output

=== Run information ===

Scheme:      weka.associations.Apriori -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1
Relation:    supermarket
Instances:   4627
Attributes:  217
              [list of attributes omitted]

=== Associator model (full training set) ===

Apriori
=====

Minimum support: 0.15 (694 instances)
Minimum metric <confidence>: 0.9
Number of cycles performed: 17

Generated sets of large itemsets:

Size of set of large itemsets L(1): 44

Size of set of large itemsets L(2): 380

Size of set of large itemsets L(3): 910

Size of set of large itemsets L(4): 633

Size of set of large itemsets L(5): 105

Size of set of large itemsets L(6): 1

Best rules found:

1. biscuits=t frozen foods=t fruit=t total=high 788 ==> bread and cake=t 723    <conf:(0.92)> lift:(1.27) lev:(0.03) [155] conv:(3.35)
2. baking needs=t biscuits=t fruit=t total=high 760 ==> bread and cake=t 696    <conf:(0.92)> lift:(1.27) lev:(0.03) [149] conv:(3.28)
3. baking needs=t frozen foods=t fruit=t total=high 770 ==> bread and cake=t 705    <conf:(0.92)> lift:(1.27) lev:(0.03) [150] conv:(3.27)
4. biscuits=t fruit=t vegetables=t total=high 815 ==> bread and cake=t 746    <conf:(0.92)> lift:(1.27) lev:(0.03) [159] conv:(3.26)
5. party snack foods=t fruit=t total=high 854 ==> bread and cake=t 779    <conf:(0.91)> lift:(1.27) lev:(0.04) [164] conv:(3.15)
6. biscuits=t frozen foods=t vegetables=t total=high 797 ==> bread and cake=t 725    <conf:(0.91)> lift:(1.26) lev:(0.03) [151] conv:(3.06)
7. baking needs=t biscuits=t vegetables=t total=high 772 ==> bread and cake=t 701    <conf:(0.91)> lift:(1.26) lev:(0.03) [145] conv:(3.01)
8. biscuits=t fruit=t total=high 954 ==> bread and cake=t 866    <conf:(0.91)> lift:(1.26) lev:(0.04) [179] conv:(3)
9. frozen foods=t fruit=t vegetables=t total=high 834 ==> bread and cake=t 757    <conf:(0.91)> lift:(1.26) lev:(0.03) [156] conv:(3)
10. frozen foods=t fruit=t total=high 969 ==> bread and cake=t 877    <conf:(0.91)> lift:(1.26) lev:(0.04) [179] conv:(2.92)
```

```
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 ...)
07:09:34 - 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:(0.03) conv:(3.35)
2. [fruit=t, baking needs=t, biscuits=t, total=high]: 760 ==> [bread and cake=t]: 696    <conf:(0.92)> lift:(1.27) lev:(0.03) conv:(3.28)
3. [fruit=t, baking needs=t, frozen foods=t, total=high]: 770 ==> [bread and cake=t]: 705    <conf:(0.92)> lift:(1.27) lev:(0.03) conv:(3.27)
4. [fruit=t, vegetables=t, biscuits=t, total=high]: 815 ==> [bread and cake=t]: 746    <conf:(0.92)> lift:(1.27) lev:(0.03) conv:(3.26)
5. [fruit=t, party snack foods=t, total=high]: 854 ==> [bread and cake=t]: 779    <conf:(0.91)> lift:(1.27) lev:(0.04) conv:(3.15)
6. [vegetables=t, frozen foods=t, biscuits=t, total=high]: 797 ==> [bread and cake=t]: 725    <conf:(0.91)> lift:(1.26) lev:(0.03) conv:(3.06)
7. [vegetables=t, baking needs=t, biscuits=t, total=high]: 772 ==> [bread and cake=t]: 701    <conf:(0.91)> lift:(1.26) lev:(0.03) conv:(3.01)
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) lev:(0.03) conv:(3)
10. [fruit=t, frozen foods=t, total=high]: 969 ==> [bread and cake=t]: 877    <conf:(0.91)> lift:(1.26) lev:(0.04) conv:(2.92)
```