**Solution 3a**

|  |  |
| --- | --- |
| Trans | Items |
| T1 | I1, I2, I3, I4, I5, I6, I7, I8, I9, I10 |
| T2 | I1, I2, I3, I4, I5, I6, I7, I8 |
| T3 | I1, I2, I3, I4, I5 |
| T4 | I6, I7, I8 |
| T5 | I100, I101, I102, I103 |

|  |  |
| --- | --- |
| Items | frequency |
| I1 | 3 |
| I2 | 3 |
| I3 | 3 |
| I4 | 3 |
| I5 | 3 |
| I6 | 3 |
| I7 | 3 |
| I8 | 3 |
| I9 | 1 |
| I10 | 1 |
| I100 | 1 |
| I101 | 1 |
| I102 | 1 |
| I103 | 1 |

Frequent Items with min\_support=2

|  |  |
| --- | --- |
| Items | frequency |
| I1 | 3 |
| I2 | 3 |
| I3 | 3 |
| I4 | 3 |
| I5 | 3 |
| I6 | 3 |
| I7 | 3 |
| I8 | 3 |

Number of frequent patterns: 2^8-1 = 255

**Solution 3b**

Definition of closed-pattern

An itemset X is closed if X is frequent and there exists no super itemset , Y SUPERSET X with the same support as X.

{I1,I2,I3,I4,I5,I6,I7,I8:2}

//SETS WITH 3 FREQUENCY

{I1,I2,I3,I4,I5:3}

{I6,I7,I8:3}

**Solution 3c**

Definiton of Max-Pattern

An itemset X is a max-­itemset if X is frequent and there exists no frequent super itemset Y SUPERSET X such that and Y is frequent.

{I1,I2,I3,I4,I5,I6,I7,I8:2}

**Solution 3d**

min-support = 2 and min-conf = 70

(I1,I2,I3,I4, IX ->IY )

* I1,I2,I3,I4, I6 ->I7

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

* I1,I2,I3,I4, I6 ->I8

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

* I1,I2,I3,I4, I7 ->I6

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

* I1,I2,I3,I4, I7 ->I8

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

* I1,I2,I3,I4, I8 ->I6

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

* I1,I2,I3,I4, I8 ->I7

Support count =2

Support = 2/5 =0.4

Confidence =2/2=100%

**Solution 3e**

I1->I6.

SUPPORT COUNT=2

SUPPORT of {I1,I6}=2/5 = 0.4

Confidence=2/3=0.67

Lift=confidence/support=0.67/0.4=1.67

INTEREST=

P(I1)=3/5=0.6

P(I6)=3/5=0.6

INTEREST=4.64