The 30 items with Item\_Ids are

Mobiles(I1) , clothes(I2) , shoes(I3) , printer(I4), scanner(I5) , mouse(I6) , key(I7) , board(I8) , lock(I9) , Knife(I10) , plate(I11) , glass(I12) , spoon(I13) , rice(I14) , fruites(I15) , computers(I16) , diapers(I16) , box(I17) , pen(I18) , pencil (I19), eraiser(I20) , slate(I21) , cock(I22) , speaker(I23) , slippers(I24) , fan(I25) , bulb(I26) , light(I27) , tube(I28) , tyre(I29) , diapers(I30) . DataBase of 20 transactions is

|  |  |
| --- | --- |
| TId | List of Item\_Ids |
| T1 | I1 , I5 , I6 |
| T2 | I2 , I7 |
| T3 | I5 , I2 |
| T4 | I5 , I27 |
|  |  |
| T5 | I8 , I20 |
| T6 | I9 , I21 |
| T7 | I19 , I23 |
| T8 | I25 , I26 |
| T9 | I22 , I18 , I19 |
| T10 | I28 , I8 |
| T11 | I4 , I3 , I13 |
| T12 | I19 , I13 , I14 |
| T13 | I16 , I15 , I18 |
| T14 | I22 , I24 , I25 |
| T15 | I9 , I10 , I20 |
| T16 | I30 , I7 , I9 |
| T17 | I17 , I28 , I29 |
| T18 | I12 , I11 , I14 , I6 |
| T19 | I25 , I4 , I3 |
| T20 | I3 , I4 , I16 |

Scan the database for count of each candidate.

C1 is

|  |  |
| --- | --- |
| Item set | sup.count |
| {I1} | 1 |
| {I2} | 1 |
| {I3} | 3 |
| {I4} | 3 |
| {I5} | 3 |
| {I6} | 2 |
| {I7} | 2 |
| {I8} | 2 |
| {I9} | 2 |
| {I10} | 1 |
| {I11} | 1 |
| {I12} | 1 |
| {I13} | 2 |
| {I14} | 2 |
| {I15} | 1 |
| {I16} | 2 |
| {I17} | 1 |
| {I18} | 2 |
| {I19} | 2 |
| {I20} | 2 |
| {I21} | 1 |
| {I22} | 2 |
| {I23} | 1 |
| {I24} | 1 |
| {I25} | 2 |
| {I26} | 1 |
| {I27} | 1 |
| {I28} | 2 |
| {I29} | 1 |
| {I30} | 1 |

Min Support count is 3.

Now compare candidate support count with minimum support count.

L1 is

|  |  |
| --- | --- |
| Item set | sup.count |
| {I3} | 3 |
| {I4} | 3 |
| {I5} | 3 |

C2 is

|  |  |
| --- | --- |
| Item set | sup.count |
| {I3,I4} | 3 |
| {I3,I5} | 0 |
| {I4,I5} | 0 |
| Now L2 is |  |
| Item set | sup.count |
| {I3,I4} | 3 |

Association rules can be generated as follows :

i) For each frequent itemset L , generate all non empty subsets of L .

I3 ---> I4

I4 ---> I3 I3 ^ I4 ---> null ii) output the rule s → (L - s) if sup.count(L)/sup.count(s)≥min\_conf where min\_conf is the minimum con dence threshold. and min\_conf is 50% Therefore rule 1) I3 ---> I4 count = 3/3 = 100% rule 2) I4 ---> I3 count = 3/3 = 100%

Therefore rule 1 and rule 2 are stronger association rules.

Similary Create another 4 databases from the list of items and solve them as above.