

Apriori Algo

- Min Support = 50%
- Threshold Confidence = 70%

①	②	③	④
Trans	Items	Trans	Support
100	1 3 4	1	2/4 → 50% ✓ 2
200	2 3 5	2	3/4 → 75% ✓ 3
300	1 2 3 5	3	3/4 → 75% ✓ 3
400	2 5	4	1/4 → 25% ✗ 1
		5	3/4 → 75% ✓ 3

⑤	⑥	⑦	⑧
Itemset	Support	Itemset	Support
{1, 2}	1/4 → 25% ✗	{1, 3, 5}	1/4 = 25% ✗
{1, 3}	2/4 → 50% ✓ 2	{2, 3, 5}	2/4 = 50% ✓ 2
{1, 5}	1/4 → 25% ✗	{1, 2, 3}	1/4 = 25% ✗
{2, 3}	2/4 → 50% ✓ 2		
{2, 5}	3/4 → 75% ✓ 3		
{3, 5}	2/4 → 50% ✓ 2		

We will use this

to create our association rule

Forming Rules

Min Support = 50%

Confidence	Rules	Support
2/2 = 100%	$(2 \wedge 2) \rightarrow 5$	2
2/2 = 100%	$(3 \wedge 5) \rightarrow 2$	2
2/3 = 66%	$(2 \wedge 5) \rightarrow 3$	2
2/3 = 66%	$2 \rightarrow (3 \wedge 5)$	2
2/3 = 66%	$5 \rightarrow (2 \wedge 3)$	2
2/3 = 66%	$3 \rightarrow (2 \wedge 5)$	2

Confidence

$$= S(A \cup B) / S(A)$$

E.g:- $\frac{(2 \wedge 3)}{A} \rightarrow \frac{5}{B}$

$$S((2 \wedge 3) \cup 5) / S(2 \wedge 3)$$

$$= 2/2 = 100\%$$

Confidence

$$2/2 = 100\%$$

$$2/2 = 100\%$$

$$2/3 = 66\%$$

$$2/3 =$$

Final Rule → $(2 \wedge 3) \rightarrow 5$ & $(3 \wedge 5) \rightarrow 2$

F-P Growth

Min Support = 2

TID	Items
1	b d c a
2	e d c
3	a b
4	a c d
5	f g d b

Items	support
a	3
b	3
c	3
d	4
e	1 x
f	1 x
g	1 x

According to priority Reasoning TID table above

d	4
a	3
b	3
c	3

TID	Items
1	a a b c
2	d c
3	a b
4	d a c
5	d b



