

Data Mining HW#5
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HW5-1

Minsup = 50%

Min confidence = 30%

A-

First we generate all frequent itemsets having only 1 item with support \geq minsup

item	frequency
E	2
Q	3
Y	3
R	4
T	4
W	5

Item E does not satisfy minsup condition, so we remove it. Now we generate itemsets of length 2 from these single itemsets:

item	frequency
QR	2
QT	2
QW	2
RT	2
RY	2
TY	2
QY	0
RW	3
WY	3

TW	4
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From the above table, we remove the generated itemsets that do not satisfy the minsup condition, meaning frequency \geq minsup, so we remove any itemset with frequency lower than 3 from the above list. So finally the candidate frequent itemsets are the following:

item	frequency
Q	3
R	4
T	4
W	5
Y	3
RW	3
TW	4
WY	3

B- these rules meet the min confidence requirements

rules	support	confidence
R->W	0.5	0.75
W->R	0.5	0.6
T->W	0.67	1
W->T	0.67	0.8
W->Y	0.5	0.6
Y->W	0.5	1

HW5-2

A-

32456 = 23456

2,3,4 2,3,5 2,3,6		
2,4,5 2,4,6	3,4,5 3,4,6	
2,5,6	3,5,6	4,5,6

489542 = 24589

2,4,5 2,4,8 2,4,9		
2,5,8 2,5,9	4,5,8 4,5,9	
2,8,9	4,8,9	5,8,9

For 52, we can not generate any 3 itemset from this transaction

For 9999, we can not generate any 3 itemset from this transaction