**Itemset ={ Bread, Chicken, Butter, Milk, Toast}**

|  |  |
| --- | --- |
| **Transaction ID** | **Items** |
| 100 | {Bread, Butter, Milk} |
| 200 | {Chicken, Butter, Toast} |
| 300 | {Bread, Chicken, Butter, Toast} |
| 400 | {Chicken, Toast} |

|  |  |
| --- | --- |
| **Item** | **Support** |
| **Bread** | **2 /4 = 0.5 = 50%** |
| **Chicken** | **3 /4 = 0.5 = 75%** |
| **Butter** | **3 /4 = 0.75 = 75%** |
| **Milk** | **1/4 = 0.25 = 25%** |
| **Toast** | **3/4 = 0.75 = 75%** |

**Itemset = { Bread, Chicken , Butter, Toast}**

|  |  |
| --- | --- |
| **Item** | **Support** |
| **{Bread, Chicken}** | **¼ = 0.25 =25%** |
| **{Bread, Butter}** | **2/4 =0.50 = 50%** |
| **{Bread, Toast}** | **¼ = 0.25 = 25%** |
| **{Chicken, Butter}** | **2/4 = 0.50 = 50 %** |
| **{Chicken, Toast}** | **¾ = 0.75 = 75%** |
| **{Butter, Toast}** | **2/4 = 0.50 = 50%** |

**Itemset = ({Bread, Butter}, {Chicken, Butter} , {Chicken, Toast}, {Butter, Toast})**

|  |  |
| --- | --- |
| **Item** | **Support** |
| {Bread, Butter, Toast} | 1/ 4 = 0.25 = 25% |
| {Chicken, Butter, Toast} | 2/4 =0.50 = 50 % |
| {Bread, Butter, Chicken} | ¼ = 0.25 = 25% |

Final Resultant Set based on Support = {Chicken, Butter, Toast}

Rules

1 . (Chicken & Butter ) - > Toast 2 (50%)

2. (Butter & Toast) -> Chicken 2 (50%)

3. (Chicken & Toast) -> Butter 2 (50%)

4. Chicken - > (Butter & Toast) 2 (50%)

5. Toast -> (Chicken & Butter) 2 (50%)

6. Butter -> (Chicken & Toast) 2 (50%)

Confidence = S(A U B).count / S(A).count

**1 . (Chicken & Butter ) - > Toast 2 (50%)**

S((Chicken &Butter) U (Toast))/ S(Chicken & Butter)

=2 / 2 = 1 = **100%**

**2. . (Butter & Toast) -> Chicken**

Confidence = S(A U B).count / S(A).count

S((Butter & Toast) U Chicken)) /S(Butter & Toast)

=2 / 2 = 1 = **100%**

**3. (Chicken & Toast) -> Butter 2 (50%)**

Confidence = S(A U B).count / S(A).count

S((Chicken & Toast) U (Butter))/S(Chicken & Toast)

=2/3 = 0.666 **= 67%**

**4. Chicken - > (Butter & Toast) 2 (50%)**

Confidence = S(A U B).count / S(A).count

S((Chicken) U (Butter & Toast))/S(Chicken)

=2/3 = 0.666 = **67%**

**5. Toast -> (Chicken & Butter) 2 (50%)**

Confidence = S(A U B).count / S(A).count

S((Toast) U (Chicken & Butter))/S(Toast)

=2/3 = 0.666 = **67%**

**6. Butter -> (Chicken & Toast) 2 (50%)**

Confidence = S(A U B).count / S(A).count

S((Butter) U (Chicken & Toast))/S(Butter)

=2/3 = 0.666 = **67%**

**Final Associated Items rules are**

1 . (Chicken & Butter ) - > Toast 2 (50%)

2. (Butter & Toast) -> Chicken 2 (50%)