

# MODULE 11 REPORT

## INDUCTION AND ASSOCIATION RULE



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Informatics Study Program

Faculty of Communication and Informatics

Muhammadiyah University of Surakarta

Where can I find older version 9.0.003 x Download x Draft (54) - vivietralala@gmail.com x

<new process\*> - RapidMiner Studio Free 9.0.003 @ LABSI-17-PC

File Edit Process View Connections Cloud Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataCuaca\_Training)

ExampleSet (Nominal2Binominal)

ExampleSet (/Local Repository/DataCuaca\_Testing)

Result History

FrequentItemSets (FP-Growth)

AssociationRules (Create Association Rules)

No. of Sets: 26  
Total Max. Size: 4

Min. Size: 1  
Max. Size: 4

Contains Item:

Update View

Size	Support ↓	Item 1	Item 2	Item 3	Item 4
1	0.500	Kelembaban_u...			
1	0.429	Berangin			
1	0.429	Suhu			
1	0.357	Cuaca = Cerah			
1	0.357	Cuaca = Hujan			
1	0.286	Cuaca = Mendu...			
2	0.214	Kelembaban_u...	Berangin		
2	0.214	Kelembaban_u...	Suhu		
2	0.214	Kelembaban_u...	Cuaca = Cerah		
2	0.214	Suhu	Cuaca = Cerah		
2	0.143	Kelembaban_u...	Cuaca = Hujan		
2	0.143	Kelembaban_u...	Cuaca = Mendu...		
2	0.143	Berangin	Suhu		

Repository

Import Data

Training Resources (connected)

Samples

Community Samples (connected)

DB

Local Repository (LABSI-17)

Connections (LABSI-17)

data (LABSI-17)

processes (LABSI-17)

CuacaProcess (LABSI-17 - v1, 11/2)

DataCuaca\_Testing (LABSI-17 - v1)

DataCuaca\_Training (LABSI-17 - v1)

Cloud Repository (disconnected)

9:46 AM 11/21/2019

Document1 - Word

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AssociationRules (Create Association Rules)

No. of Sets: 26  
Total Max. Size: 4

Min. Size: 1  
Max. Size: 4

Contains Item:

Update View

Size	Support ↓	Item 1	Item 2	Item 3	Item 4
2	0.143	Berangin	Cuaca = Cerah		
2	0.143	Berangin	Cuaca = Hujan		
2	0.143	Berangin	Cuaca = Mendu...		
2	0.143	Suhu	Cuaca = Mendu...		
3	0.143	Kelembaban_u...	Suhu	Cuaca = Cerah	
3	0.143	Berangin	Suhu	Cuaca = Cerah	
2	0.071	Suhu	Cuaca = Hujan		
3	0.071	Kelembaban_u...	Berangin	Suhu	
3	0.071	Kelembaban_u...	Berangin	Cuaca = Cerah	
3	0.071	Kelembaban_u...	Berangin	Cuaca = Hujan	
3	0.071	Kelembaban_u...	Berangin	Cuaca = Mendu...	
3	0.071	Kelembaban_u...	Suhu	Cuaca = Mendu...	
4	0.071	Kelembaban_u...	Berangin	Suhu	Cuaca = Cerah

Repository

Import Data

Training Resources (connected)

Samples

Community Samples (connected)

DB

Local Repository (LABSI-17)

Connections (LABSI-17)

data (LABSI-17)

processes (LABSI-17)

CuacaProcess (LABSI-17 - v1, 11/2)

DataCuaca\_Testing (LABSI-17 - v1)

DataCuaca\_Training (LABSI-17 - v1)

Cloud Repository (disconnected)

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File Edit Process View Connections Cloud Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal2Binominal)

Show rules matching  
all of these conclusions: Suhu Cuaca = Cerah

Premises	Conclusion	Support	Confidence	LaPlace	Gain	p-s
Berangin, Suhu	Cuaca = Cerah	0.143	1	1	-0.143	0.092
Berangin, Cuaca = Cerah	Suhu	0.143	1	1	-0.143	0.082
Kelembaban_udara, Berangin, Suhu	Cuaca = Cerah	0.071	1	1	-0.071	0.046
Kelembaban_udara, Berangin, Cuaca = Cerah	Suhu	0.071	1	1	-0.071	0.041

Min. Criterion: confidence  
Min. Criterion Value:

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Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal2Binominal)

Zoom ISOM

Node Labels  
Edge Labels

Filter  
Show rules matching  
all of these conclusions: Suhu Cuaca = Cerah

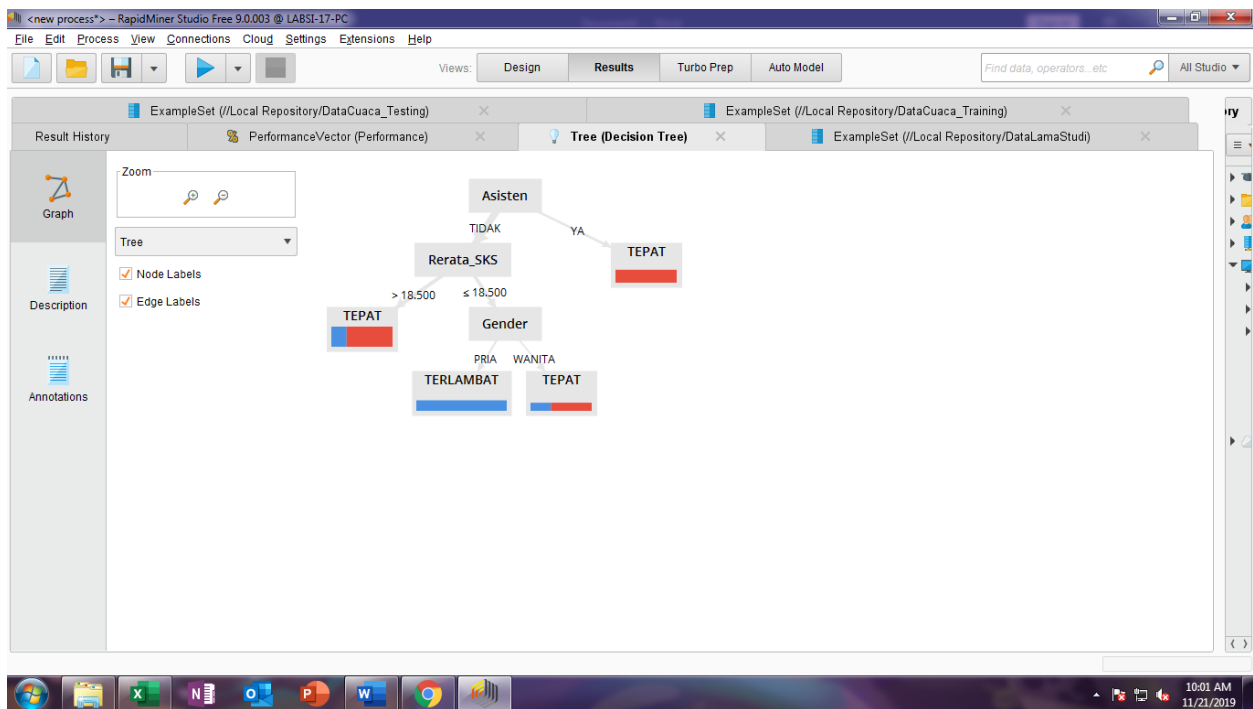
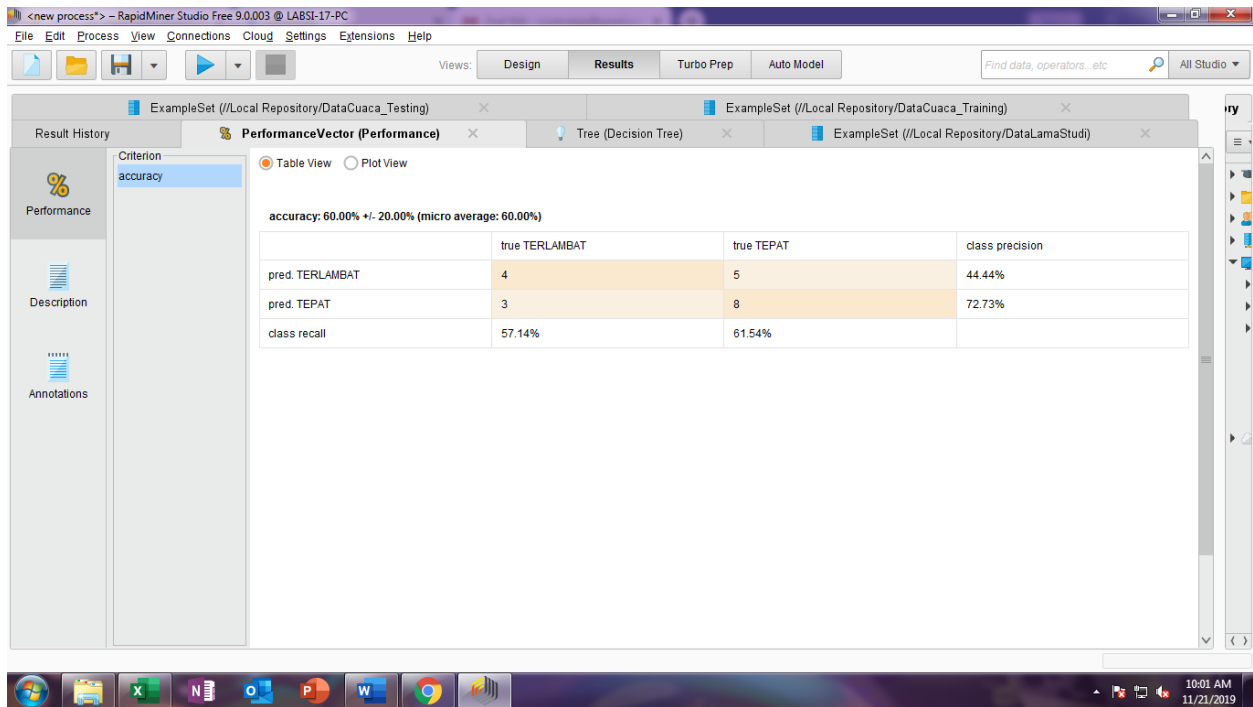
Min. Criterion: confidence  
Min. Criterion Value:

Rule 1 (0.143 / 1.000) Rule 2 (0.143 / 1.000) Rule 3 (0.071 / 1.000) Rule 4 (0.071 / 1.000)

Kelembaban\_udara Suhu Cuaca = Cerah Berangin

9:50 AM 11/21/2019

TASK



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Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

**Repository**

- Import Data
- Connections (LABSI-17)
- data (LABSI-17)
- processes (LABSI-17)
- CuacaProcess (LABSI-17)
- DataCuaca\_Testing (LABSI-17)
- DataCuaca\_Training (LABSI-17)
- DataLamaStudi (LABSI-17)
- Cloud Repository (disconnected)

**Operators**

performance

- Validation (19)
- Performance (17)
- Predictive (7)
- Performance (1)

We found "Model Management" in the Marketplace. [Show me!](#)

**Process**

Process

100%

Retrieve Data.LamaStudi

Cross Validation

Logfile

resultfile

random seed: 2001

send mail: never

encoding: SYSTEM

[Hide advanced parameters](#)

[Change compatibility \(9.0.003\)](#)

**Help**

**Process**

RapidMiner Studio Core

**Synopsis**

The root operator which is the outer most operator of every process.

**Description**

Leverage the Wisdom of Crowds to get operator recommendations based on your process design!

[Activate Wisdom of Crowds](#)

10:04 AM 11/21/2019

**<new process> - RapidMiner Studio Free 9.0.003 @ LABSI-17-PC**

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Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

**Repository**

- Import Data
- Connections (LABSI-17)
- data (LABSI-17)
- processes (LABSI-17)
- CuacaProcess (LABSI-17)
- DataCuaca\_Testing (LABSI-17)
- DataCuaca\_Training (LABSI-17)
- DataLamaStudi (LABSI-17)
- Cloud Repository (disconnected)

**Operators**

performance

- Validation (19)
- Performance (17)
- Predictive (7)
- Performance (1)

We found "Model Management" in the Marketplace. [Show me!](#)

**Process**

Process > Cross Validation

100%

Training

Testing

Rule Induction

Apply Model

Performance

Logfile

sample ratio: 0.9

purity: 0.9

minimal prune benefit: 0.25

☐ use local random seed

[Hide advanced parameters](#)

**Help**

**Rule Induction**

RapidMiner Studio Core

Tags: Ripper, Version space, Cn2, Part, Ridor, Qnec, Prism, Irip, Rules

**Synopsis**

This operator learns a pruned set of rules with respect to the information gain from

Leverage the Wisdom of Crowds to get operator recommendations based on your process design!

[Activate Wisdom of Crowds](#)

10:03 AM 11/21/2019

ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History PerformanceVector (Performance) RuleModel (Rule Induction) ExampleSet (/Local Repository/DataLamaStudi)

### RuleModel

**Description**

```
if Rerata_SKS > 18.500 then TEPAT (2 / 10)
if Gender = PRIA then TERLAMBAT (4 / 0)
if Jurusan_SMA = IPA then TEPAT (0 / 2)
if Jurusan_SMA = IPS then TERLAMBAT (1 / 0)
else TEPAT (0 / 0)
```

**Annotations**

correct: 17 out of 19 training examples.

---

ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History Criterion accuracy PerformanceVector (Performance) RuleModel (Rule Induction) ExampleSet (/Local Repository/DataLamaStudi)

Table View Plot View

accuracy: 65.00% +/- 32.02% (micro average: 65.00%)

	true TERLAMBAT	true TEPAT	class precision
pred. TERLAMBAT	4	4	50.00%
pred. TEPAT	3	9	75.00%
class recall	57.14%	69.23%	

Bin = 2

**Process**

Retrieve Data.LamaS... Preprocessing FP-Growth Create Association Rules

Parameters

Create Association Rules

criterion confidence

min confidence 0.8

gain theta 2.0

laplace k 1.0

Help

Create Association Rules

RapidMiner Studio Core

Tags: Associations, Market Basket, Upselling, Up-selling, Crossselling, Cross-selling, Itemset, Item-set, Item set, Mining, Frequent, Patterns

Synopsis

**Process**

Preprocessing

Discretize Nominal to Binominal

Parameters

Discretize (Discretize by Frequency)

create view

attribute filter type all

invert selection

include special attributes

use sqrt of examples

number of bins 2

Help

Discretize by Frequency

RapidMiner Studio Core

Tags: Continuous, Categorical, Nominal, Polynomial, Ordinary, Discrete, Discretization, Dichotomization, Dichotomy, Binning, Histogram, Types, Qualitative, Quantitative, Groups, Intervals

Synopsis

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Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataLamaStudi) ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal to Binominal)

Data Annotations

No. of Sets: 55  
Total Max. Size: 5

Min. Size: 1  
Max. Size: 5  
Contains Item:  
Update View

Size	Support	Item 1	Item 2	Item 3	Item 4	Item 5
1	0.750	Gender				
1	0.500	Jurusan_SMA = IPA				
1	0.300	Asal_Sekolah				
1	0.300	Jurusan_SMA = IPS				
1	0.250	Asisten				
1	0.250	Rerata_SKS				
1	0.200	Jurusan_SMA = LAIN				
2	0.350	Gender	Jurusan_SMA = IPA			
2	0.250	Gender	Asal_Sekolah			
2	0.250	Gender	Jurusan_SMA = IPS			
2	0.200	Gender	Asisten			
2	0.250	Gender	Rerata_SKS			
2	0.150	Gender	Jurusan_SMA = LAIN			
2	0.150	Jurusan_SMA = IPA	Asal_Sekolah			
2	0.200	Jurusan_SMA = IPA	Asisten			

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Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataLamaStudi) ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal to Binominal)

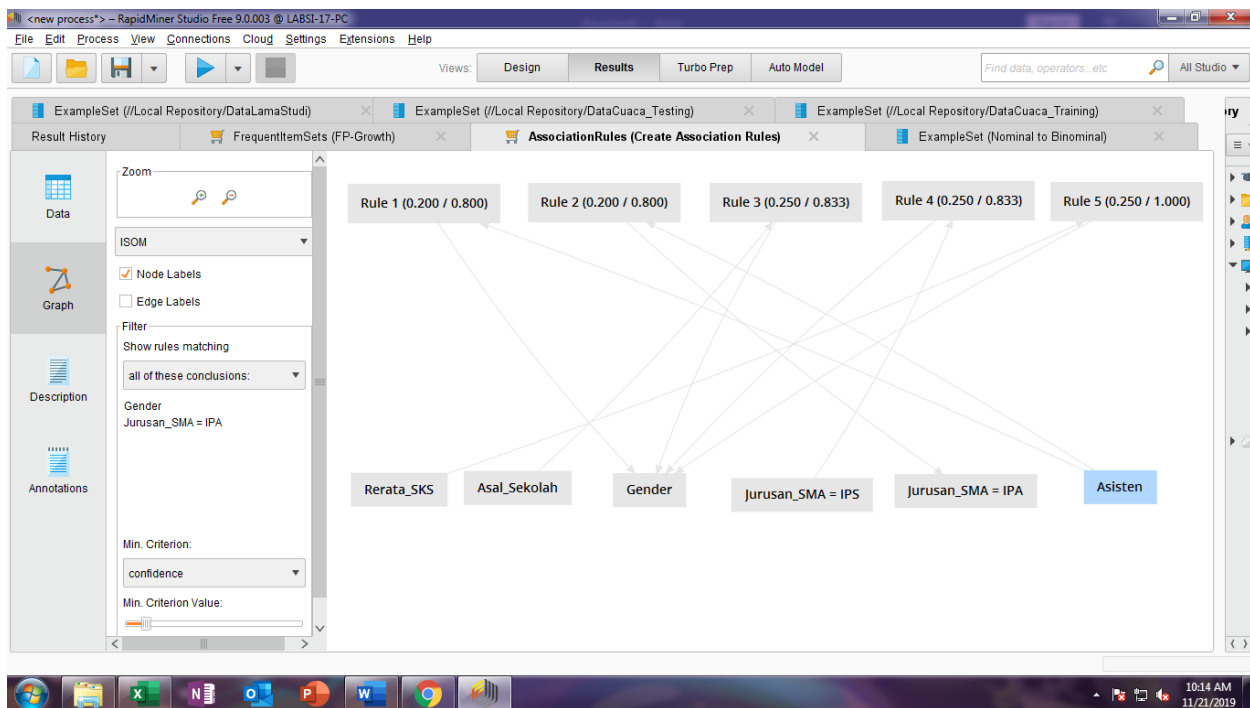
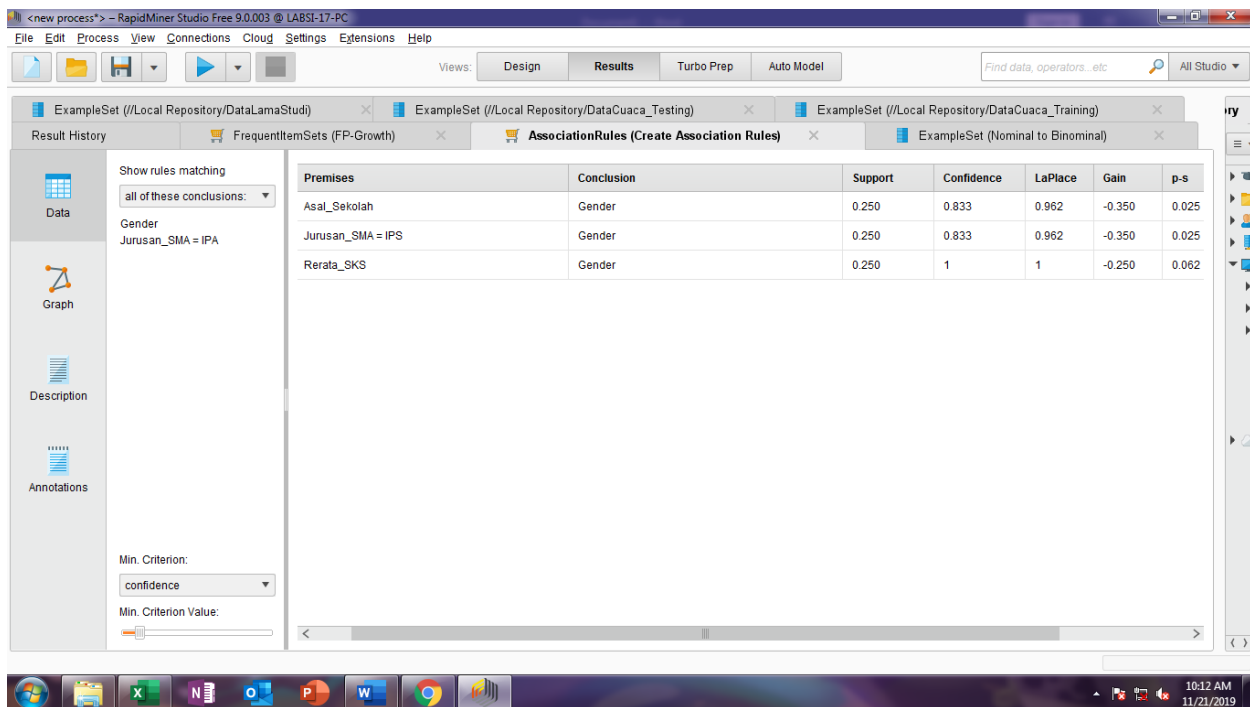
Data Annotations

No. of Sets: 13  
Total Max. Size: 2

Min. Size: 1  
Max. Size: 2  
Contains Item:  
Update View

Size	Support	Item 1	Item 2
1	0.750	Gender	
1	0.500	Jurusan_SMA = IPA	
1	0.300	Asal_Sekolah	
1	0.300	Jurusan_SMA = IPS	
1	0.250	Asisten	
1	0.250	Rerata_SKS	
1	0.200	Jurusan_SMA = LAIN	
2	0.350	Gender	Jurusan_SMA = IPA
2	0.250	Gender	Asal_Sekolah
2	0.250	Gender	Jurusan_SMA = IPS
2	0.200	Gender	Asisten
2	0.250	Gender	Rerata_SKS
2	0.200	Jurusan_SMA = IPA	Asisten





Bin = 3

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File Edit Process View Connections Cloud Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataLamaStudi) ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal to Binominal)

Data

Annotations

No. of Sets: 13  
Total Max. Size: 2

Min. Size: 1  
Max. Size: 2  
Contains Item:  
Update View

Size	Support	Item 1	Item 2
1	0.750	Gender	
1	0.500	Jurusan_SMA = IPA	
1	0.400	Rerata_SKS = range1 [-∞ - 18.500]	
1	0.350	Rerata_SKS = range2 [18.500 - 19.500]	
1	0.300	Asal_Sekolah	
1	0.300	Jurusan_SMA = IPS	
1	0.250	Asisten	
1	0.250	Rerata_SKS = range3 [19.500 - ∞]	
2	0.350	Gender	Jurusan_SMA = IPA
2	0.300	Gender	Rerata_SKS = range2 [18.500 - 19.500]
2	0.250	Gender	Asal_Sekolah
2	0.250	Gender	Jurusan_SMA = IPS
2	0.250	Gender	Rerata_SKS = range3 [19.500 - ∞]

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File Edit Process View Connections Cloud Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

ExampleSet (/Local Repository/DataLamaStudi) ExampleSet (/Local Repository/DataCuaca\_Testing) ExampleSet (/Local Repository/DataCuaca\_Training)

Result History FrequentItemSets (FP-Growth) AssociationRules (Create Association Rules) ExampleSet (Nominal to Binominal)

Data

Graph

Description

Annotations

Show rules matching  
all of these conclusions: Gender

Min. Criterion: confidence  
Min. Criterion Value:

Premises	Conclusion	Support	Confidence	LaPlace	Gain	p-s
Rerata_SKS = range2 [18.500 - 19.500]	Gender	0.300	0.857	0.963	-0.400	0.038
Rerata_SKS = range3 [19.500 - ∞]	Gender	0.250	1	1	-0.250	0.062

10:17 AM  
11/21/2019