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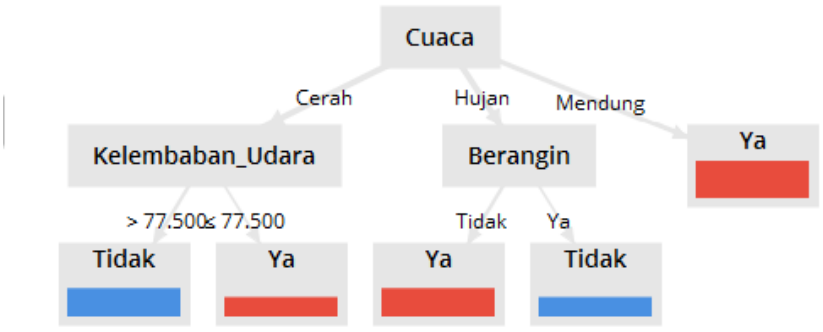
KELAS : F

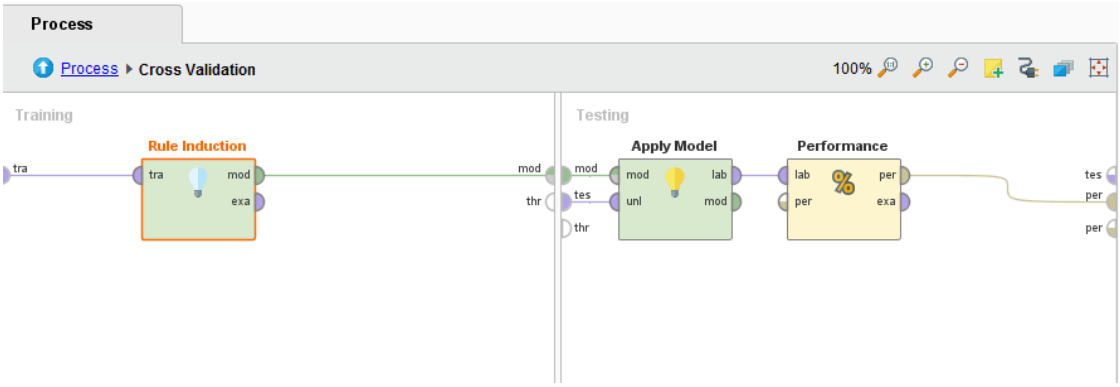
MODUL 11

Latihan 1

1. Decission Tree



2. Process – Cross Validation



3. RuleModel (Rule Induction)

RuleModel

```
if Kelembaban_Udara ≤ 82.500 then Ya  (1 / 6)
if Cuaca = Cerah then Tidak  (3 / 0)
if Cuaca = Mendung then Ya  (0 / 2)
if Suhu ≤ 70.500 then Ya  (0 / 1)
else Tidak  (0 / 0)

correct: 12 out of 13 training examples.
```

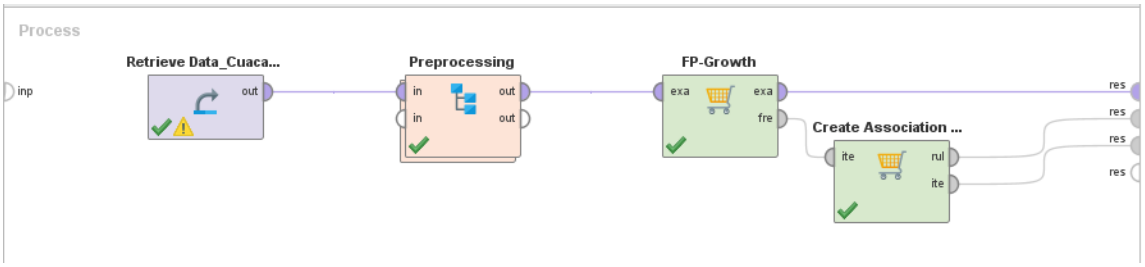
4. Performance Vector (Performance)

accuracy: 65.00% +/- 45.00% (micro average: 71.43%)

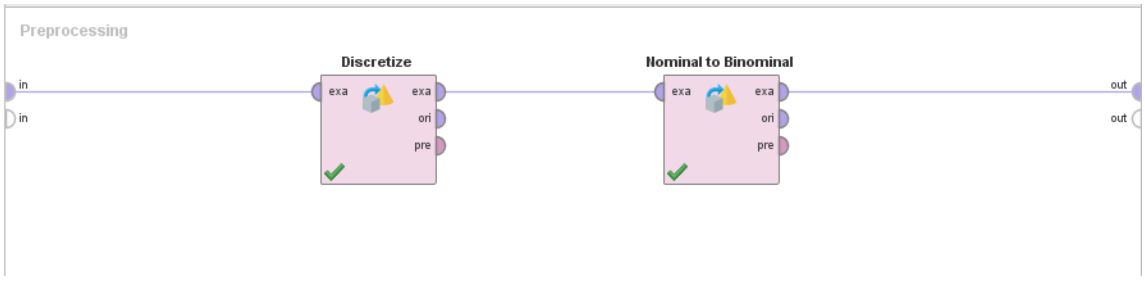
	true Tidak	true Ya	class precision
pred. Tidak	2	1	66.67%
pred. Ya	3	8	72.73%
class recall	40.00%	88.89%	

Latihan 2

1. Process



2. Preprocessing



3. Frequent Item Set (FP-Growth)

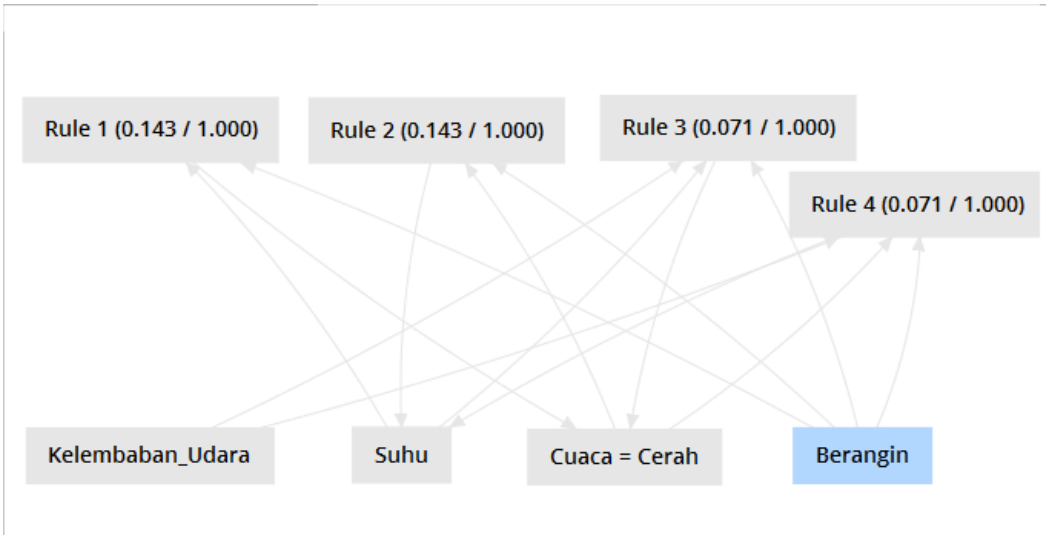
Size	Support	Item 1	Item 2	Item 3	Item 4
1	0.500	Kelembaban_Uda...			
1	0.429	Berangin			
1	0.429	Suhu			
1	0.357	Cuaca = Cerah			
1	0.357	Cuaca = Hujan			
1	0.286	Cuaca = Mendung			
2	0.214	Kelembaban_Uda...	Berangin		
2	0.214	Kelembaban_Uda...	Suhu		
2	0.214	Kelembaban_Uda...	Cuaca = Cerah		
2	0.143	Kelembaban_Uda...	Cuaca = Hujan		
2	0.143	Kelembaban_Uda...	Cuaca = Mendung		
2	0.143	Berangin	Suhu		
2	0.143	Berangin	Cuaca = Cerah		
2	0.143	Berangin	Cuaca = Hujan		
2	0.143	Berangin	Cuaca = Mendung		
2	0.214	Suhu	Cuaca = Cerah		
2	0.071	Suhu	Cuaca = Hujan		
2	0.143	Suhu	Cuaca = Mendung		
3	0.071	Kelembaban_Uda...	Berangin	Suhu	
3	0.071	Kelembaban_Uda...	Berangin	Cuaca = Cerah	
3	0.071	Kelembaban_Uda...	Berangin	Cuaca = Hujan	
3	0.071	Kelembaban_Uda...	Berangin	Cuaca = Mendung	
3	0.143	Kelembaban_Uda...	Suhu	Cuaca = Cerah	
3	0.071	Kelembaban_Uda...	Suhu	Cuaca = Mendung	
3	0.143	Berangin	Suhu	Cuaca = Cerah	
4	0.071	Kelembaban_Uda...	Berangin	Suhu	Cuaca = Cerah

4. Association Rules (Create Association Rules)
   a. Table View

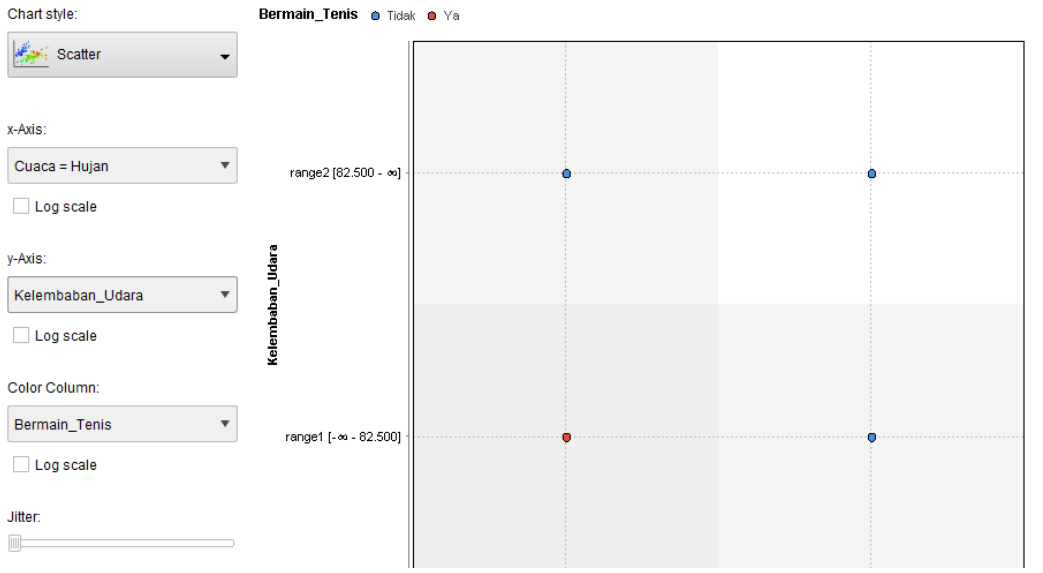
No.	Premises	Conclusion
1	Berangin, Suhu	Cuaca = Cerah
2	Berangin, Cuaca = Cerah	Suhu
3	Kelembaban_Udara, Berangin, Suhu	Cuaca = Cerah
4	Kelembaban_Udara, Berangin, Cuaca = Cerah	Suhu

Support	Confidence	LaPlace	Gain	p-s	Lift	Convicti...
0.143	1	1	-0.143	0.092	2.800	∞
0.143	1	1	-0.143	0.082	2.333	∞
0.071	1	1	-0.071	0.046	2.800	∞
0.071	1	1	-0.071	0.041	2.333	∞

b. Graph View



c. ExampleSet (Nominal2Binomial) -> Chart View



TUGAS

1. Carilah pola hubungan berdasarkan Induction Rule (Rule Model), dan nilai Performance vector
   a. Induction Rule (Rule Model)

RuleModel

```
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)

correct: 17 out of 19 training examples.
```

   b. Nilai performance vector

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%	

2. Carilah masing – masing nilai berikut berdasarkan number of bins-nya:
   a. Jumlah set aturan asosiasi dan total max size yang terbentuk berdasarkan FP-Growth (table view)! Gambarkan tabelnya!
      - Number of bins = 2

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

- Jumlah set aturan asosiasi = 13
- Total max size = 2

- Number of bins = 3

Size	Support	Item 1	Item 2
1	0.750	Gender	
1	0.500	Jurusan_SMA = IPA	
1	0.400	Rerata_SKS = range1 [-∞ - 1...	
1	0.350	Rerata_SKS = range2 [18.500...	
1	0.300	Asal_Sekolah	
1	0.300	Jurusan_SMA = IPS	
1	0.250	Asisten	
1	0.250	Rerata_SKS = range3 [19.500...	
1	0.200	Jurusan_SMA = LAIN	
2	0.350	Gender	Jurusan_SMA = IPA
2	0.200	Gender	Rerata_SKS = range1 [-∞ - 1...
2	0.300	Gender	Rerata_SKS = range2 [18.50...
2	0.250	Gender	Asal_Sekolah
2	0.250	Gender	Jurusan_SMA = IPS
2	0.200	Gender	Asisten
2	0.250	Gender	Rerata_SKS = range3 [19.50...
2	0.200	Jurusan_SMA = IPA	Rerata_SKS = range1 [-∞ - 1...
2	0.200	Jurusan_SMA = IPA	Rerata_SKS = range2 [18.50...
2	0.200	Jurusan_SMA = IPA	Asisten

- Jumlah set aturan asosiasi = 19
- Total max size = 2

b. Jumlah data pasangan premis dan kesimpulan pada Association Rules (Create Association Rules)! Gambarkan pula grafik yang terbentuk!

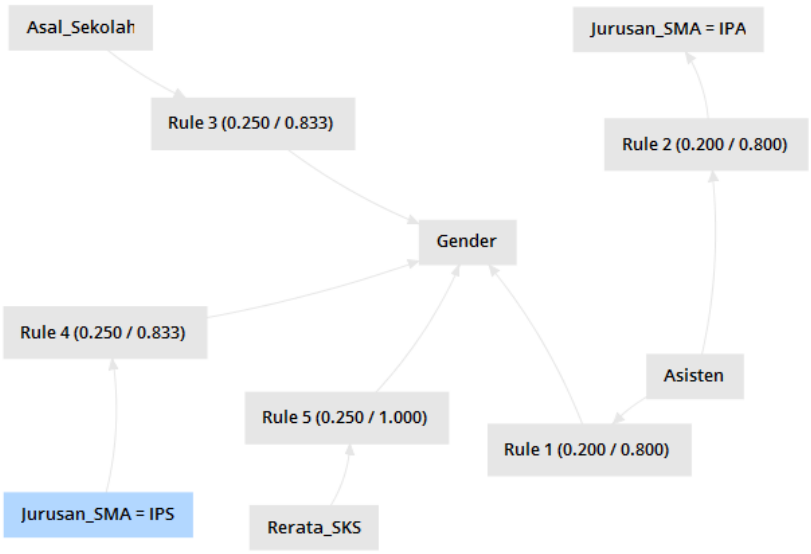
- Number of bins = 2
  - Table view

No.	Premises	Conclusion
3	Asal_Sekolah	Gender
4	Jurusan_SMA = IPS	Gender
5	Rerata_SKS	Gender

Support	Confidence	LaPlace	Gain	p-s	Lift	Convicti...
0.250	0.833	0.962	-0.350	0.025	1.111	1.500
0.250	0.833	0.962	-0.350	0.025	1.111	1.500
0.250	1	1	-0.250	0.062	1.333	∞

Terdapat 3 data pasang premis – premis

  - Grafik yang terbentuk



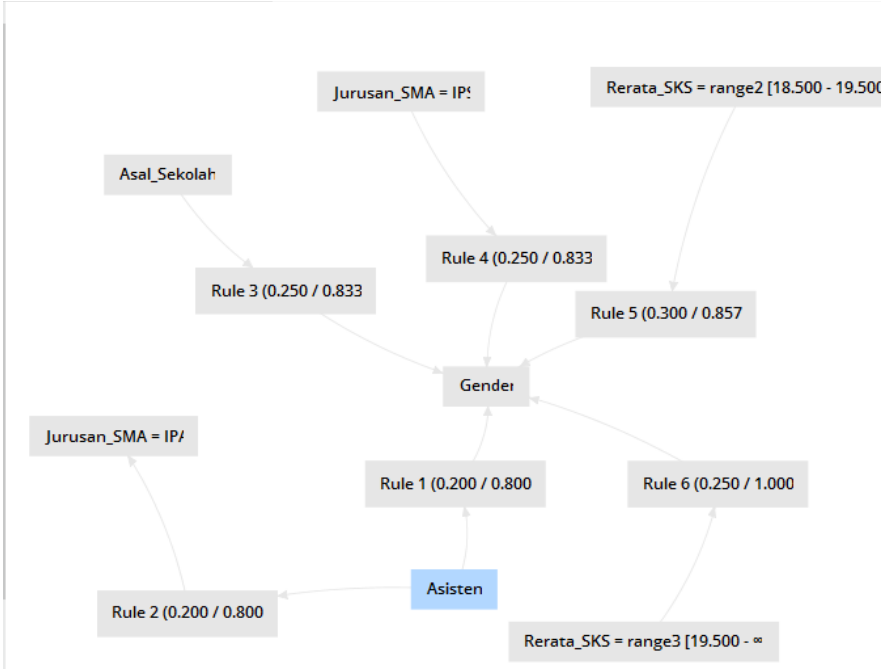
- Number of bins = 3
  - Table view

No.	Premises	Conclusion
3	Asal_Sekolah	Gender
4	Jurusan_SMA = IPS	Gender
5	Rerata_SKS = range2 [18.500 - 19.500]	Gender
6	Rerata_SKS = range3 [19.500 - ∞]	Gender

Support	Confidence	LaPlace	Gain	p-s	Lift	Convicti...
0.250	0.833	0.962	-0.350	0.025	1.111	1.500
0.250	0.833	0.962	-0.350	0.025	1.111	1.500
0.300	0.857	0.963	-0.400	0.038	1.143	1.750
0.250	1	1	-0.250	0.062	1.333	∞

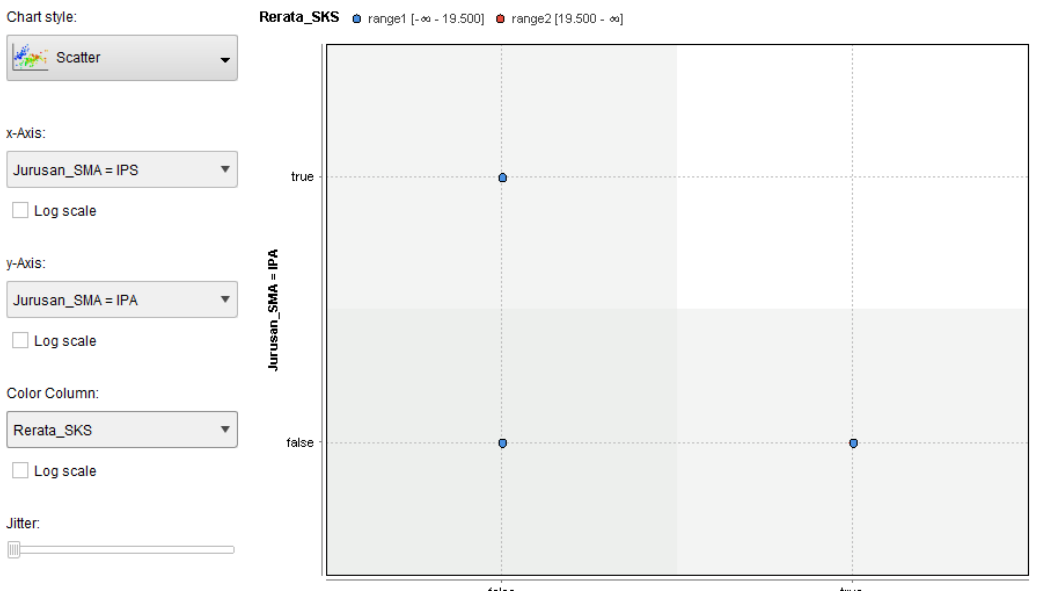
Terdapat 4 pasang premis – premis

- Grafik yang terbentuk



c. Gambarkan grafik chart pola distribusi data pada ExampleSet yang terbentuk!

- Number of bins = 2



- Number of bins = 3