

Problem set 7

Association pattern mining

Exercise 1

Consider the transaction database in the table below:

id	Transaction
1	A, B, C, D
2	B, C, E, F
3	A, D, E, F
4	A, E, F
5	B, D, F

Determine the support of itemsets A,E,F and D,F.

Exercise 2

For the database in Exercise 1

1. compute all frequent itemsets at frequency thresholds 0.4, 0.6, and 0.8;
2. determine all the maximal frequent itemsets at frequency thresholds 0.4, 0.6, and 0.8.

Exercise 3

For the database in Exercise 1, determine the confidence and support of the rules $A \Rightarrow F$, and $A,E \Rightarrow F$

Exercise 4

For the database in Exercise 1 and frequency threshold 0.4, show the candidate itemsets and the frequent itemsets in each level-wise pass of the Apriori algorithm.