

18/07/25

Task

130

LAB-7

(Part-A)

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Date

✱

AprioriAlgorithm

(1)

TID

Items

100

1 3 4

200

2 3 5

300

1 2 3 5

400

2 5

Step-1

Item Set

ItemSet

min Sup

215

2

223

3

135

3

245

1 X

155

3

Step 2

Minimum Count less than

ItemSet

minSup

215

2

223

3

233

3

245

3

Step 3

Itemset pairing

Step 4 min Set compare Value

Itemset

$\{1, 2\}$

$\{1, 3\}$

$\{1, 5\}$

$\{2, 3\}$

$\{2, 5\}$

$\{3, 5\}$

Itemset

minSup

~~$\{1, 2, 3\}$~~

~~$\{1, 3, 5\}$~~

$\{2, 3, 5\}$

~~1~~

~~1~~

2

Itemset

minSup

$\{1, 2\}$

1

$\{1, 3\}$

2

$\{1, 5\}$

~~1~~

$\{2, 3\}$

2

$\{2, 5\}$

3

$\{3, 5\}$

2

Steps

Final Table Pairing

Itemset

minSup

$\{1, 2\}$

2

$\{2, 3\}$

2

$\{2, 5\}$

3

$\{3, 5\}$

2

Step 6

Final Table Answer Comparing and Condition

Itemset

minSup

$\{1, 2, 3\}$

~~1~~

$\{1, 3, 5\}$

~~1~~

$\{2, 3, 5\}$

2

2

2

2

2

2

2

2

1

Step 2 Rules Generation

Association Rule	Support	Confidence	Confidence (1.)
$2 \wedge 3 \rightarrow 5$	2	$2/2 = 1$	100%
$3 \wedge 5 \rightarrow 2$	2	$2/2 = 1$	100%
$2 \wedge 5 \rightarrow 3$	2	$2/3 = 0.66$	66%
$2 \rightarrow 2 \wedge 5$	2	$2/3 = 0.66$	66%
$3 \rightarrow 2 \wedge 5$	2	$2/3 = 0.66$	66%
$5 \rightarrow 2 \wedge 3$	2	$2/3 = 0.66$	66%

(c)

TID	Items
1	Bread, milk
2	Bread, Diaper, Beer, Eggs
3	Milk, Diaper, Beer, Cola
4	Milk, Diaper, Beer, Cola
5	Bread, milk, Diaper, Cola

Step 1

Item Set	min sup	Item Set	min sup
B = {1, 5}	3	B = {1, 5}	3
m = {2, 3}	4	m = {2, 3}	4
D = {3, 4}	4	D = {3, 4}	3
Be = {2, 4, 5}	3	Be = {2, 4, 5}	3
C = {1, 5, 4}	3	C = {1, 5, 4}	3
E = {2, 4, 5}	1		

Step 2

1, 2, 3, 4, 5

ItemSet

<1 2>

<1 3>

<1 4>

<1 5>

<2 3>

<2 4>

<2 5>

<3 4>

<3 5>

<4 5>

Items

1, 2

1, 3, 4, 6

2, 3, 4, 5

2, 3, 4, 5

1, 2, 3, 5

Step 3

Compare of Two Pairs of Set

ItemSetminSup

<1 2>

2 x

<1 3>

2 x

<1 4>

1 x

<1 5>

1 x

<2 3>

3

<2 4>

3

<3 4>

3

<3 5>

3

<4 5>

2 x

Item SetminSup

<2 3>

3

<2 4>

3

<3 4>

3

<3 5>

3

Step 4

ItemSet

minSup

$\{2, 3, 4\}$

2 \times

$\{2, 3, 5\}$

3

$\{3, 4, 5\}$

2 \times

Steps

Rules

Generation

Association

Support

Confidence

Confidence

Rule

$2 \wedge 3 \rightarrow 5$

3

$3/3 = 1$

100%

$3 \wedge 5 \rightarrow 2$

3

$3/3 = 1$

100%

$2 \wedge 5 \rightarrow 3$

3

$3/3 = 1$

100%

$2 \rightarrow 3 \wedge 5$

3

$3/4 = 0.75$

75%

$3 \rightarrow 2 \wedge 5$

3

$3/4 = 0.75$

75%

$5 \rightarrow 2 \wedge 3$

3

$3/3 = 1$

100%