

MODUL 8

Langkah

8.4

5.

Weka Explorer interface showing the 'Visualize' tab. The 'Current relation' is 'Cuaca' with 14 instances and 5 attributes. The 'Selected attribute' is 'Cuaca' with 3 distinct values: 'Cerah' (5), 'Mendung' (4), and 'Hujan' (5). The 'Class' is 'Berman_Tenis (Nom)' with a bar chart showing 4 instances for 'Cerah' (red), 4 for 'Mendung' (blue), and 4 for 'Hujan' (red).

14.

Weka Explorer interface showing the 'Classifier' tab. The 'Classifier' is 'NaiveBayes'. The 'Test options' are set to 'Supplied test set' with 'Folds: 10'. The 'Result list' shows the 'NaiveBayes' classifier. The 'Classifier output' displays the following statistics:

Statistic	Value
Mean	72.9697
Std. dev.	5.2304
Weight sum	9.0
Precision	1.9091

The 'Summary' section shows 'Total Number of Instances: 0' and 'Ignored Class Unknown Instances: 1'. The 'Confusion Matrix' shows a weighted average of 0.0 for both classes 'TA' and 'TIDAK'.

The screenshot shows two windows. The ARFF-Viewer window displays the 'Relation Cuaca_predicted' with the following data:

No.	1	2	3	4	5	6	7
Cuaca	Suhu	Kelembaban_Udara	Berangin	prediction margin	predicted Bermain_Tenis	Bermain_Tenis	
Cerah	75.0	65.0	TIDAK	0.752765	YA		
Cerah	80.0	68.0	YA	0.087878	YA		
Cerah	83.0	87.0	YA	-0.676866	TIDAK		
Mendung	70.0	96.0	TIDAK	0.628523	YA		
Mendung	68.0	81.0	TIDAK	0.833996	YA		
Hujan	65.0	75.0	YA	0.253733	YA		
Hujan	64.0	85.0	YA	-0.160143	TIDAK		

The Notepad window shows the model information for 'Cuaca_predicted':

```
relation Cuaca_predicted
attribute Cuaca {cerah,mendung,hujan}
attribute Suhu numeric
attribute Kelembaban_Udara numeric
attribute Berangin {YA,TIDAK}
attribute 'prediction margin' numeric
attribute 'predicted Bermain_Tenis' {YA,TIDAK}
attribute Bermain_Tenis {YA,TIDAK}

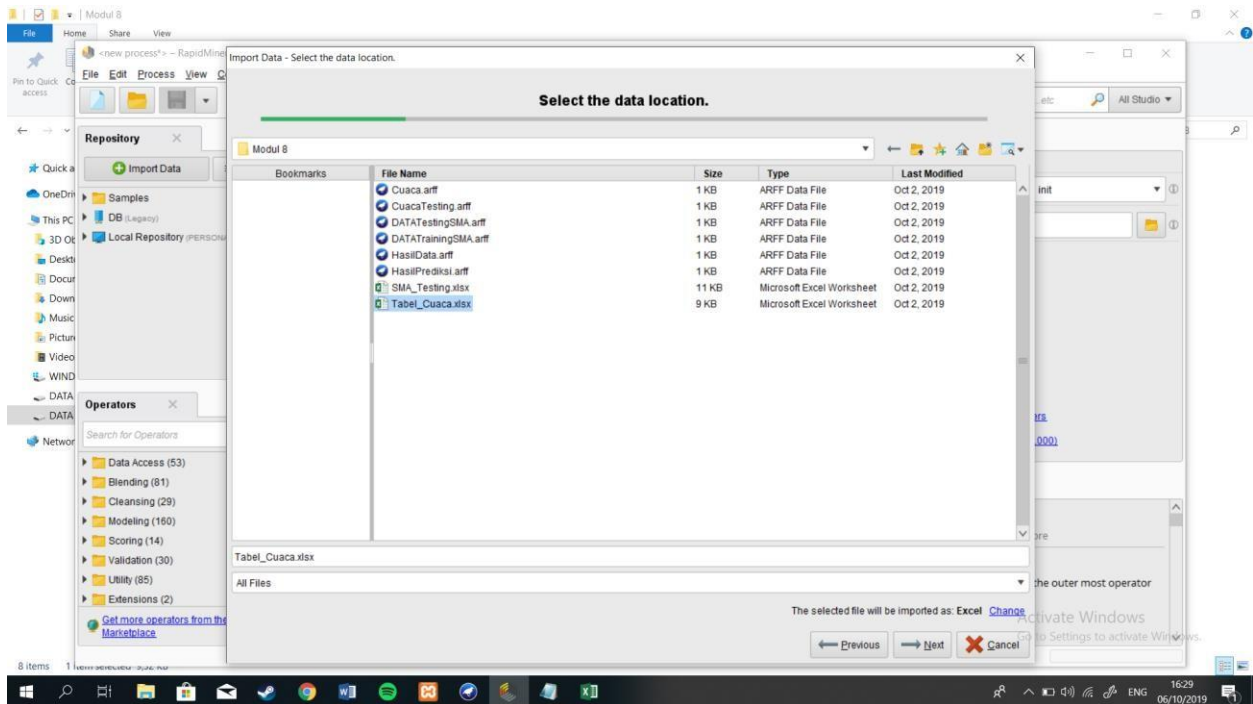
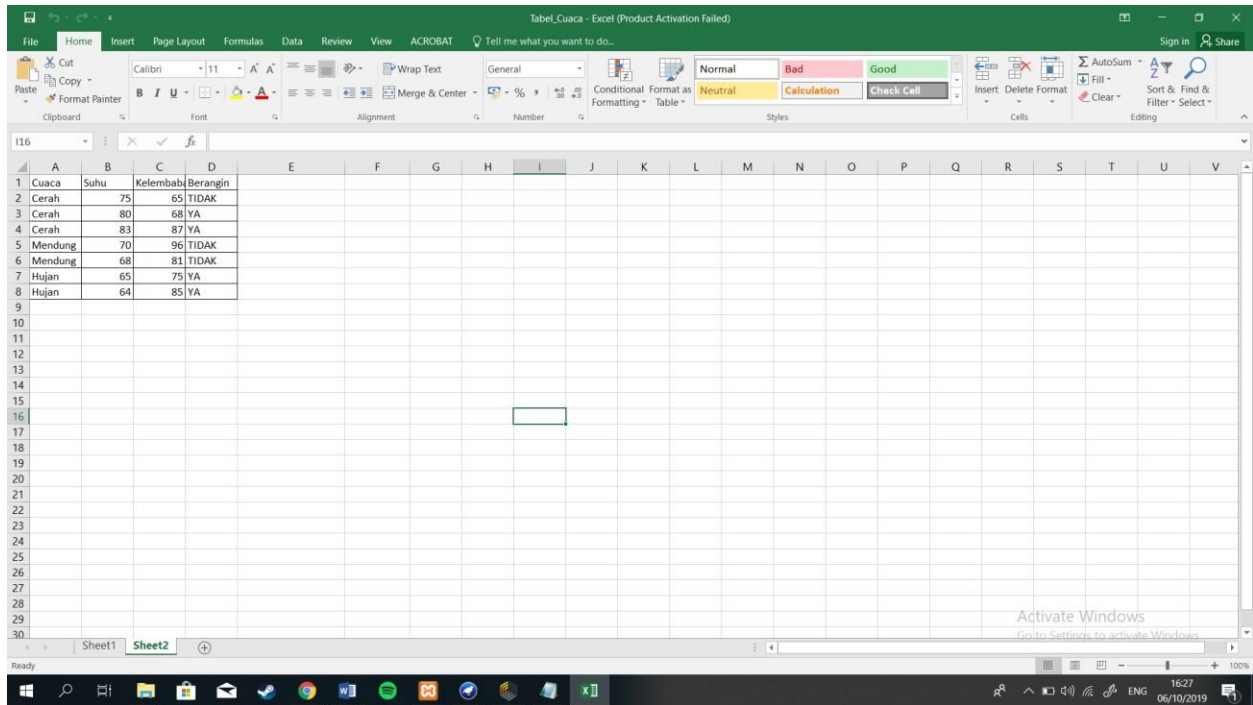
a
h,75,65,TIDAK,0.752765,YA,?
h,80,68,YA,0.087878,YA,?
h,83,87,YA,-0.676866,TIDAK,?
m,70,96,TIDAK,0.628523,YA,?
m,68,81,TIDAK,0.833996,YA,?
n,65,75,YA,0.253733,YA,?
n,64,85,YA,-0.160143,TIDAK,?
```

8.4.2

1.

The screenshot shows an Excel spreadsheet titled 'Tabel_Cuaca - Excel (Product Activation Failed)'. The data is organized in columns A through E:

	A	B	C	D	E
	Cuaca	Suhu	Kelembaban	Berangin	Bermain_Tenis
1	Cerah	85	85	TIDAK	TIDAK
2	Cerah	80	90	YA	TIDAK
3	Cerah	83	86	TIDAK	YA
4	Mendung	70	96	TIDAK	YA
5	Hujan	68	80	TIDAK	YA
6	Hujan	65	70	YA	TIDAK
7	Mendung	64	65	YA	YA
8	Cerah	72	95	TIDAK	TIDAK
9	Cerah	69	70	TIDAK	YA
10	Hujan	75	80	TIDAK	YA
11	Cerah	75	70	YA	YA
12	Mendung	72	90	YA	YA
13	Mendung	81	75	TIDAK	YA
14	Hujan	71	91	YA	TIDAK



Import Data - Select the cells to import.

Sheet: Sheet1 Cell range: A:E Select All Define header row: 1

	A	B	C	D	E
1	Cuaca	Suhu	Kelembaban_udara	Berangin	Bermain_Tenis
2	Cerah	85.000	85.000	TIDAK	TIDAK
3	Cerah	80.000	90.000	YA	TIDAK
4	Mendung	83.000	85.000	TIDAK	YA
5	Hujan	70.000	95.000	TIDAK	YA
6	Hujan	68.000	80.000	TIDAK	YA
7	Hujan	65.000	70.000	YA	TIDAK
8	Mendung	64.000	65.000	YA	YA
9	Cerah	72.000	95.000	TIDAK	TIDAK
10	Cerah	69.000	70.000	TIDAK	YA
11	Hujan	75.000	80.000	TIDAK	YA
12	Cerah	75.000	70.000	YA	YA
13	Mendung	72.000	90.000	YA	YA
14	Mendung	81.000	75.000	TIDAK	YA
15	Hujan	71.000	91.000	YA	TIDAK

Previous Next Cancel

7.

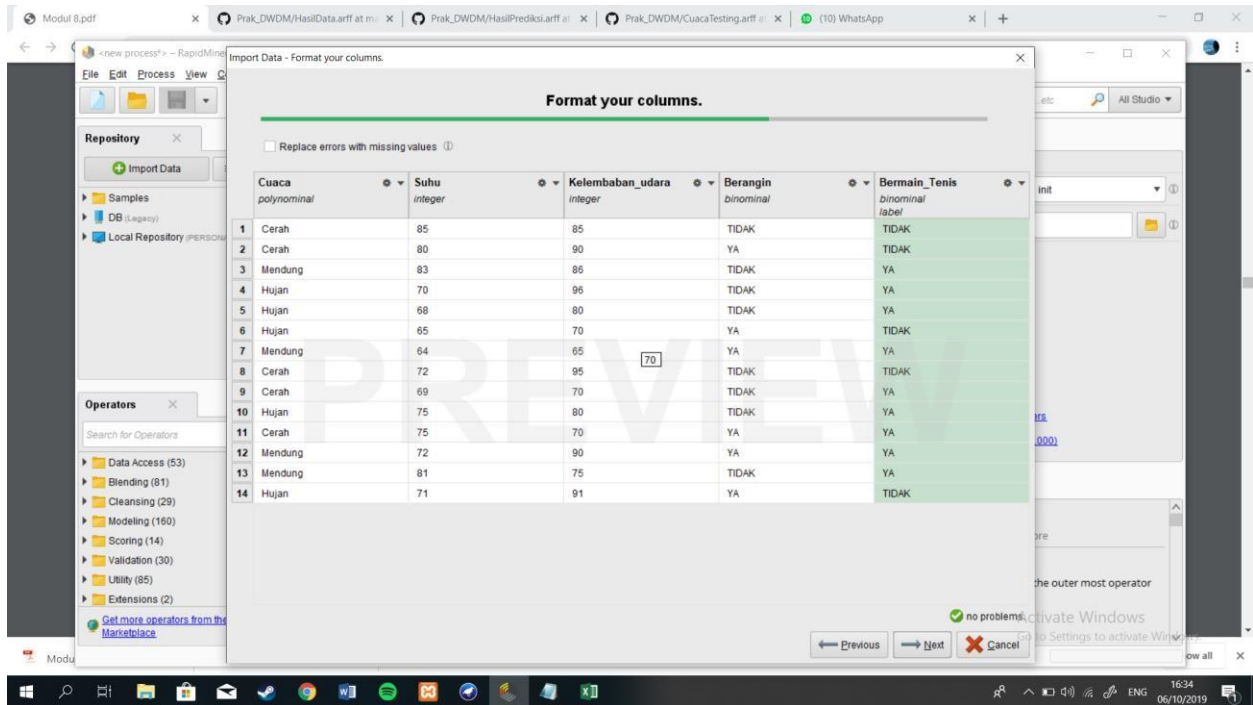
Import Data - Format your columns.

☐ Replace errors with missing values

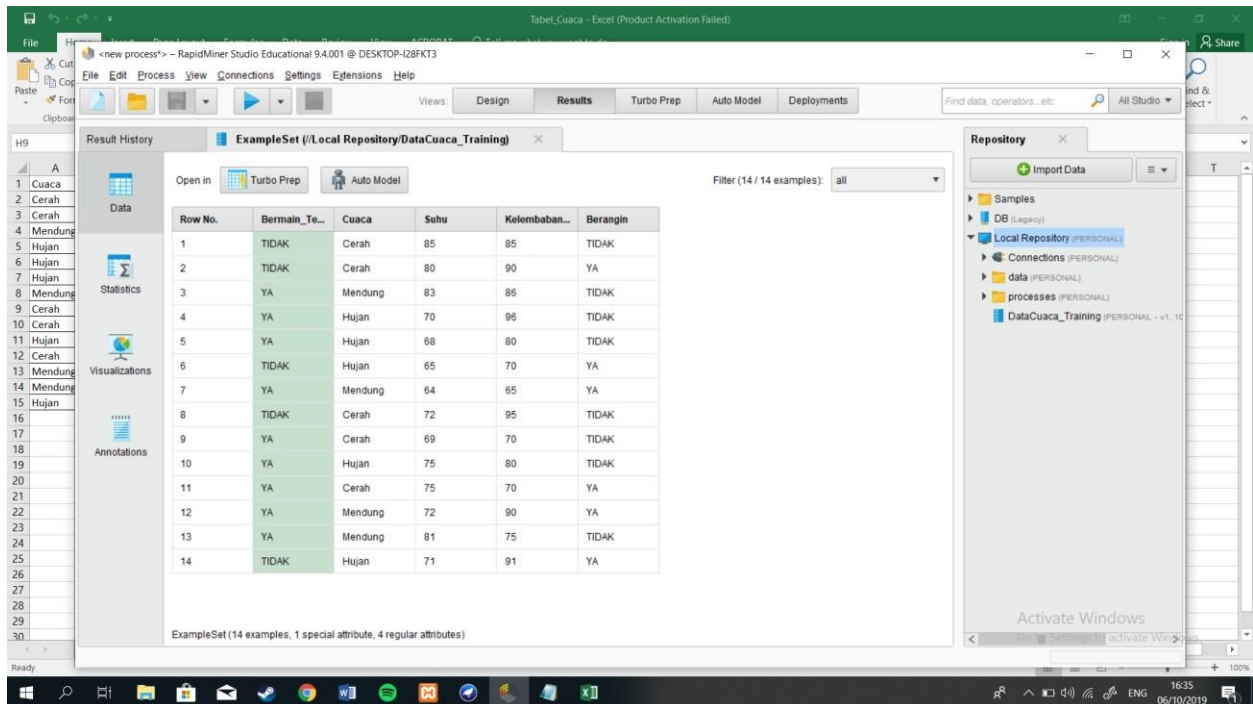
	Cuaca	Suhu	Kelembaban_udara	Berangin	Bermain_Tenis
1	Cerah	85	85	TIDAK	TIDAK
2	Cerah	80	90	YA	TIDAK
3	Mendung	83	85	TIDAK	YA
4	Hujan	70	95	TIDAK	YA
5	Hujan	68	80	TIDAK	YA
6	Hujan	65	70	YA	TIDAK
7	Mendung	64	65	YA	YA
8	Cerah	72	95	TIDAK	TIDAK
9	Cerah	69	70	TIDAK	YA
10	Hujan	75	80	TIDAK	YA
11	Cerah	75	70	YA	YA
12	Mendung	72	90	YA	YA
13	Mendung	81	75	TIDAK	YA
14	Hujan	71	91	YA	TIDAK

no problems! Previous Next Cancel

8.



10.



13.

Modul 8.pdf x Prak_DWDM/HasilData.arff x Prak_DWDM/HasilPrediksi x Prak_DWDM/CuacaTesting x (10) WhatsApp x New Tab x

<new process> - RapidMiner Studio Educational 94.001 @ DESKTOP-I28FKT3

File Edit Process View Connections Settings Extensions Help

Views: Design Results Turbo Prep Auto Model Deployments

Find data, operators, etc. All Studio

Result History ExampleSet (/Local Repository/DataCuaca_Testing) x ExampleSet (/Local Repository/DataCuaca_Training) x

Open in Turbo Prep Auto Model Filter (7 / 7 examples): all

Row No.	Berangin	Cuaca	Suhu	Kelembaban...
1	TIDAK	Cerah	75	65
2	YA	Cerah	80	68
3	YA	Cerah	83	87
4	TIDAK	Mendung	70	96
5	TIDAK	Mendung	68	81
6	YA	Hujan	65	75
7	YA	Hujan	64	85

ExampleSet (7 examples, 1 special attribute, 3 regular attributes)

Repository

- Import Data
- Samples
- DB (Legacy)
- Local Repository (PERSONAL)
 - Connections (PERSONAL)
 - data (PERSONAL)
 - processes (PERSONAL)
 - DataCuaca_Testing (PERSONAL - v1.1)
 - DataCuaca_Training (PERSONAL - v1.1)

Activate Windows

Modul 8.pdf x

15.

Modul 8.pdf x Prak_DWDM/HasilData.arff x Prak_DWDM/HasilPrediksi x Prak_DWDM/CuacaTesting x (10) WhatsApp x New Tab x

<new process> - RapidMiner Studio Educational 94.001 @ DESKTOP-I28FKT3

File Edit Process View Connections Settings Extensions Help

Views: Design Results Turbo Prep Auto Model Deployments

Find data, operators, etc. All Studio

Repository

- Import Data
- Samples
- DB (Legacy)
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 - data (PERSONAL)
 - processes (PERSONAL)
 - DataCuaca_Testing (PERSONAL - v1.1)
 - DataCuaca_Training (PERSONAL - v1.1)

Operators

- apply mo
- Modeling (1)
 - Time Series (1)
 - Forecasting (1)
 - Apply Forecast
 - Scoring (1)
 - Apply Model

We found "Shapelet" in the Marketplace. Show me!

Process

Process

100%

Retrieve DataCuaca... Naive Bayes Apply Model

Parameters

Process

logverbosity init

logfile

Show advanced parameters

Change compatibility (9.4.000)

Help

Process

RapidMiner Studio Core

Synopsis

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

Description

Activate Windows

Modul 8.pdf x

17.

Data

Statistics

Visualizations

Annotations

Open in

Turbo Prep

Auto Model

Filter (7 / 7 examples): all

Row No.	prediction(B...	confidence(...	confidenc...	Cuaca	Suhu	Kelembapan...	Berangin
1	YA	0.154	0.846	Cerah	75	65	TIDAK
2	YA	0.498	0.502	Cerah	80	68	YA
3	TIDAK	0.856	0.144	Cerah	83	67	YA
4	YA	0.019	0.981	Mendung	70	96	TIDAK
5	YA	0.007	0.993	Mendung	68	81	TIDAK
6	YA	0.371	0.629	Hujan	65	75	YA
7	TIDAK	0.568	0.432	Hujan	64	65	YA

ExampleSet (7 examples, 3 special attributes, 4 regular attributes)

Samples

DB (Legacy)

Local Repository (asus)

Connections (asus)

data (asus)

processes (asus)

DataCuaca_Testing (asus - v1, 10/5/19 9)

DataCuaca_Training (asus - v1, 10/5/19 5)

18.

Data

Statistics

Visualizations

Annotations

Result History

ExampleSet (Apply Model)

Filter (7 / 7 attributes): Search for Attributes

Name	Type	Missing	Statistics	Filter (7 / 7 attributes):	Search for Attributes
✓ Prediction					
✓ prediction(Bermain_Tenis)	Binominal	0	Least TIDAK (2)	Most YA (5)	Values YA (5), TIDAK (3)
✓ Confidence_TIDAK	Real	0	Min 0.007	Max 0.856	Average 0.353
✓ Confidence_YA	Real	0	Min 0.144	Max 0.993	Average 0.647
✓ Cuaca	Polynomial	0	Least Mendung (2)	Most Cerah (3)	Values Cerah (3), Hujan (2), Mendung (2)
✓ Suhu	Integer	0	Min 64	Max 83	Average 72.143
✓ Kelembapan_udara	Integer	0	Min 65	Max 96	Average 79.571
✓ Berangin	Polynomial	0	Least TIDAK (3)	Most YA (4)	Values YA (4), TIDAK (3)

Showing attributes 1 - 7

Examples: 7 Special Attributes: 3 Regular Attributes: 4

Import Data

Samples

DB (Legacy)

Local Repository (asus)

Connections (asus)

data (asus)

processes (asus)

DataCuaca_Testing (asus - v1, 10/5/19 9)

DataCuaca_Training (asus - v1, 10/5/19 5)

2.

Open file... Open URL... Open DB... Generate... Undo Edit... Save...

Filter
Choose None Apply Stop

Current relation
Relation: Cuaca
Instances: 20
Attributes: 6
Sum of weights: 20

Attributes
All None Invert Pattern

No.	Name
1	<input checked="" type="checkbox"/> Jurusan_SMA
2	<input type="checkbox"/> Gender
3	<input type="checkbox"/> Asal_sekolah
4	<input type="checkbox"/> Rerata_SKS
5	<input type="checkbox"/> Asisten
6	<input type="checkbox"/> Lama_Studi

Remove

Selected attribute
Name: Jurusan_SMA
Missing: 0 (0%)
Distinct: 3
Type: Nominal
Unique: 0 (0%)

No.	Label	Count	Weight
1	IPS	6	6.0
2	IPA	10	10.0
3	LAIN	4	4.0

Class: Lama_Studi (Nom) Visualize All

Status
OK Log x 0

Modul 8.pdf - Adobe Acrobat Pro DC

File Edit View Window Help

Home Tools Modul 8.pdf x Sign In

ARFF-Viewer - E:\Data bagus\kuliah\Semester 5\praktikum data mining\Modul 8\HasilData.arff

File Edit View

HasilPrediksi.arff HasilData.arff

Relation: Cuaca_predicted

No.	1: Jurusan_SMA	2: Gender	3: Asal_sekolah	4: Rerata_SKS	5: Asisten	6: prediction margin	7: predicted Lama_Studi	8: Lama_Studi
1	LAIN	WANITA	SURABAYA	18.0	TIDAK	0.375862	TERLAMBAT	Nominal
2	IPA	PRIA	SURABAYA	19.0	YA	-0.835469	TEPAT	Nominal
3	LAIN	PRIA	SURABAYA	19.0	TIDAK	0.175169	TERLAMBAT	Nominal
4	IPS	PRIA	LURIH	17.0	TIDAK	0.713209	TERLAMBAT	Nominal
5	LAIN	WANITA	SURABAYA	17.0	TIDAK	0.546846	TERLAMBAT	Nominal
6	IPA	WANITA	LURIH	18.0	YA	-0.757815	TEPAT	Nominal
7	IPA	PRIA	SURABAYA	18.0	TIDAK	0.125079	TERLAMBAT	Nominal
8	IPA	PRIA	SURABAYA	19.0	TIDAK	-0.356012	TEPAT	Nominal
9	IPS	PRIA	LURIH	18.0	TIDAK	0.588289	TERLAMBAT	Nominal
10	LAIN	WANITA	SURABAYA	18.0	TIDAK	0.375862	TERLAMBAT	Nominal

Help

predicted

Cerah,Mendung,hujan}

meric

ban_udara numeric

n {YA,TIDAK}

tion margin' numeric

ted bermain.Tenis' {YA,TIDAK}

_Tennis {YA,TIDAK}

0.762765,YA,?

87878,YA,?

676866,TIDAK,?

K,0.628523,YA,?

K,0.833996,YA,?

53733,YA,?

160143,TIDAK,?

Activate Windows
Go to Settings to activate Windows.

17:09
06/10/2019

3.Data Training

Import Data - Format your columns. ✕

Format your columns.

☐ Replace errors with missing values ⓘ

	Jurusan_SMA <i>polynominal</i>	Gender <i>polynominal</i>	Asal_Sekolah <i>polynominal</i>	Rerata_Sekolah <i>integer</i>	Asisten <i>binominal label</i>
1	LAIN	WANITA	SURAKARTA	18	TIDAK
2	IPA	PRIA	SURAKARTA	19	YA
3	LAIN	PRIA	SURAKARTA	19	TIDAK
4	IPS	PRIA	LUAR	17	TIDAK
5	LAIN	WANITA	SURAKARTA	17	TIDAK
6	IPA	WANITA	LUAR	18	YA
7	IPA	PRIA	SURAKARTA	18	TIDAK
8	IPA	PRIA	SURAKARTA	19	TIDAK
9	IPS	PRIA	LUAR	18	TIDAK
10	LAIN	WANITA	SURAKARTA	18	TIDAK

✓ no problems
← Previous → Next ✕ Cancel

b.Data Testing

Import Data - Format your columns. ✕

Format your columns.

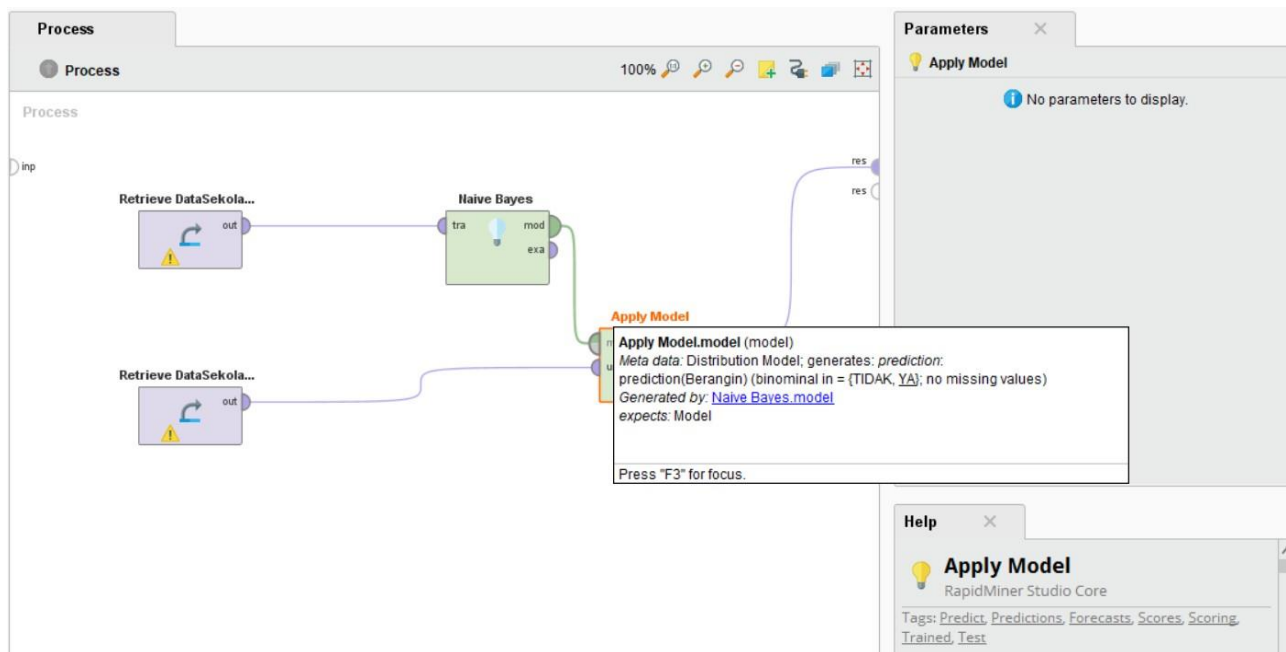
☐ Replace errors with missing values ⓘ

	Cuaca <i>polynomial</i>	Suhu <i>integer</i>	Kelembaban_udara <i>integer</i>	Berangin <i>binominal label</i>
1	Cerah	75	65	TIDAK
2	Cerah	80	68	YA
3	Cerah	83	87	YA
4	Mendung	70	96	TIDAK
5	Mendung	68	81	TIDAK
6	Hujan	65	75	YA
7	Hujan	64	85	YA

✓ no problems

← Previous → Next ✕ Cancel

c. implementasi naïve bayes



d. hasil

Open in [Turbo Prep](#) [Auto Model](#)

Filter (10 / 10 examples): all

Row No.	prediction(L...	confidence(...	confidence(...	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
1	TERLAMBAT	0.648	0.352	LAIN	WANITA	SURAKARTA	18	TIDAK
2	TEPAT	0.005	0.995	IPA	PRIA	SURAKARTA	19	YA
3	TERLAMBAT	0.050	0.350	LAIN	PRIA	SURAKARTA	19	TIDAK
4	TERLAMBAT	0.050	0.132	IPS	PRIA	LUAR	17	TIDAK
5	TERLAMBAT	0.738	0.262	LAIN	WANITA	SURAKARTA	17	TIDAK
6	TEPAT	0.005	0.995	IPA	WANITA	LUAR	18	YA
7	TERLAMBAT	0.547	0.453	IPA	PRIA	SURAKARTA	18	TIDAK
8	TEPAT	0.321	0.679	IPA	PRIA	SURAKARTA	19	TIDAK
9	TERLAMBAT	0.011	0.189	IPS	PRIA	LUAR	18	TIDAK
10	TERLAMBAT	0.648	0.352	LAIN	WANITA	SURAKARTA	18	TIDAK

ExampleSet (10 examples, 3 special attributes, 5 regular attributes)

	Name	Type	Missing	Statistics			Filter (8 / 8 attributes):	Search for Attributes:	
✓	Prediction prediction(Lama_Studi)	Binominal	0	Least TEPAT (3)	Most TERLAMBAT (7)	Values TERLAMBAT (7), TEPAT (3)			
✓	Confidence_TERLAMBAT confidence(TERLAMBAT)	Real	0	Min 0.005	Max 0.868	Average 0.524			
✓	Confidence_TEPAT confidence(TEPAT)	Real	0	Min 0.132	Max 0.995	Average 0.476			
✓	Jurusan_SMA	Polynomial	0	Least IPS (2)	Most IPA (4)	Values IPA (4), LAIN (4), ...[1 more]			
✓	Gender	Polynomial	0	Least WANITA (4)	Most PRIA (6)	Values PRIA (6), WANITA (4)			
✓	Asal_Sekolah	Polynomial	0	Least LUAR (3)	Most SURAKARTA (7)	Values SURAKARTA (7), LUAR (3)			

4.

✓	Confidence_TERLAMBAT confidence(TERLAMBAT)	Real	0	Min 0.005	Max 0.868	Average 0.524
✓	Confidence_TEPAT confidence(TEPAT)	Real	0	Min 0.132	Max 0.995	Average 0.476

5.

✓	Prediction prediction(Lama_Studi)	Binominal	0	Least TEPAT (3)	Most TERLAMBAT (7)	Values TERLAMBAT (7), TEPAT (3)
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6.

a.

Import Data - Select the cells to import.

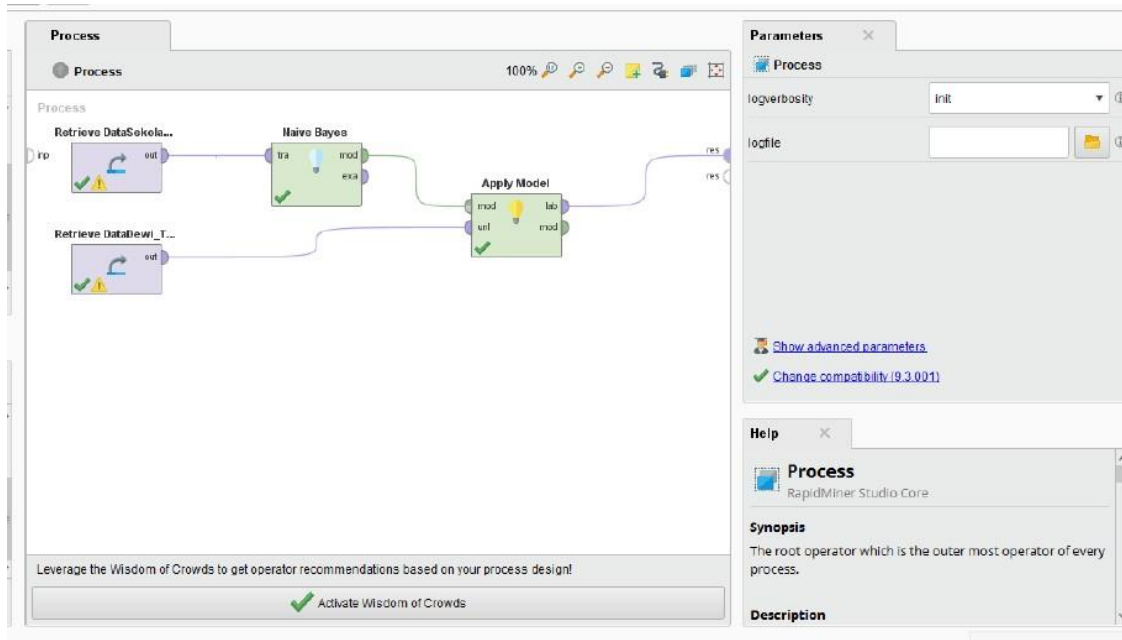
Select the cells to import.

Sheet: Sheet3 Cell range: A:E Select All ☒ Define header row: 1

	A	B	C	D	E
1	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
2	IPA	WANITA	LUAR SURAKARTA	18.000	TIDAK

← Previous Next → ✖ Cancel

b. naive bayes



c. hasil

Result History

ExampleSet (Apply Model)

Name	Type	Missing	Statistics
prediction(Lama_Studi)	Binominal	0	Least: TERLAMBAT (0), Most: TEPAT (1), Values: TEPAT (1), TERLAMBAT (0)
confidence(TERLAMBAT)	Real	0	Min: 0.457, Max: 0.457, Average: 0.457
confidence(TEPAT)	Real	0	Min: 0.543, Max: 0.543, Average: 0.543
Jurusan_SMA	Polynomial	0	Least: IPA (1), Most: IPA (1), Values: IPA (1)
Gender	Polynomial	0	Least: WANITA (1), Most: WANITA (1), Values: WANITA (1)
Asal_Sekolah	Polynomial	0	Least: LUAR SURAKARTA (1), Most: LUAR SURAKARTA (1), Values: LUAR SURAKARTA (1)
Rerata_SKS	Integer	0	Min: 18, Max: 18, Average: 18
Asisten	Polynomial	0	Least: TIDAK (1), Most: TIDAK (1), Values: TIDAK (1)

Showing attributes 1 - 8

Examples: 1 Special Attributes: 3 Regular Attributes: 5

Berdasarkan hasil di atas maka prediksi untuk Dewi dia akan lulus dengan tepat

7.

Import Data - Select the cells to import.

Select the cells to import.

Sheet: Sheet4 Cell range: A:E Select All ☒ Define header row: 1

	A	B	C	D	E
1	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
2	LAIN	PRIA	SURAKARTA	17.000	YA

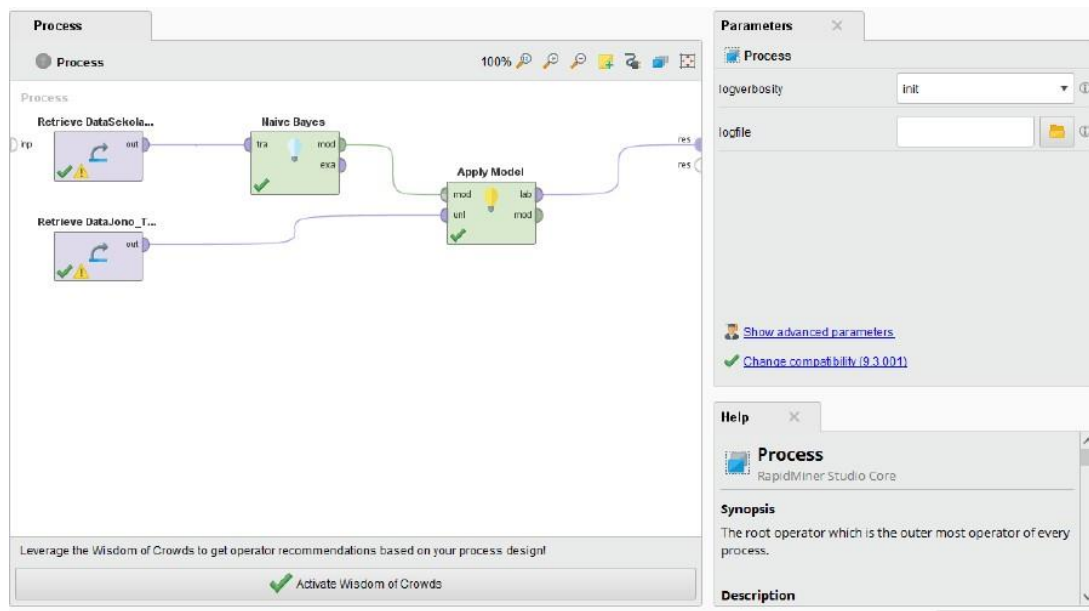
← Previous Next → ✖ Cancel

Open in Turbo Prep Auto Model Filter (1 / 1 examples): all

Row No.	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
1	LAIN	PRIA	SURAKARTA	17	YA

ExampleSet (1 example, 0 special attributes, 5 regular attributes)

b. Naive bayes



c. hasil

Open in Turbo Prep Auto Model Filter (1 / 1 examples):

Row No.	prediction(L...	confidence(...	confidence(...	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
1	TEPAT	0.076	0.924	LAIN	PRIA	SURAKARTA	17	YA

Name	Type	Missing	Statistics	Filter (8 / 8 attributes):
✓ Prediction(Lama_Studi)	Binominal	0	Least: TERLAMBAT (0), Most: TEPAT (1), Values: TEPAT (1), TERLAMBAT (0)	
✓ Confidence_TERLAMBAT confidence(TERLAMBAT)	Real	0	Min: 0.076, Max: 0.076, Average: 0.076	
✓ Confidence_TEPAT confidence(TEPAT)	Real	0	Min: 0.924, Max: 0.924, Average: 0.924	
✓ Jurusan_SMA	Polynomial	0	Least: LAIN (1), Most: LAIN (1), Values: LAIN (1)	
✓ Gender	Polynomial	0	Least: PRIA (1), Most: PRIA (1), Values: PRIA (1)	
✓ Asal_Sekolah	Polynomial	0	Least: SURAKARTA (1), Most: SURAKARTA (1), Values: SURAKARTA (1)	
✓ Rerata_SKS	Integer	0	Min: 17, Max: 17, Average: 17	
✓ Asisten	Polynomial	0	Least: YA (1), Most: YA (1), Values: YA (1)	

Berdasarkan hasil di atas maka prediksi untuk Jono dia akan lulus dengan tepat