

## \* Apriori Algorithm:-

## \* Example:-1.

TID	Items
100	1 3 4
200	2 3 5
300	1 2 3 5
400	2 5

Minimum Support = 2

## → Step:-1

ItemSet	Min. sup
{1}	2
{2}	3
{3}	3
{4}	1
{5}	3

→

ItemSet	Min. sup
{1}	2
{2}	3
{3}	3
{5}	3

→

ItemSet	Min. sup
{1, 2}	1
{1, 3}	2
{1, 5}	1
{2, 3}	2
{2, 5}	3
{3, 5}	2

→

ItemSet	Min. sup
{1, 3}	2
{2, 3}	2
{2, 5}	3
{3, 5}	2

→

ItemSet	Min. sup
{1, 2, 3}	1
{1, 3, 5}	1
{2, 3, 5}	2



	Support	Confidence	Con. (%)
$2 \rightarrow 3^{\wedge} 5$	2	$2/3$	67%
$3 \rightarrow 2^{\wedge} 5$	2	$2/3$	67%
$5 \rightarrow 2^{\wedge} 3$	2	$2/2$	100%
$2^{\wedge} 3 \rightarrow 5$	2	$2/2$	100%
$3^{\wedge} 5 \rightarrow 2$	2	$2/2$	100%
$2^{\wedge} 5 \rightarrow 3$	2	$2/3$	67%

→ Confidence  $(A \rightarrow B) = \frac{S(A \cup B)}{S(A)}$

\* Example 1-2.

TID	Items
1	Bread, Milk
2	Bread, Diaper, Beer, Eggs
3	Milk, Diaper, Beer, Cold
4	Milk, Diaper, Beer, Cold
5	Bread, Milk, Diaper, Cold

Minimum Support = 3

ItemSet	Min. sup
{Bread}	3
{Milk}	4
{Diaper}	4
{Beer}	3
{Eggs}	1
{Cold}	3

ItemSet	Min. sup
{Bread}	3
{Milk}	4
{Diaper}	4
{Beer}	3
{Cold}	3



→

ItemSet	Min. Sup
{Bread, Milk}	2
{Bread, Diaper}	2
{Bread, Beer}	1
{Bread, Cold}	1
{Milk, Diaper}	3
{Milk, Beer}	2
{Milk, Cold}	3
{Diaper, Beer}	3
{Diaper, Cold}	3
{Beer, Cold}	2

→

ItemSet	Min. Sup
{Milk, Diaper}	3
{Milk, Cold}	3
{Diaper, Beer}	3
{Diaper, Cold}	3

→

ItemSet	Min. Sup
{Milk, Diaper, Cold}	3
{Milk, Diaper, Beer}	2
{Diaper, Beer, Cold}	2



→

	Support	Con.	Con.(%)
milk $\rightarrow$ {Diaper, cola}	3	$3/4$	$3/4 \times 100 = 75\%$
Diaper $\rightarrow$ {milk, cola}	3	$3/4$	75%
cola $\rightarrow$ {Diaper, milk}	3	$3/3$	100%
{milk, Diaper} $\rightarrow$ cola	3	$3/3$	100%
{milk, cola} $\rightarrow$ Diaper	3	$3/3$	100%
{Diaper, cola} $\rightarrow$ milk	3	$3/3$	100%