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Answer 3)

TID	ITEMS
T1	A, B, C, E
T2	A, B, C, D, E
T3	A, B, C, G
T4	A, C, F
T5	A, B, D, E, F

Support = 60% = 3 , Confidence = 50%

C1	
{A}	5
{B}	4
{C}	4
~~{D}~~	~~2~~
{E}	3
~~{F}~~	~~2~~
~~{G}~~	~~1~~

L1	
{A}	5
{B}	4
{C}	4
{E}	3

C2	
{A, B}	4
{A, C}	4
{A, E}	3
{A, C}	3
{B, E}	3

L2	
{A, B}	4
{A, C}	4
{A, E}	3
{B, C}	3
{B, E}	3

C3	
{A, B, C}	3
{A, B, E}	3
~~{A, C, E}~~	~~2~~
~~{B, C, E}~~	~~2~~

L3	
{A, B, C}	3
{A, B, E}	3

C4	
~~{A, B, C, E}~~	~~2~~

So, The best itemsets are {A, B, C} & {A, B, E}

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For {A, B, C} itemset,

CONFIDENCE

R1: A, B → C = 3/4 = 75% (R1 is selected)
R2: A, C → B = 3/4 = 75% (R2 is selected)
R3: B, C → A = 3/3 = 100% (R3 is selected)
R4: A → B, C = 3/5 = 60% (R4 is selected)
R5: B → A, C = 3/4 = 75% (R5 is selected)
R6: C → A, B = 3/4 = 75% (R6 is selected)

Lift(R1): Lift(A, B → C) = 3/(4*4) = 0.1889 (<1, -ve asso
Lift(R2): Lift(A, C → B) = 3/(4*4) = 0.188 (<1, -ve associated)
Lift(R3): Lift(B, C → A) = 3/(3*5) = 0.2 (<1, -ve associated)
Lift(R4): Lift(A → B, C) = 3/(5*3) = 0.2 (<1, -ve associated)
Lift(R5): Lift(B → A, C) = 3/(4*4) = 0.188 (<1, -ve associated)
Lift(R6): Lift(C → A, B) = 3/(4*4) = 0.188 (<1, -ve associated)

For {A, B, E} itemset,

CONFIDENCE

R1: A, B → E = 3/4 = 75% (R1 is selected)
R2: A, E → B = 3/3 = 100% (R2 is selected)
R3: B, E → A = 3/3 = 100% (R3 is selected)
R4: A → B, E = 3/5 = 60% (R4 is selected)
R5: B → A, E = 3/4 = 75% (R5 is selected)
R6: E → A, B = 3/4 = 75% (R6 is selected)

Lift(R1): Lift(A, B → E) = 3/(4*3) = 0.25 (<1, -ve associated)
Lift(R2): Lift(A, E → B) = 3/(3*4) = 0.25 (<1, -ve associated)
Lift(R3): Lift(B, E → A) = 3/(3*5) = 0.2 (<1, -ve associated)
Lift(R4): Lift(A → B, E) = 3/(5*3) = 0.2 (<1, -ve associated)
Lift(R5): Lift(B → A, E) = 3/(4*3) = 0.25 (<1, -ve associated)
Lift(R6): Lift(E → A, B) = 3/(3*4) = 0.25 (<1, -ve associated)

So, finally not a single rule is suitable to provide the discount.