Lesson 1 Quiz

5 试题

1 point

1。
Table 1: Transactions from a database

T_id	Items bought
10	Beer, Nuts, Diapers
20	Beer, Coffee, Diapers, Nuts
30	Beer, Diapers, Eggs
40	Beer, Nuts, Eggs, Milk
50	Nuts, Coffee, Diapers, Eggs, Milk

Given the transaction in Table 1 and *mini-support (minsup) s* = 40%, which of the following is a length-3 frequent item set?

- Beer, Nuts, Eggs
- Coffee, Diapers, Eggs
- Beer, Nuts, Diapers
- Beer, Coffee, Milk

1 point

2。

Table 1: Transactions from a database

T_id	Items bought
10	Beer, Nuts, Diapers
20	Beer, Coffee, Diapers, Nuts
30	Beer, Diapers, Eggs
40	Beer, Nuts, Eggs, Milk
50	Nuts, Coffee, Diapers, Eggs, Milk

A *strong* association rule satisfies both the *mini-support (minsup)* and *minconf* thresholds. Given the transactions in Table 1, *mini-support (minsup)* s = 50%, and *minconf* c = 50%, how many *strong* association rules are there? Note that the association rule $A \Rightarrow B$ and $B \Rightarrow A$ are distinct.

- [ ] 4
- [ ] 5
- [x] 6
- [ ] 2
- [ ] 0

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1 point

3。

Consider the database containing the transaction $T_1 : \{a_1, a_2, a_3\}$, $T_2 : \{a_2, a_3, a_4\}$, $T_3 : \{a_1, a_3, a_4\}$. Let *mini-support (minsup)* = 2. Which of the following frequent patterns is closed?

- [ ] $\{a_1\}$
- [ ] $\{a_2\}$
- [x] $\{a_1, a_3\}$
- [ ] $\{a_4\}$

1 point

4.
Consider the database containing the transactions $T_1 : \{a_1, a_2, a_3, a_4, a_5\}$, $T_2 : \{a_2, a_3, a_4, a_5, a_6\}$. Let *minsup* = 1. Which of the following is both a max frequent and a closed frequent pattern? Select all that apply.

- [ ] $\{a_2, a_5\}$
- [ ] $\{a_1, a_2, a_3, a_4, a_5, a_6\}$
- [x] $\{a_2, a_3, a_4, a_5, a_6\}$
- [ ] $\{a_2, a_3, a_4, a_5\}$
- [x] $\{a_1, a_2, a_3, a_4, a_5\}$

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1 point

5.
Rank the following sets by their cardinality for a given database: {all frequent patterns}, {closed frequent patterns}, and {max frequent patterns}.

- (●) {all frequent patterns} ≥ {closed frequent patterns} ≥ {max frequent patterns}
- ( ) {all frequent patterns} ≥ {max frequent patterns} ≥ {closed frequent patterns}
- ( ) {all frequent patterns} ≥ {max frequent patterns} = {closed frequent patterns}, i.e. the set of max frequent patterns and the set of closed frequent patterns are identical.
- ( )

{all frequent patterns} ≥ {max frequent patterns}, {all frequent patterns} ≥ {closed frequent patterns}, but the order of {max frequent patterns} and {closed frequent patterns} cannot be determined without further information.

Ranking is impossible without further information.

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