

CMSC5724: Exercise List 10

Consider the mining of association rules on the transactions:

transaction id	items
1	A, B, E
2	A, B, D, E
3	B, C, D, E
4	B, D, E
5	A, B, D
6	B, E
7	A, E

Problem 1. What is the support of the itemset $\{B, D, E\}$?

Problem 2. What is the support and confidence of the association rule $BD \rightarrow E$?

Problem 3. Consider the application of the Apriori algorithm to find all the frequent itemsets whose counts are at least 3. Recall that the algorithm scans the transaction list a number of times, where the i -th scan generates the set F_i of all size- i frequent itemsets from a candidate set C_i . Show C_i and F_i for each possible i .

Problem 4. Find all the association rules with support at least 3 and confidence at least $3/4$. For your convenience, all the itemsets with support at least 3 are $\{\{A\}, \{B\}, \{D\}, \{E\}, \{A, B\}, \{A, E\}, \{B, D\}, \{B, E\}, \{D, E\}, \{B, D, E\}\}$.