1. Exercises
   1. Tan Chapter 5

Q15.

1. E
2. D
3. E
4. B
5. E
   1. 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