

## 1. Exercises

### 1.1 Tan Chapter 5

Q15.

- a. E
- b. D
- c. E
- d. B
- e. E

### 1.2 Zaki, Chapter 8

1.a.

Itemset	Count
A	5
B	4
C	5
D	6
E	1
F	4
G	5

E is pruned as minsup count is least

Itemset	Count
A	5
B	4
C	5
D	6
F	4
G	5

Itemset
A,B
A,C
A,D
A,F
A,G
B,C
B,D

B,F
B,G
C,D
C,F
C,G
D,F
D,G
F,G

Purned itemset-1 level will join itself to form itemset-2 level

Itemset	Count
A,B	3
A,C	3
A,D	4
A,F	2
A,G	2
B,C	2
B,D	2
B,F	1
B,G	2
C,D	4
C,F	2
C,G	3
D,F	4
D,G	3
F,G	2

Count of each itemset is obtained and itemsets less than minimum support will be removed

Itemset	Count
A,B	3
A,C	3
A,D	4
C,D	4
C,G	3
D,F	4
D,G	3

Purned itemset-2 level will join itself to form itemset-3 level with counts

Itemset	Count
A,B,C	1
A,B,D	2
A,C,D	3
A,C,G	1
A,D,F	2
A,D,G	1
C,D,G	2
C,D,F	2
D,G,F	2

itemsets less than minimum support will be removed

Itemset	Count
A,C,D	3

Item set {A,C,D} is the most frequent itemset

Q4.

{A} -> {B,E}

Conf = 0.5

{B} -> {A,E}

Conf = 0.4

{E} -> {A,B}

Conf=0.5

{A,B}->{E}

Conf = 0.66

{B,E} ->{A}

Conf = 0.5

{A,E} -> {B}

Conf = 1