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Question: Create 30 items usually seen in Amazon, K-mart, or

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Create 30 items usually seen in Amazon, K-mart, or any other supermarkets (e.g. diapers, clothes, etc.).

(1) Create a database of 20 transactions each containing some of these items. The information can be stored in a file, or a DBMS (e.g. ORACLE).

2) Repeat (1) by creating 4 additional, different databases each containing 20 transactions. Using Apriori, generate and print out all the association rules and the input transactions for each of the 5 transaction databases you created (support and confidence should be user-determined parameter values, so the output should show different support and confidence values).

Expert Answer

Anonymous
answered this

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 confidence threshold. and min_conf is 50%

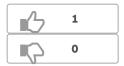Therefore

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.

   0 Comments

Was this answer helpful?

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Questions viewed by other students

Using Python - Implement the brute force method and compare the brute force method with the Apriori algorithm on the following data. Present computation (CPU or clock) time to demonstrate that the Apriori algorithm is faster than the brute force method. The brute force method and Apriori algorithm should output the same association rules on each database. products 0 MILK...

See answer

Using Python Implement brute force method to get all association rules. The brute force method for finding frequent itemsets works as follows. Enumerate and generate all possible 1-itemsets and 2-itemsets. Check to see whether each possible 1-itemset/2-itemset is frequent. Then enumerate and generate all possible 3-itemsets. Check to see whether each possible 3-itemset is frequent...

See answer   100% (1 rating)

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