**TABLE-1**

| TID | LIST OF ITEM IDS |
|---|---|
| T100 | I1,I2,I5 |
| T200 | I2,I4 |
| T300 | I2,I3 |
| T400 | I1,I2,I4 |
| T500 | I1,I3 |
| T600 | I2,I3 |
| T700 | I1,I3 |
| T800 | I1,I2,I3,I5 |
| T900 | I1.I2,I3 |

**SOLUTIONS:SUPORT THRESHOLD=(2\9)=22%=2,MINIMUM CONFIDENCE=70%**

1. **Count Of Each Item**

**TABLE-2**

| Item | Count |
|---|---|
| I1 | 6 |
| I2 | 7 |
| I3 | 6 |
| I4 | 2 |
| I5 | 2 |
| I6 | 0 |
| I7 | 0 |
| I8 | 0 |
| I9 | 0 |

2. **Prune Step:**
shows that I6,I7,I8,I9 item does not meet min_sup=2, thus it is deleted, only I1, I2, I3, I4,I5 meet min_sup count.

**TABLE-3**

| item | count |
|---|---|
| **I1** | **6** |
| **I2** | **7** |
| **I3** | **6** |
| **I4** | **2** |
| **I5** | **2** |

3. **Join Step:** Form 2-itemset. From **TABLE-1** find out the occurrences of 2-itemset.
   **TABLE-4**

| ITEM | count |
|---|---|
| **I1, I2** | 4 |
| **I1 ,I3** | 4 |
| **I1, I4** | 1 |
| **I1 ,I5** | 2 |
| **I2 ,I3** | 4 |
| **I2,I4** | 2 |
| **I2,I5** | 2 |
| **I3, I4** | 0 |
| **I3,I5** | 1 |
| **I4,I5** | 0 |

4. **Prune Step: TABLE -4** shows that item set {I1, I4} , {I3, I4},{I3,I5} AND {I4,I5} does not meet min_sup, thus it is deleted.
   **TABLE-5**

| ITEM | COUNT |
|---|---|
| I1,I2 | 4 |
| I1,I3 | 4 |
| I1,I5 | 2 |
| I2,I3 | 4 |
| I2,I4 | 2 |
| I2,I5 | 2 |

5. **Join and Prune Step:** Form 3-itemset. From the **TABLE- 1** find out occurrences of 3-itemset. From **TABLE-5**, find out the 2-itemset subsets which support min_sup.

    - We can see for itemset {I1, I2, I3} subsets, {I1, I2}, {I1, I3}, {I2, I3} are occurring in **TABLE-5** thus {I1, I2, I3} is frequent.

    - We can see for itemset {I1, I2, I4} subsets, {I1, I2}, {I1, I4}, {I2, I4}, {I1, I4} is not frequent, as it is not occurring in **TABLE-5** thus {I1, I2, I4} is not frequent, hence it is deleted.

    - We can see itemset{I1,I2,I5} subsets, {I1, I2}, {I1, I5}, {I2, I5}, {I1, I5} is not frequent, as it is not occurring in **TABLE-5** thus {I1, I2, I5} is not frequent, hence it is deleted.

**TABLE-6**

| item |
|---|
| I1,I2,I3 |
| I1,I2,I4 |
| I1,I2,I5 |
| I1,I3,I4 |
| I1,I3,I5 |
| I2,I3,I4 |
| I2,I3,I5 |
| I3,I4,I5 |

**Only {I1, I2, I3} is frequent**.

6. **Generate Association Rules:** From the frequent itemset discovered above the association could be:
   {I1, I2} => {I3}

   Confidence = support {I1, I2, I3} / support {I1, I2} = (2/ 4)* 100 = 50%

{I1, I3} => {I2}

Confidence = support {I1, I2, I3} / support {I1, I3} = (3/ 4)* 100 = 75%

{I2, I3} => {I1}

Confidence = support {I1, I2, I3} / support {I2, I3} = (2/ 4)* 100 = 50%

{I1} => {I2, I3}

Confidence = support {I1, I2, I3} / support {I1} = (2/ 6)* 100 = 33.33%

{I2} => {I1, I3}

Confidence = support {I1, I2, I3} / support {I2 = (2/ 7)* 100 = 28.57%

{I3} => {I1, I2}

Confidence = support {I1, I2, I3} / support {I3} = (2/ 6)* 100 = 33.33%

ONLY ONE RULES STRONG {I1, I3} => {I2}.This shows that all the above association rules are WEEK if minimum confidence threshold is 70%.