

4.2.48

Q: TID Items Bought

1	NEW
2	NOW
3	WE
4	ONE
5	OWN
6	GO

(a) min sup 30%  
Apriori

(b) 2 association  
rules have  
min confidence 60%

Solution(a)

① minimum support count =  $6 \times 0.3 = 1.8 \approx 2$

② I - ITEMSET	count
N	4
E	3
W	4
O	4
G	1

$C_1 \rightarrow L_1$

③ 2-ITEMSET      count

NE	2
NW	3
NO	3
EW	2
<del>EO</del>	<del>1</del>
WO	2

$C_2 \rightarrow L_2$

④ 3-ITEMSET      count       $C_3 \rightarrow L_3$

<del>NEW</del>	<del>1</del>	count < 2
<del>NEO</del>	<del>1</del>	prune due to EO
NWO	2	
<del>EW O</del>	<del>1</del>	prune due to EO

⑤ Hence the frequent itemset are  
 N, E, W, D, NE, NW, NO, EW, WO, NWD

(b) A number of association rules have a min 66%

$$NW \rightarrow O \quad \text{conf} = \frac{\sigma(NWO)}{\sigma(NW)} = \frac{2}{3} = 66.7\% > 60\%$$

$$NO \rightarrow W \quad \text{conf} = \frac{\sigma(NWO)}{\sigma(NO)} = \frac{2}{3} = 66.7\% > 60\%$$

$N \rightarrow W$

$N \rightarrow O$

$E \rightarrow N$

$E \rightarrow W$

$W \rightarrow N$

$O \rightarrow N$