2. Spectacle - Prescrip = myope tear prod - rate === Run information = Scheme: weka. associations. Apriori - N 10 -T - 10019 100+ squitomisq 0:05 400 1.077M 6.12-50 21:046 Relation: Contact - lenses Enstances: 24 stor-borg-rost on = maisompileo (u age stor-borg - not ov = meiturgitons (3 commentspectacle - prescripe - 19293) - toolina () a star astigmatism a liter werest - tootral (T e de la rock

tear-prod-rate Contact-lenses

=== Associator model (fulling training set) ===

Apriori

========

Minimum Support: 0.2 (5 instances)
Minimum metric (Confidence): 0.9

Number of Cycles performed: 16

Generated sets of large itemsets:

Size et set et large itements L(i):11

Size of set of large itements L(2):21

Size of set of large itemerets L(3):6

Best rules found:

1. teax-prod = rate = reduced 12 ==> Contact-lenser = hone 12 < Conf: (1) > lift: (1.6) lev: (0.19) [a] conv: (4.5)

2. Spectacle - prescrip = myope tear-prod-vate = reduced 5 ==> Contact-lenses = none 6. (onf: (o) > lift: (1.0) lev: (0.09) [2] Conv: (2.25)

3) spectacle - prescript = hypermetrope tear-prodvote = reduced 6 ==> Contact - lenses = none 6

u) astigmatism = no tear-prod-rate = reduced 6

5) antigmatism = yes tear-prod-vate = reduced 6

6) Contact -lenser = seft 5 => artigmatism=no5

7) Contact - lenser = soft 5 == + tear - prod-rate =

normals

8. tear-prod-vote = normal Contact -lenser = soft == + artigmatism = nos

q. outigmatism = no Contact - lenser = soft 5 ==> tear-prod-vate = normal 5

10. Contact-lenser = Soft ==> Outigmatism = no tear-prod-vate = normal 5

VIVA QUESTIONS

- Define support and confidence.
- sus. Support measures how after the relationship a given rule refers to appears in the DB beging mined, while Confidence refers to the number of times the relationship turns out to be true. What are the frequent patterns?
- ins. Evequent patterns in data mining are items or itemsets that appear frequently together in transactional data.
- Where we are using apriori algorithm in real time scenario?
- Ins. It is used in real-time senavio such as market basket analysis do identify association blw items frequently punchased together.
- Explain association rule with a suitable example.
- Ans. It identifies relationships blu variables, such as "if a Costomer buys bread, they are likely to buy butter, revealing patterns in item purchases.

 What is apriori property?
- Ins. It refers to the algorithm's tocus on generating frequent itemsets by leveraging the property that all subsets of a frequent itemsel must also be frequent. How can we further improve the efficiency of apriori-based mining?
- Ans. Improve efficiency by pruning infrequent itemsets, using hash-based structures, or applying FP-Growth.

Week-2

-Aim: - 100 10 20010 500 500 3010 1901 This Experiment illustrates some of the basic elements of anociation rule mining using WEKA The Sample dataset used for this example is Contactlenses arth.

loading the data we can load dataset into weka. by clicking on open botton in preprocessing. intexface and selecting the appropriate file

[In program files -> data -> Contactlenses in weka -> Open with notepad]

Once the data is loaded, weka will recognize the attributes and during scan of the data weka will Complète baric stratergies on each attribute.

In left pannel relations instances, attributes, Sum of weights are present whereas in right Pannel relected attabate compered in in

description will be shown , , , also be some.

After data is loaded click on the anociate tab will bring up the interface for amociation vole algorithm. (E) is the special of the second

Step 5:Then click on choose and choose aprioris. algorithm Step 6: Step 6: Next, click on start to run the experiment. Output: === Run information ===

Scheme: weka. associations. Apriori -N 10-T0-C0.9-D

Scheme: weka. associations. Apriori -N 10-T0-C0.9-D

Relation: Contact-Lenses Instances: 24 / De date de la mongrara al Attributes: 5 age happion the ray of allo spectacle-prescrip
astigmatism
tear-prod-rate Contact-lenses Contact-lenses === Associator model (fulling training set) ==== Aprioni =======

Minimum support: 0.2 (5 instances) Minimum metric K confidence > 1.0.9 Number of Cycles performed: 16: 1100 001/1900 Generated sets of large itemsets: Size of set of large itemset L(1): 11 size of set of large itemset L(2):21.
Size of set of large itemset L(3):6

Best rules found: 1. tear-prod-rate = reduced 12 ==> Contact-lenses= none 12 < conf: (1)> lift: (1.6) lev: (0.19) [u] Conv: (4) 2. Spectacle-prescrip = myope tear-prod-rate = reduced 6 ==> Confact-lenses = none 6 (conf:(1)> liff:(1.6) lev:(0.09) [2] Conv:(2.25) 3. Spectacle - prescript = hypermetrope tear - prod - rate = reduced 6 ==> Contact - lenses = none 6 (Conf: (1) > lift: (1.6) lev: (0.09) [2] Conv: (2.25) 4. a stigmatism = yes no tear-prod-vate = reduced 6 5. astigmatism = yes tear-prod - rate = reduced 6 6. Contact-lenses = soft = = => astigmatism=no 5 7. Contact - lenses = seft 5 ==> tear-prod-rate = normal 5 8. tear-prod -rate = normal Contact -lenser = soft 5=> astigmatism = no5

9. Ostigmatism = no Contact - lepues = soft 5 ==> tear-prod-vate \$ = normal 5

10. Contact -lenses = Soft 5 = => astigmatism=no tear-prod-rate = normal 5