

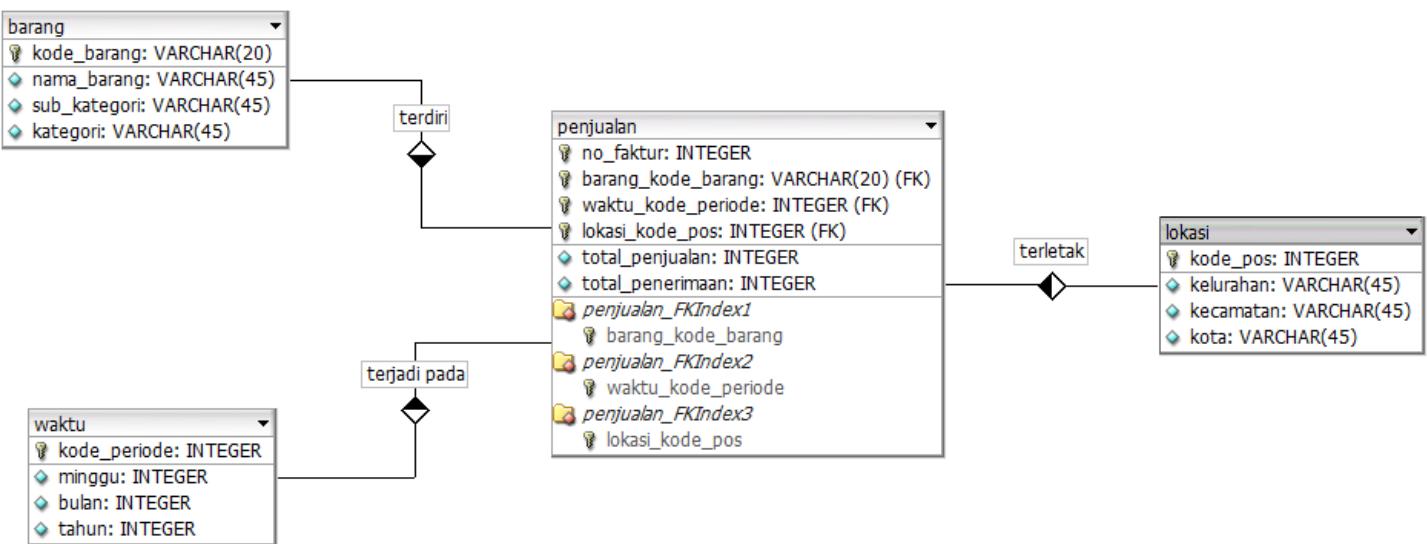
Nama : Titis Ulfa Mustikawati

NIM : L200170057

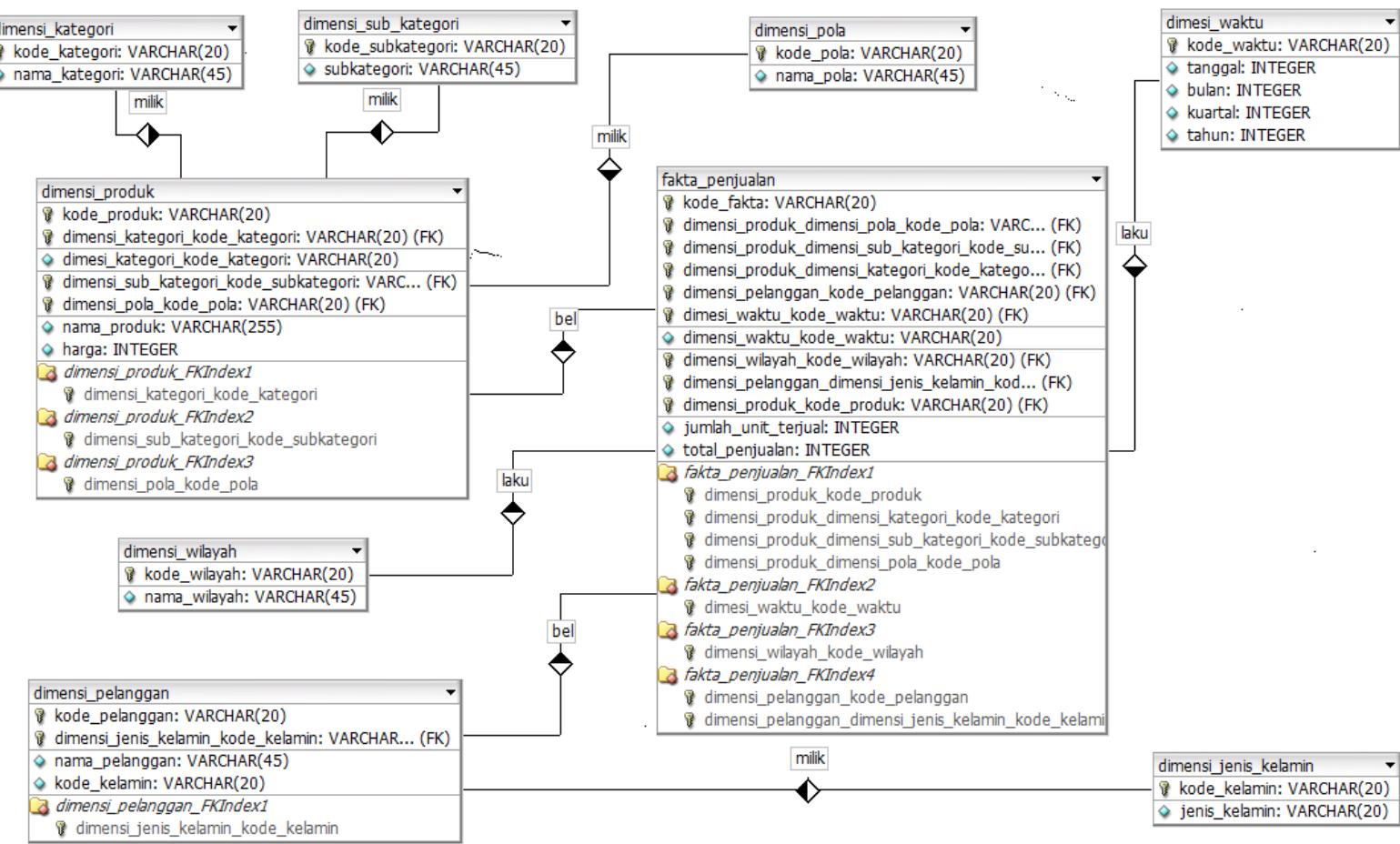
Kelas : C

## MODUL 1

### LANGKAH – LANGKAH PRAKTIKUM



## TUGAS



Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 5

### PIVOT TABLE DAN CHART

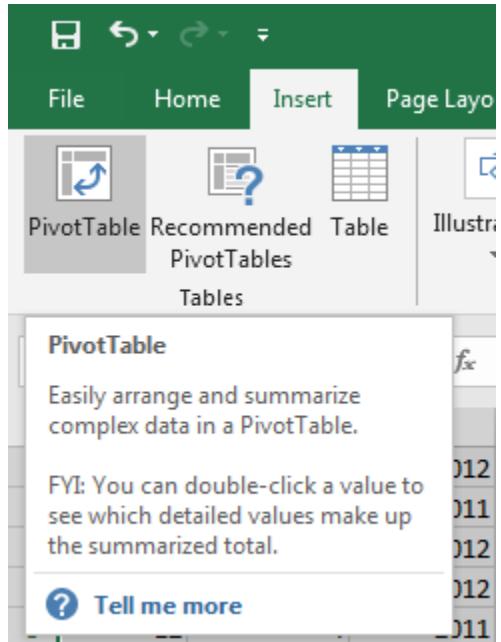
#### Langkah – Langkah Praktikum

##### Kegiatan 1 : Membuat Pivot Tabel

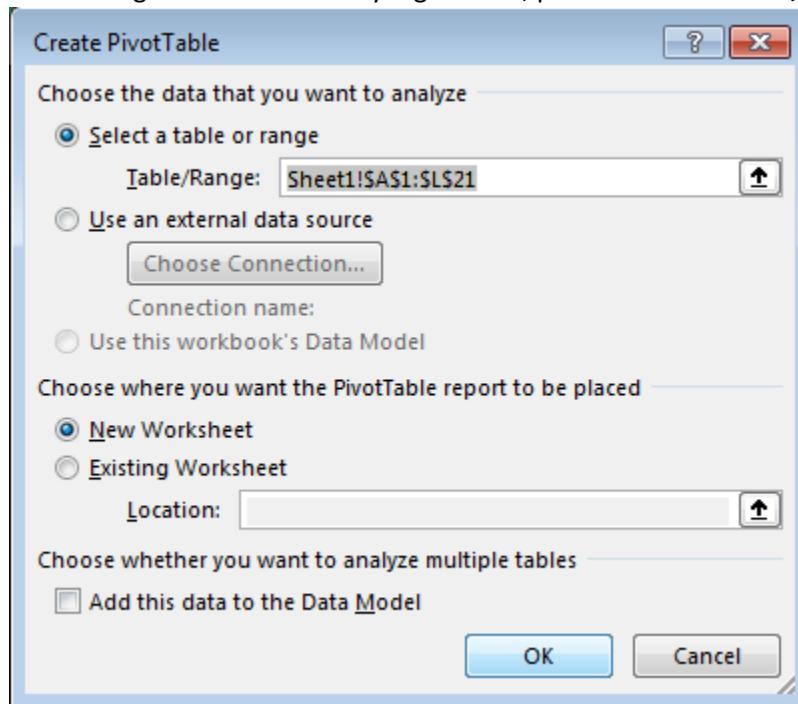
1. Gunakan file dengan nama “**Fakta\_Penjualan.xls**”.
2. Membuka sheet **Fact\_Table**.
3. Pilih range data **A1:L21** atau tekan tombol **CTRL + SHIFT + \***.

bulan	kuartal	tahun	nama_produk	nama_kategori	nama_subkategori	nama_pola	nama_pelanggan	jenis_kelamin	nama_wilayah	jumlah	harga
12	4	2011	Jarik Standar Print Sogan	Standar	Jarik	Print	Bapak Ketut	Pria	Bali	2	225000
1	1	2012	Kaos Batik Cap Lukis	Batik	Kaos	Cap	Ibu Harini	Wanita	Jawa Timur	14	30000
4	2	2012	Jarik Standar Tulis Sarimbit	Standar	Jarik	Tulis	Ibu Harini	Wanita	Jawa Timur	4	40000
4	2	2011	Hem Katun Print Kelengan	Katun	Hem	Print	Ibu Harini	Wanita	Jawa Timur	3	70000
9	3	2012	Batik Standar Cap Tumpal	Standar	Batik	Cap	Bapak Heru	Pria	Jawa Timur	1	150000
5	2	2012	Hem Katun Print Kelengan	Katun	Hem	Print	Bapak Totok	Pria	Jawa Timur	3	299000
12	4	2011	Bolera Standar Cap Sidomukti	Standar	Bolero	Cap	Ibu Hatamah	Wanita	Jawa Timur	1	225000
10	4	2011	Sarimbit Standar Print Lukis	Standar	Sarimbit	Print	Ibu Hatamah	Wanita	Jawa Timur	1	150000
1	1	2011	Kaos Katun Print Bola	Katun	Kaos	Print	Bapak Imron	Pria	Jawa Barat	1	60000
2	1	2012	Celana Standar Cap Warna	Standar	Celana	Cap	Ibu Hadi Sukarni	Wanita	Jawa Barat	17	55000
3	1	2010	Celana Standar Print Lasem	Standar	Celana	Print	Ibu Hadi Sukarni	Wanita	Jawa Barat	17	55000
3	1	2011	Bahan Standar Cap Lasem	Standar	Bahan	Cap	Ibu Siti Arya	Wanita	Jawa Barat	8	120000
12	4	2012	Rok Batik Print Kombinasi	Batik	Rok	Print	Ibu Siti Arya	Wanita	Jawa Barat	1	225000
1	1	2012	Jam Standar Print Lukis	Standar	Jam	Print	Ibu Siti Arya	Wanita	Jawa Barat	44	80000
9	3	2012	Hem Standar Cap Tumpal	Standar	Hem	Cap	Ibu Aini Kasmaji	Wanita	Jawa Tengah	1	100000
6	2	2012	Bahan Standar Cap Lasem	Lawasan	Bahan	Tulis	Ibu Niken	Wanita	Jawa Tengah	1	130000
8	3	2011	Hem Standar Tulis Madura	Standar	Hem	Tulis	Ibu Atik	Wanita	Jawa Tengah	5	550000
4	2	2012	Bahan Standar Cap Lasem	Standar	Bahan	Cap	Ibu Tyas	Wanita	Jawa Tengah	7	135000
6	2	2010	Bahan Beludru Cap Mahkota	Beludru	Bahan	Cap	Ibu Tyas	Wanita	Jawa Tengah	1	500000
11	4	2010	Hem Sutra Print Rama	Sutra	Hem	Print	Ibu Tyas	Wanita	Jawa Tengah	5	100000

4. Klik tab **Insert** pada Ribbon, pilih menu **PivotTable | Insert PivotTable**.



5. Pada dialog Create PivotTable yang muncul, pilih **New Worksheet**, klik tombol **OK**.



6. Sheet baru akan muncul disertai suatu kotak / placeholder PivotTable (*PivotTable Box*). Selain itu terdapat panel daftar field (**PivotTable Field List**) pada posisi sebelah kanan worksheet. Terlihat pada daftar tersebut 10 field heading dari range data yang dipilih sebelumnya.

7. Pada bagian bawah panel sebelah kanan terdapat 4 kotak area. Tiap kotak tersebut dapat ditambahkan field-field yang terdapat pada field list. Adapun fungsi dari 4 kotak tersebut adalah sebagai berikut :
- Report Filter:** pada kotak ini field akan digunakan sebagai filter yang mempengaruhi hasil data pada PivotTable namun tidak akan terlihat sebagai isi dari PivotTable itu sendiri.
  - Column Labels:** data dari field akan ditempatkan pada bagian kolom dari tabel dengan level sesuai urutan pada area ini.
  - Row Labels:** data dari field akan ditempatkan pada bagian baris dari tabel dengan level sesuai urutan susunan pada area ini.

- d) **Values:** nilai field yang terdapat pada kota ini akan dijadikan sebagai basis perhitungan *summary*. Tipe *summary* yang bias digunakan adalah *count*, *sum*, *average*, *max*, *min* dan lain-lain.
8. Cobalah berbagai kombinasi penempatan field dalam kotak area tersebut. Susunlah layout field dengan urutan berikut :

- a) Field **nama\_subkategori** ke kotak **Row Labels**.

Row Labels
Bahan
Batik
Bolero
Celana
Hem
Jam
Jarik
Kaos
Rok
Sarimbit
<b>Grand Total</b>

- b) Field **tahun** ke kotak **Column Labels**.

Row Labels	Column Labels	2010	2011	2012	Grand Total
Bahan					
Batik					
Bolero					
Celana					
Hem					
Jam					
Jarik					
Kaos					
Rok					
Sarimbit					
<b>Grand Total</b>					

- c) Field **jumlah** ke kotak **Values**.

Row Labels	2010	2011	2012	Grand Total
Bahan	1	8	8	17
Batik			1	1
Bolero		1		1
Celana	17		17	34
Hem	5	8	4	17
Jam			44	44
Jarik		2	4	6
Kaos		1	14	15
Rok			1	1
Sarimbit		1		1
<b>Grand Total</b>	<b>23</b>	<b>21</b>	<b>93</b>	<b>137</b>

9. Perhatikan hasil pengaturan ini pada area PivotTable. Area ini akan berisi suatu tabel dengan grouping field **nama\_subkategori** pada bagian baris, field **tahun** pada kolom. Sedangkan nilai total jumlah\_unit ditempatkan pada cell-cell hasil perpotongan item grouping baris dan kolom tersebut.

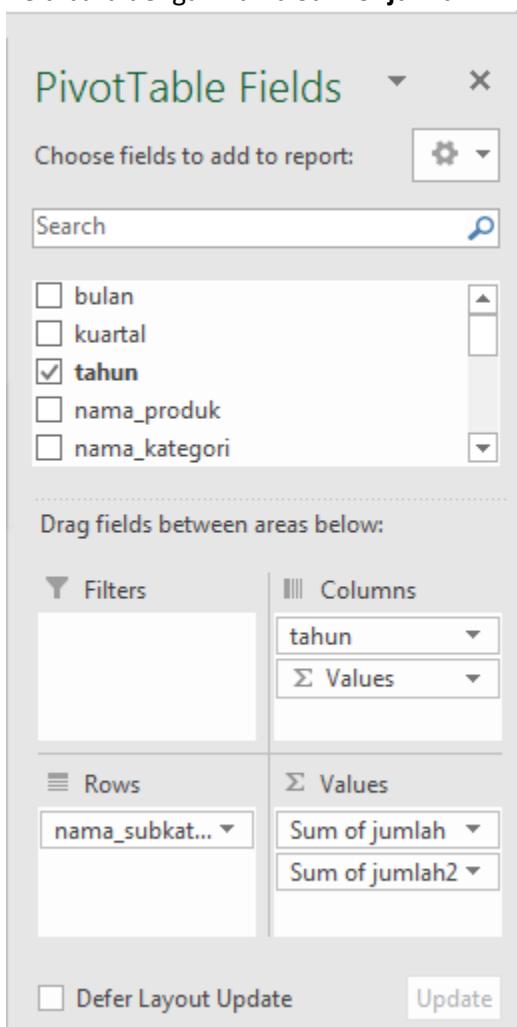
Row Labels	2010	2011	2012	Grand Total
Bahan	1	8	8	17
Batik			1	1
Bolero		1		1
Celana	17		17	34
Hem	5	8	4	17
Jam			44	44
Jarik		2	4	6
Kaos		1	14	15
Rok			1	1
Sarimbit		1		1
<b>Grand Total</b>	<b>23</b>	<b>21</b>	<b>93</b>	<b>137</b>

Salah satu contoh perpotongan adalah total jumlah yang terjual dengan kategori **Jam** selama tahun **2012**, adalah sebesar **44** unit.

10. Simpan file dengan nama yang sama.

## Kegiatan 2 : Menambahkan Tipe Summary Baru

1. Masih bekerja menggunakan file “**Fakta\_Penjualan.xls**” pada kegiatan 1 dengan Sheet1 PivotTable.
- 2.Tambahkan field **jumlah** kembali ke kotak **Value** dengan cara klik dan drag, sehingga muncul field baru dengan nama **Sum of jumlah2**.

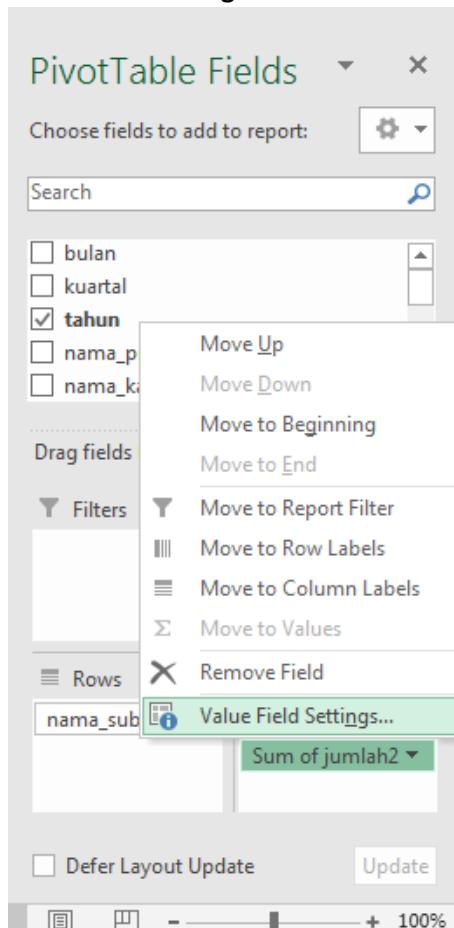


3. Akan diperoleh tambahan satu kolom perhitungan baru yang sama dengan hasil sebelumnya pada masing-masing tahun. Namun tentunya bukan ini yang diinginkan

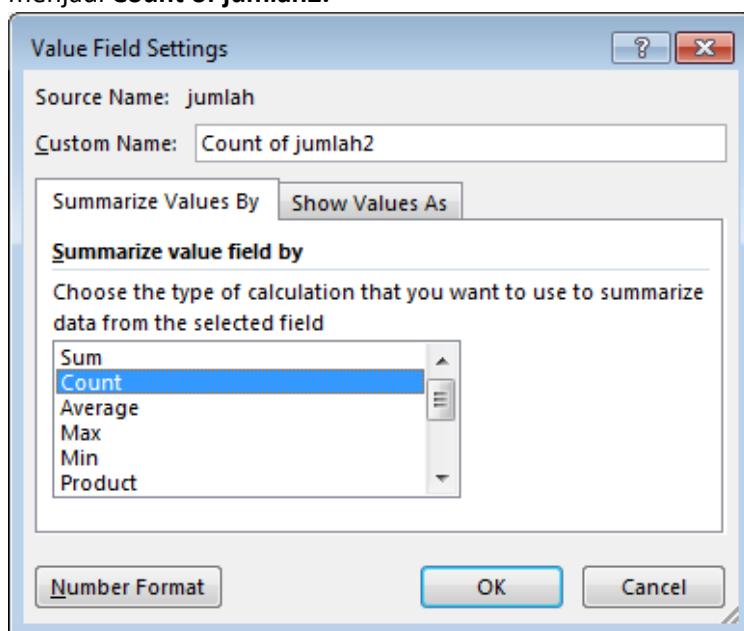
	Column Labels		2010	2011	2012	Total Sum of jumlah	Total Sum of jumlah2
Row Labels	Sum of jumlah	Sum of jumlah2	Sum of jumlah	Sum of jumlah2	Sum of jumlah	Sum of jumlah2	
Bahan	1	1	8	8	8	17	17
Batik				1	1	1	1
Bolero			1	1		1	1
Celana	17	17			17	34	
Hem	5	5	8	8	4	17	
Jam				44	44	44	
Jarik		2	2	4	4	6	6
Kaos		1	1	14	14	15	15
Rok				1	1	1	1
Sarimbit		1	1			1	1
<b>Grand Total</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>21</b>	<b>93</b>	<b>137</b>	<b>137</b>

Column Labels  
 Value: 1  
 Row: Bolero  
 Column: Total

4. Kembali ke area **Values**, dan klik tombol panah ke bawah pada field **Sum of jumlah2**. Pilih item **Value Field Settings**.



5. Pada dialog Value Field Settings, ubah **Sum** menjadi **Count**. Perhatikan nama field akan berubah menjadi **Count of jumlah2**.



6. Klik tombol **OK**.
7. Pada area PivotTable, didapatkan dua *summary* yaitu:
  - a) Nilai jumlah unit penjualan yang terjadi (**sum**).
  - b) Jumlah transaksi yang terjadi (**count**).

Row Labels	Column Labels		2010		2011		2012		Total Sum of jumlah	Total Count of jumlah2
	Sum of jumlah	Count of jumlah2	Sum of jumlah	Count of jumlah2	Sum of jumlah	Count of jumlah2				
Bahan	1	1	8	1	8	2	17	1	4	1
Batik					1	1	1	1	1	1
Bolero			1	1				1	1	1
Celana	17	1			17	1	34	2		
Hem	5	1	8	2	4	2	17	5		
Jam					44	1	44	1		
Jarik			2	1	4	1	6	2		
Kaos			1	1	14	1	15	2		
Rok					1	1	1	1	1	1
Sarimbit			1	1				1		
<b>Grand Total</b>	<b>23</b>	<b>3</b>	<b>21</b>	<b>7</b>	<b>93</b>	<b>10</b>	<b>137</b>	<b>20</b>		

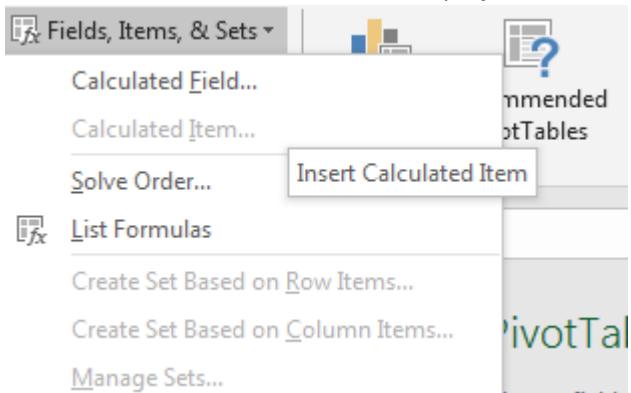
8. Simpan kembali dengan nama file yang sama

### Kegiatan 3 : Calculate Field dan Calculate Item di Pivot Table

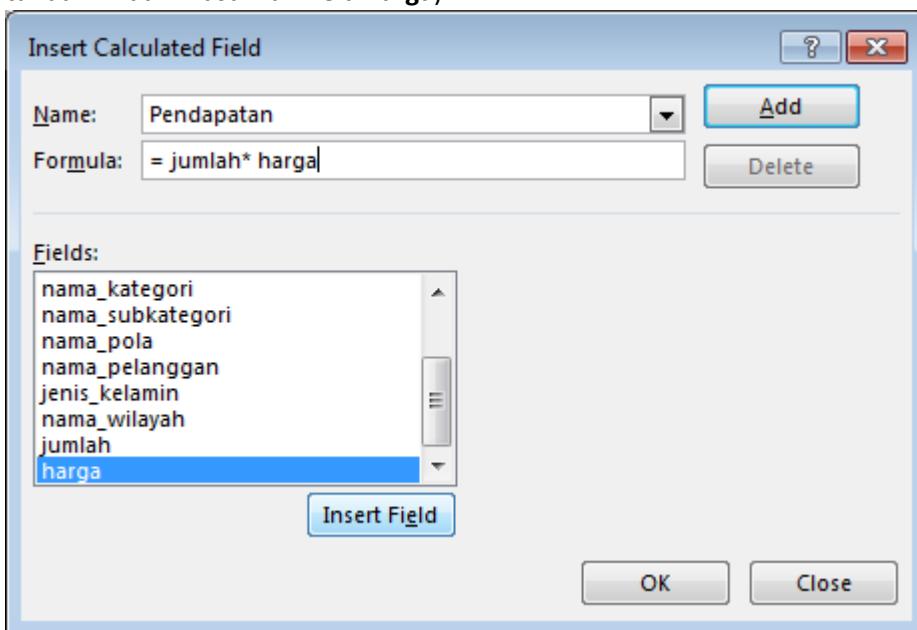
#### a) Calculate Field

Berikut adalah langkah-langkah untuk melakukan hal tersebut :

1. Buka Sheet1 dalam file **Fakta\_Penjualan.xls**, dan letakkan kursor ke area PivotTable.
2. Pada menu ribbon **PivotTable Tools | Options**, klik button **Formulas** dan pilih **Calculated Field**.



3. Pada kotak dialog **Insert Calculated Field** yang muncul, masukkan nilai berikut kemudian klik tombol **OK**.
  - a) Name : Pendapatan
  - b) Formula : = jumlah \* harga (Pilih field **jumlah** kemudian klik Insert Field kemudian ketikkan tanda "\*" dan masukkan field **harga**)



4. Field baru, "Sum of Pendapatan" akan muncul pada Pivot Table.

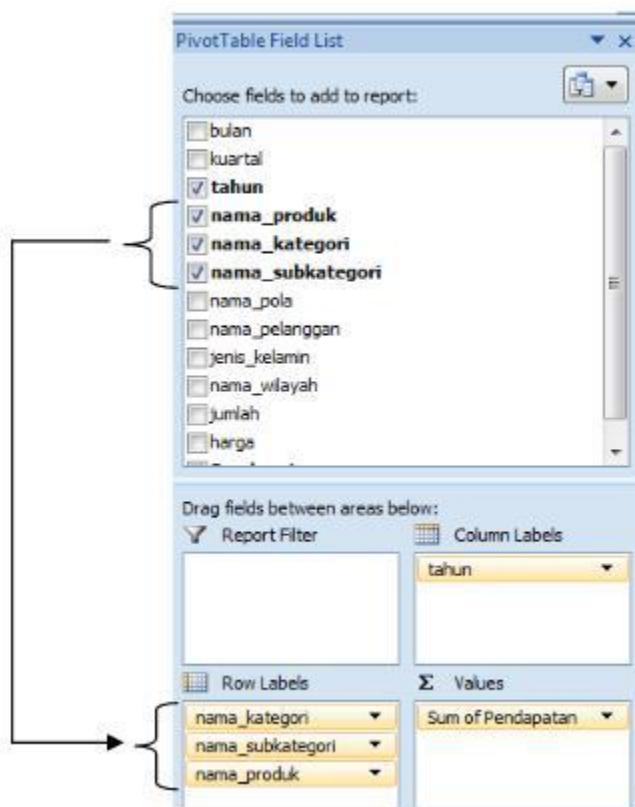
Row Labels	2010			2011			2012		
	Sum of jumlah	Count of jumlah2	Sum of Pendapatan	Sum of jumlah	Count of jumlah2	Sum of Pendapatan	Sum of jumlah	Count of jumlah2	Sum of Pendapatan
Bahan	1	1	500000	8	1	960000	8	2	
Batik			0			0	1	1	
Bolero			0	1	1	225000			
Celana	17	1	935000			0	17	1	
Hem	5	1	500000	8	2	4960000	4	2	
Jam			0			0	44	1	
Jarik			0	2	1	450000	4	1	
Kaos			0	1	1	60000	14	1	
Rok			0			0	1	1	
Sarimbit			0	1	1	150000			
<b>Grand Total</b>	<b>23</b>	<b>3</b>	<b>15065000</b>	<b>21</b>	<b>7</b>	<b>29400000</b>	<b>93</b>	<b>10</b>	

Count of jumlah2	2012					Total Sum of jumlah	Total Count of jumlah2	Total Sum of Pendapatan
	Sum of Pendapatan	Sum of jumlah	Count of jumlah2	Sum of Pendapatan				
1	960000	8	2	2120000	17	4	15045000	
	0	1	1	150000	1	1	150000	
1	225000			0	1	1	225000	
	0	17	1	935000	34	2	3740000	
2	4960000	4	2	1596000	17	5	19023000	
	0	44	1	3520000	44	1	3520000	
1	450000	4	1	160000	6	2	1590000	
1	60000	14	1	420000	15	2	1350000	
	0	1	1	225000	1	1	225000	
1	150000			0	1	1	150000	
<b>7</b>	<b>29400000</b>	<b>93</b>	<b>10</b>	<b>11569200</b>	<b>137</b>	<b>20</b>	<b>451963000</b>	

#### Kegiatan 4 : Operasi Roll Up dan Drill Down

1. Buka Sheet1 (hasil pivot table) dan letakkan kursor pada area pivot table.
2. Pada kotak **PivotTable Field List**, hilangkan tanda cek pada field **jumlah** (field ini sementara tidak digunakan), dan beri tanda cek pada field (*kolom*) yang akan ditampilkan ke dalam *cube*.
3. Beri tanda cek dan letakkan field-field berikut pada kotak **Row Labels** atau **Column Labels** sesuai dengan kebutuhan tampilan *cube*. Urutan field dalam kotak ini menentukan urutan rincian kategori data. Field yang terletak pada urutan teratas merupakan field dengan kategori paling umum, sedangkan field yang terletak pada urutan terbawah adalah field dengan kategori paling spesifik (paling rinci).
4. Misalkan pada Row Labels akan ditampilkan data berdasarkan urutan **nama\_kategori**, **nama\_subkategori**, dan **nama\_produk**. Beri tanda cek pada field tersebut (*bisa drag and drop*) dan letakkan pada kotak **Row Labels**.



Sum of Pendapatan		Column Labels			
Row Labels		2010	2011	2012	Grand Total
■ Batik		0	0	3825000	3825000
■ Kaos		0	0	420000	420000
Kaos Batik Cap Lukis		0	0	420000	420000
■ Rok		0	0	225000	225000
Rok Batik Print Kombinasi		0	0	225000	225000
■ Beludru		500000	0	0	500000
■ Bahan		500000	0	0	500000
Bahan Beludru Cap Mahkota		500000	0	0	500000
■ Katun		0	520000	897000	3003000
■ Hem		0	210000	897000	2214000
Hem Katun Print Kelengan		0	210000	897000	2214000
■ Kaos		0	60000	0	60000
Kaos Katun Print Bola		0	60000	0	60000
■ Lawasan		0	0	130000	130000
■ Bahan		0	0	130000	130000
Bahan Standar Cap Lasem		0	0	130000	130000
■ Standar		935000	21590000	41440000	203580000
■ Bahan		0	960000	945000	3825000
Bahan Standar Cap Lasem		0	960000	945000	3825000
■ Batik		0	0	150000	150000
Batik Standar Cap Tumpal		0	0	150000	150000
Bahan Standar Cap Lasem		0	960000	945000	3825000
■ Batik		0	0	150000	150000
Batik Standar Cap Tumpal		0	0	150000	150000
■ Bolero		0	225000	0	225000
Bolera Standar Cap Sidomukti		0	225000	0	225000
■ Celana		935000	0	935000	3740000
Celana Standar Cap Warna		0	0	935000	935000
Celana Standar Print Lasem		935000	0	0	935000
■ Hem		0	2750000	100000	3900000
Hem Standar Cap Tumpal		0	0	100000	100000
Hem Standar Tulis Madura		0	2750000	0	2750000
■ Jam		0	0	3520000	3520000
Jam Standar Print Lukis		0	0	3520000	3520000
■ Jarik		0	450000	160000	1590000
Jarik Standar Print Sogan		0	450000	0	450000
Jarik Standar Tulis Sarimbit		0	0	160000	160000
■ Sarimbit		0	150000	0	150000
Sarimbit Standar Print Lukis		0	150000	0	150000
■ Sutra		500000	0	0	500000
■ Hem		500000	0	0	500000
Hem Sutra Print Rama		500000	0	0	500000
<b>Grand Total</b>		<b>15065000</b>	<b>29400000</b>	<b>115692000</b>	<b>451963000</b>

5. Pada Column Labels akan ditampilkan data berdasarkan urutan **tahun**, **kuartal**, dan **bulan**. Beri tanda cek pada field tersebut (drag and drop) dan letakkan pada kotak **Column Labels**.

Sum of Pendapatan		Column Labels ▾			
Row Labels		2010	2011	2012	Grand Total
■ Batik		0	0	3825000	3825000
■ Kaos	Kaos Batik Cap Lukis	0	0	420000	420000
■ Rok	Rok Batik Print Kombinasi	0	0	225000	225000
■ Beludru		500000	0	0	500000
■ Bahan	Bahan Beludru Cap Mahkota	500000	0	0	500000
■ Katun		0	520000	897000	3003000
■ Hem	Hem Katun Print Kelengan	0	210000	897000	2214000
■ Kaos	Kaos Katun Print Bola	0	60000	0	60000
■ Lawasan		0	0	130000	130000
■ Bahan	Bahan Standar Cap Lasem	0	0	130000	130000
■ Standar		935000	21590000	41440000	203580000
■ Bahan	Bahan Standar Cap Lasem	0	960000	945000	3825000
■ Batik	Batik Standar Cap Tumpal	0	0	150000	150000
	Bahan Standar Cap Lasem	0	960000	945000	3825000
■ Batik	Batik Standar Cap Tumpal	0	0	150000	150000
■ Bolero	Bolero Standar Cap Sidomukti	0	225000	0	225000
■ Celana		935000	0	935000	3740000
	Celana Standar Cap Warna	0	0	935000	935000
	Celana Standar Print Lasem	935000	0	0	935000
■ Hem		0	2750000	100000	3900000
	Hem Standar Cap Tumpal	0	0	100000	100000
	Hem Standar Tulis Madura	0	2750000	0	2750000
■ Jam		0	0	3520000	3520000
	Jam Standar Print Lukis	0	0	3520000	3520000
■ Jarik		0	450000	160000	1590000
	Jarik Standar Print Sogan	0	450000	0	450000
	Jarik Standar Tulis Sarimbit	0	0	160000	160000
■ Sarimbit		0	150000	0	150000
	Sarimbit Standar Print Lukis	0	150000	0	150000
■ Sutra		500000	0	0	500000
■ Hem	Hem Sutra Print Rama	500000	0	0	500000
<b>Grand Total</b>		<b>15065000</b>	<b>29400000</b>	<b>115692000</b>	<b>451963000</b>

Nama : Titis Ulfa Mustikawati

NIM : L200170057

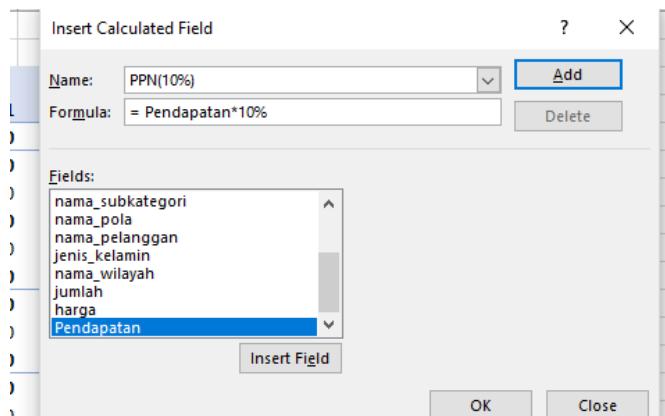
Kelas : C

## MODUL 5

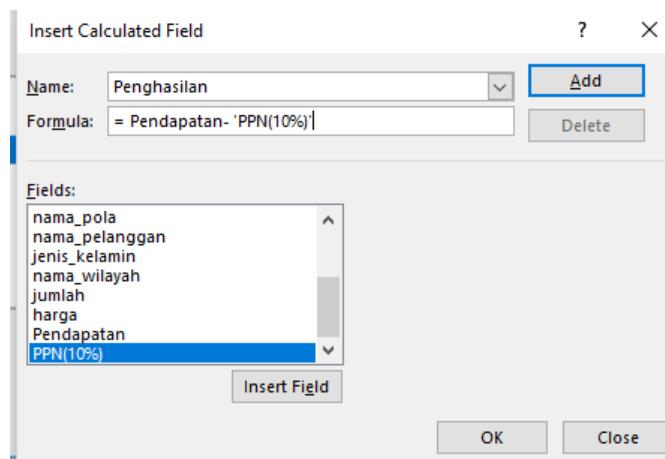
### PIVOT TABLE DAN CHART

#### Tugas

1. Dengan menggunakan **PivotTable** pada file **Fakta\_Penjualan.xls** tambahkan 2 buah field, yaitu :
  - a. **PPN** (Pajak Pertambahan Nilai) sebesar 10% dari tiap pendapatan pada Pivot Table.



- b. **Total Penghasilan** yang dihitung dari pendapatan dikurangi dengan PPN tersebut.



2. Buatlah **PivotTable** dan **PivotChart** untuk melihat PPN dan Total Penghasilan tersebut selama tahun 2010 – 2012. Kategori produk apakah yang memberikan nilai penghasilan terbanyak selama 3 tahun tersebut?

- a. Pivot Table

❖ 2010

Row Labels	Column Labels			Total Sum of Pendapatan	Total Sum of PPN(10%)	Total Sum of Penghasilan
	2010	Sum of Pendapatan	Sum of PPN(10%)			
Beludru		50000	5000	45000	5000	45000
Bahan		50000	5000	45000	5000	45000
Hem Sutra Print Rama		50000	5000	45000	5000	45000
Standar		935000	93500	841500	935000	93500
Celana		935000	93500	841500	935000	841500
Celana Standar Print Lasem		935000	93500	841500	935000	841500
Sutra		500000	50000	450000	500000	450000
Hem		500000	50000	450000	500000	450000
Hem Sutra Print Rama		500000	50000	450000	500000	450000
Grand Total		4715000	471500	4243500	4715000	4243500

## ❖ 2011

Row Labels	2011			Total Sum of Pendapatan	Total Sum of PPN(10%)	Total Sum of Penghasilan
	Sum of Pendapatan	Sum of PPN(10%)	Sum of Penghasilan			
• Katun	520000	52000	468000	520000	52000	468000
• Hem	210000	21000	189000	210000	21000	189000
Hem Katun Print Kelengan	210000	21000	189000	210000	21000	189000
• Kaos	60000	6000	54000	60000	6000	54000
kaos Katun Print Bola	60000	6000	54000	60000	6000	54000
• Standar	21590000	2159000	19431000	21590000	2159000	19431000
• Bahan	960000	96000	864000	960000	96000	864000
Bahan Standar Cap Lasem	960000	96000	864000	960000	96000	864000
• Balero	225000	22500	202500	225000	22500	202500
Balero Standar Cap Sidomukti	225000	22500	202500	225000	22500	202500
• Hem	2750000	275000	2475000	2750000	275000	2475000
Hem Standar Tulis Madura	2750000	275000	2475000	2750000	275000	2475000
• Jarik	450000	45000	405000	450000	45000	405000
Jarik Standar Print Sogan	450000	45000	405000	450000	45000	405000
• Sarimbit	150000	15000	135000	150000	15000	135000
Sarimbit Standar Print Lukis	150000	15000	135000	150000	15000	135000
<b>Grand Total</b>	<b>29400000</b>	<b>2940000</b>	<b>26460000</b>	<b>29400000</b>	<b>2940000</b>	<b>26460000</b>

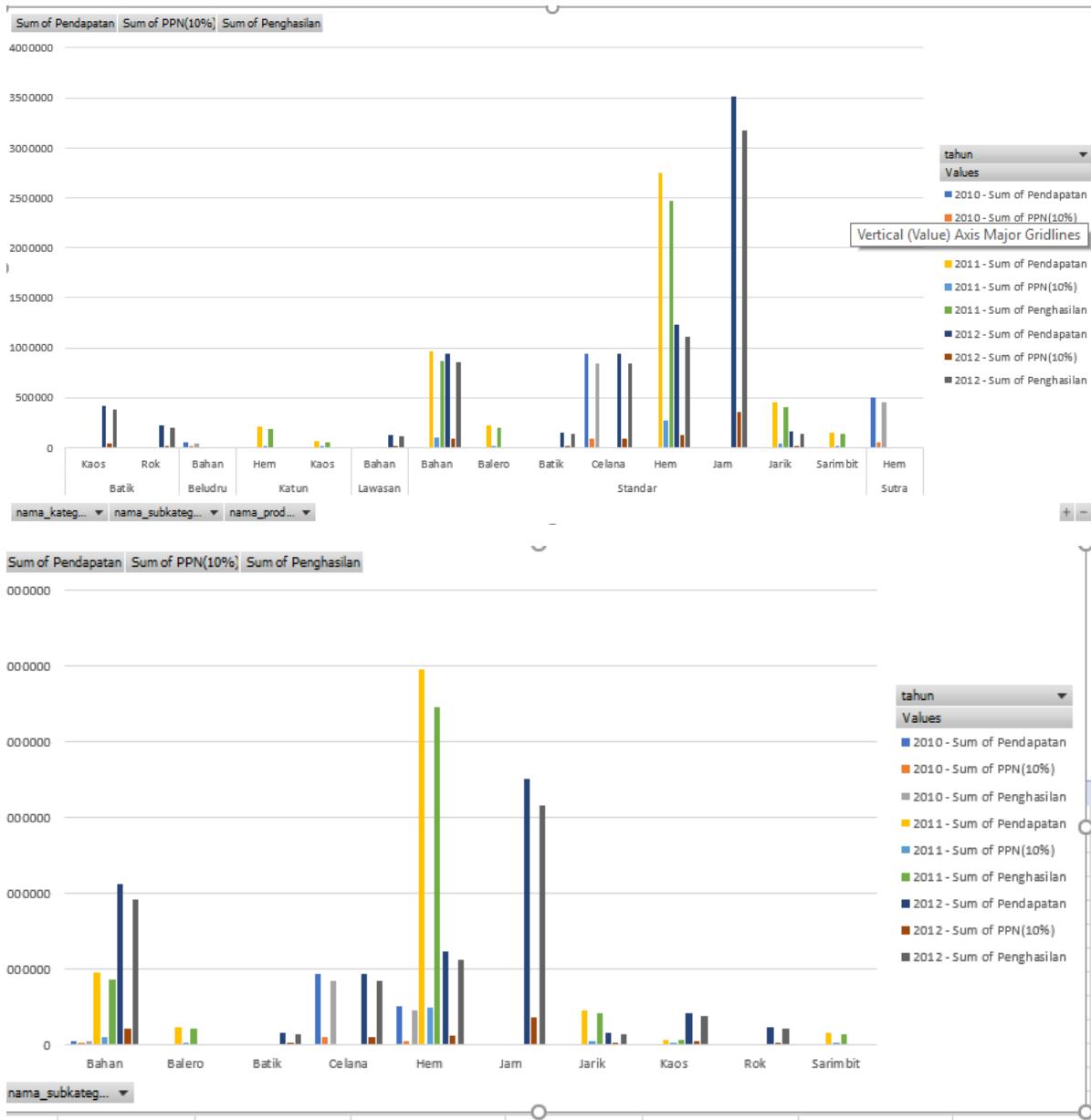
## ❖ 2012

Row Labels	2012			Total Sum of Pendapatan	Total Sum of PPN(10%)	Total Sum of Penghasilan
	Sum of Pendapatan	Sum of PPN(10%)	Sum of Penghasilan			
• Batik	3825000	382500	3442500	3825000	382500	3442500
• Lawasan	130000	13000	117000	130000	13000	117000
• Bahan	130000	13000	117000	130000	13000	117000
Bahan Lawasan Tulis Tolet	130000	13000	117000	130000	13000	117000
• Standar	59213000	5921300	53291700	59213000	5921300	53291700
• Bahan	945000	94500	850500	945000	94500	850500
Bahan Standar Cap Lasem	945000	94500	850500	945000	94500	850500
• Batik	150000	15000	135000	150000	15000	135000
Batik Standar Cap Tumpal	150000	15000	135000	150000	15000	135000
• Celana	935000	93500	841500	935000	93500	841500
Celana Standar Cap Warna	935000	93500	841500	935000	93500	841500
• Hem	1236000	123600	1112400	1236000	123600	1112400
Hem Katun Print Kelengan	897000	89700	807300	897000	89700	807300
Hem Standar Cap Tumpal	10000	1000	9000	10000	10000	9000
• Jam	3520000	352000	3168000	3520000	2000	3168000
Jam Standar Print Lukis	3520000	352000	3168000	3520000	2000	3168000
• Jarik	160000	16000	144000	160000	5000	144000
Jarik Standar Tulis Sarimbit	160000	16000	144000	160000	16000	144000
<b>Grand Total</b>	<b>107322000</b>	<b>10732200</b>	<b>96589800</b>	<b>107322000</b>	<b>10732200</b>	<b>96589800</b>

## ❖ ALL 2010-2012

Row Labels	2010			2011			2012			Total Sum of Pendapatan
	Sum of Pendapatan	Sum of PPN(10%)	Sum of Penghasilan	Sum of Pendapatan	Sum of PPN(10%)	Sum of Penghasilan	Sum of Pendapatan	Sum of PPN(10%)	Sum of Penghasilan	
• Batik	0	0	0	0	0	0	3825000	382500	3442500	3825000
• Beludru	50000	5000	45000	0	0	0	0	0	0	50000
• Bahan	50000	5000	45000	0	0	0	0	0	0	50000
Bahan Sutra Print Rama	50000	5000	45000	0	0	0	0	0	0	50000
• Katun	0	0	0	520000	52000	468000	0	0	0	520000
• Hem	0	0	0	210000	21000	189000	0	0	0	210000
Hem Katun Print Kelengan	0	0	0	210000	21000	189000	0	0	0	210000
• Kaos	0	0	0	60000	6000	54000	0	0	0	60000
kaos Katun Print Bola	0	0	0	60000	6000	54000	0	0	0	60000
• Lawasan	0	0	0	0	0	0	130000	13000	117000	130000
• Bahan	0	0	0	0	0	0	130000	13000	117000	130000
Bahan Lawasan Tulis Tolet	0	0	0	0	0	0	130000	13000	117000	130000
• Standar	9350000	93500	841500	21590000	2159000	19431000	59213000	5921300	53291700	232434000
• Bahan	0	0	0	960000	96000	864000	945000	94500	850500	3825000
Bahan Standar Cap Lasem	0	0	0	960000	96000	864000	945000	94500	850500	3825000
• Balero	0	0	0	225000	22500	202500	0	0	0	225000
Balero Standar Cap Sidomukti	0	0	0	225000	22500	202500	0	0	0	225000
• Batik	0	0	0	0	0	0	150000	150000	135000	150000
Batik Standar Cap Tumpal	0	0	0	0	0	0	150000	150000	135000	150000
• Celana	9350000	93500	841500	0	0	0	935000	93500	841500	37400000
Celana Standar Cap Warna	0	0	0	0	0	0	935000	93500	841500	935000
Celana Standar Print Lasem	9350000	93500	841500	0	0	0	0	0	0	9350000
• Hem	0	0	0	2750000	275000	2475000	1236000	123600	1112400	7731000
Hem Katun Print Kelengan	0	0	0	0	0	0	897000	89700	807300	897000
Hem Standar Cap Tumpal	0	0	0	0	0	0	10000	10000	9000	10000
Hem Standar Tulis Madura	0	0	0	2750000	275000	2475000	0	0	0	2750000
• Jam	0	0	0	0	0	0	3520000	3520000	3168000	3520000
Jam Standar Print Lukis	0	0	0	0	0	0	3520000	3520000	3168000	3520000
• Jarik	0	0	0	450000	45000	405000	160000	16000	144000	1590000
Jarik Standar Print Sogan	0	0	0	450000	45000	405000	0	0	0	450000

b. Pivot Table  
 ❖ 2010-2012



Berdasarkan subkategori maka produk tertinggi adalah **HEM**

Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 6

### PENGENALAN DATA MINING

#### Tugas

1. Tabel

Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten	Lama_Studi
IPS	WANITA	SURAKARTA	18	TIDAK	TERLAMBAT
IPA	PRIA	SURAKARTA	19	YA	TEPAT
LAIN	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT
IPA	PRIA	LUAR	17	TIDAK	TERLAMBAT
IPA	WANITA	SURAKARTA	17	TIDAK	TEPAT
IPA	WANITA	LUAR	18	YA	TEPAT
IPA	PRIA	SURAKARTA	18	TIDAK	TERLAMBAT
IPA	PRIA	SURAKARTA	19	TIDAK	TEPAT
IPS	PRIA	LUAR	18	TIDAK	TERLAMBAT
LAIN	WANITA	SURAKARTA	18	TIDAK	TEPAT
IPA	WANITA	SURAKARTA	19	TIDAK	TEPAT
IPS	PRIA	SURAKARTA	20	TIDAK	TEPAT
IPS	PRIA	SURAKARTA	19	TIDAK	TEPAT
IPA	PRIA	SURAKARTA	19	TIDAK	TEPAT
IPA	PRIA	LUAR	22	YA	TEPAT
LAIN	PRIA	SURAKARTA	16	TIDAK	TERLAMBAT
IPS	PRIA	LUAR	20	TIDAK	TEPAT
LAIN	PRIA	LUAR	23	YA	TEPAT
IPA	PRIA	SURAKARTA	21	YA	TEPAT
IPS	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT

2. Formula dalam Ms. Excel

- a) Jumlah data masing – masing kelas IPA, IPS dan LAIN pada atribut Jurusan\_SMA  
(Menggunakan formula = COUNTIF)

=COUNTIF(A2:A21;"IPA")

=COUNTIF(A2:A21;"IPS")

=COUNTIF(A2:A21;"LAIN")

a)	Jurusan_SMA	
	IPA	10
	IPS	6
	LAIN	4

- b) Jumlah data masing – masing kelas TEPAT, TERLAMBAT pada atribut Lama\_Studi

=COUNTIF(F2:F21;"TEPAT")

=COUNTIF(F2:F21;"TERLAMBAT")

b)	Lama_Studi	
	TEPAT	13
	TERLAMBAT	7

- c) Nilai Max, Min, Mean, dan Standard Deviation pada atribut Rerata\_SKS

=MAX(D2:D21)

=MIN(D2:D21)

=AVERAGE(D2:D21)

=STDEV.S(D2:D21)

c)	Rerata_SKS	
	Max	23
	Min	16
	Mean	18,95
	Standard Deviation	1,669384

- d) Jumlah data gabungan untuk kelas pada atribut Jurusan\_SMA = IPA, Gender = PRIA, Asisten = YA, Lama\_studi = TEPAT (Menggunakan formula = COUNTIFS)

=COUNTIFS(A2:A21;"IPA";B2:B21;"PRIA";E2:E21;"YA";F2:F21;"TEPAT")

d)	Gabungan	
	IPA, PRIA, YA, TEPAT	3

Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

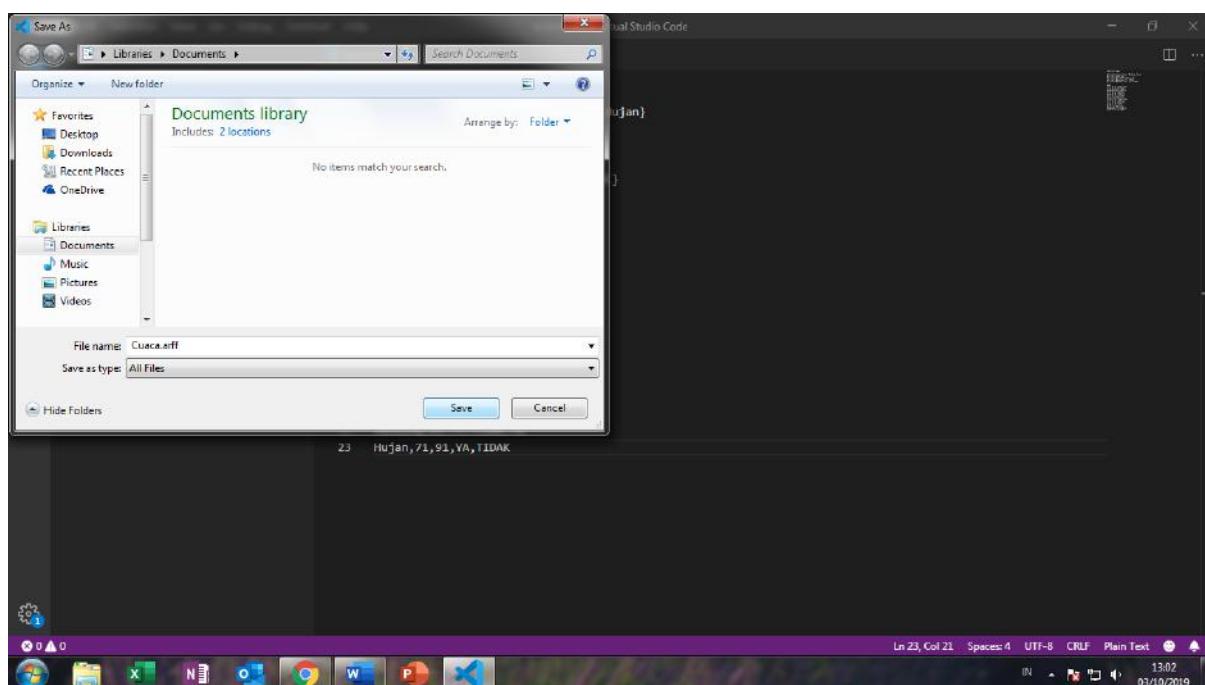
## MODUL 7

### Langkah-langkah Praktikum

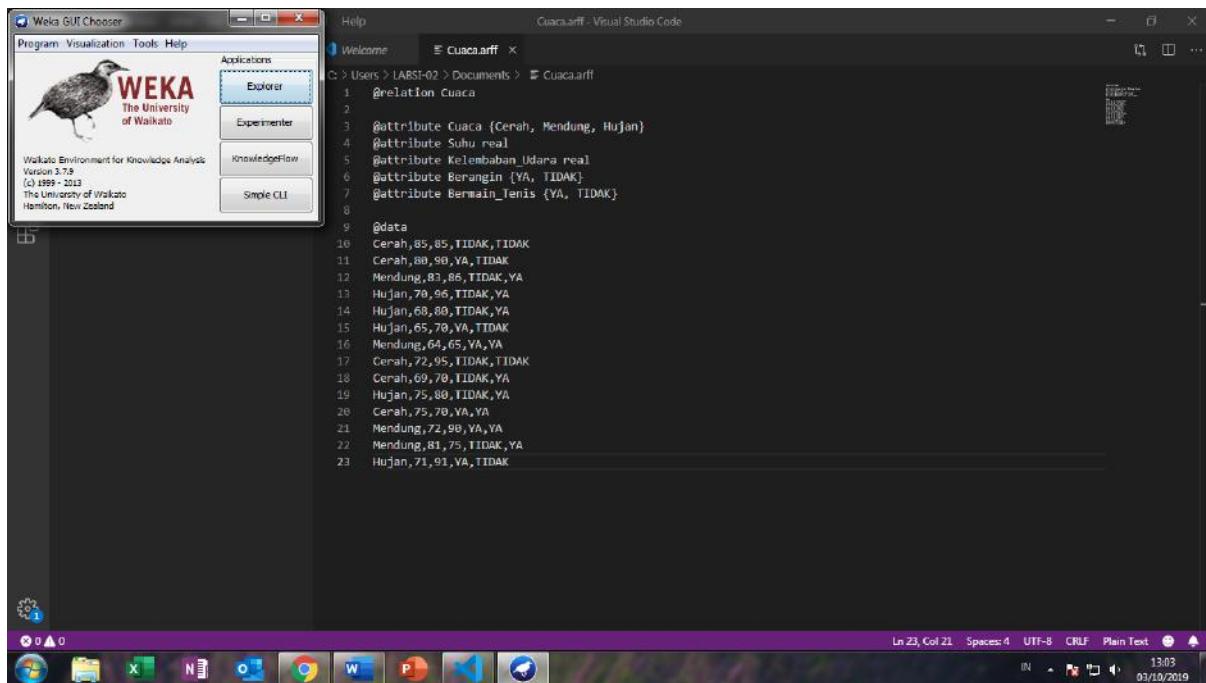
The screenshot shows the Visual Studio Code interface. The code editor window is titled 'Untitled-1 - Visual Studio Code' and contains the following text:

```
1 @relation Cuaca
2
3 @attribute Cuaca {Cerah, Mendung, Hujan}
4 @attribute Suhu real
5 @attribute Kelembaban_Udara real
6 @attribute Bersyarat {YA, TIDAK}
7 @attribute Bermain_Tenis {YA, TIDAK}
8
9 @data
10 Cerah,85,85,TIDAK,TIDAK
11 Cerah,80,90,YA,TIDAK
12 Mendung,83,86,TIDAK,YA
13 Hujan,70,96,TIDAK,YA
14 Hujan,68,80,TIDAK,YA
15 Hujan,65,70,YA,TIDAK
16 Mendung,64,65,YA,YA
17 Cerah,72,95,TIDAK,TIDAK
18 Cerah,69,70,TIDAK,YA
19 Hujan,75,80,TIDAK,YA
20 Cerah,75,70,YA,YA
21 Mendung,72,99,YA,YA
22 Mendung,81,75,TIDAK,YA
23 Hujan,71,91,YA,TIDAK
```

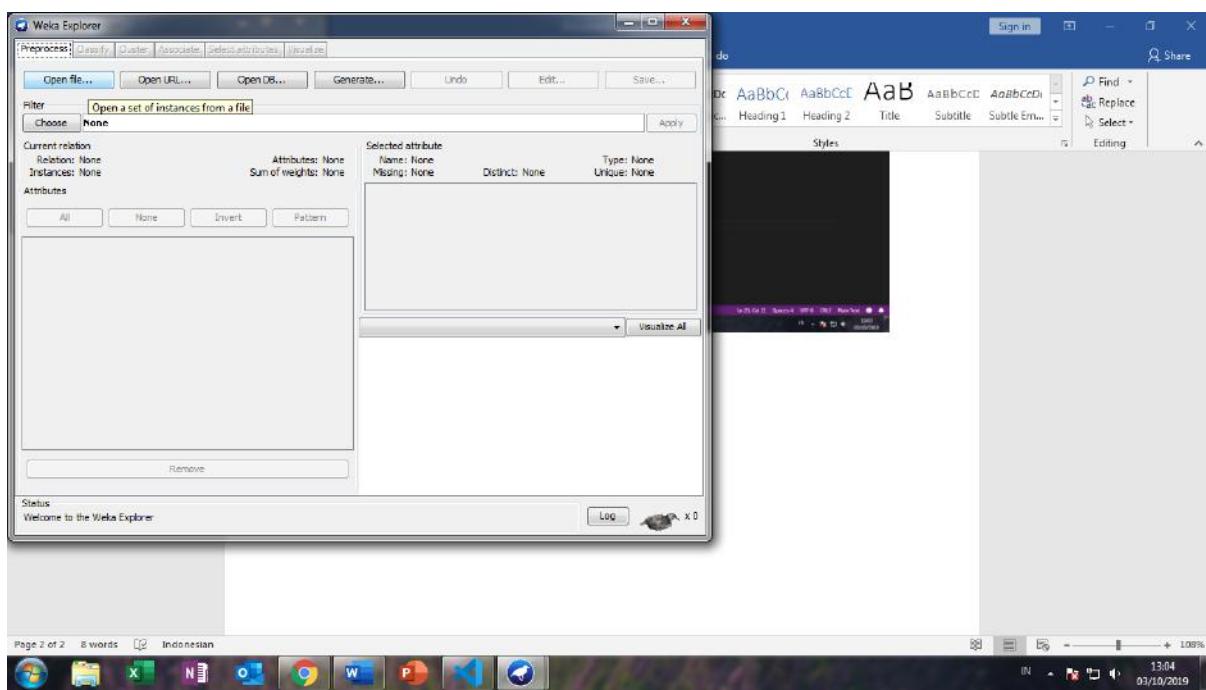
The terminal window below shows the command 'ln 23, Col 21, Spaces: 4, UTF-8, CRLF, Plain Text'.



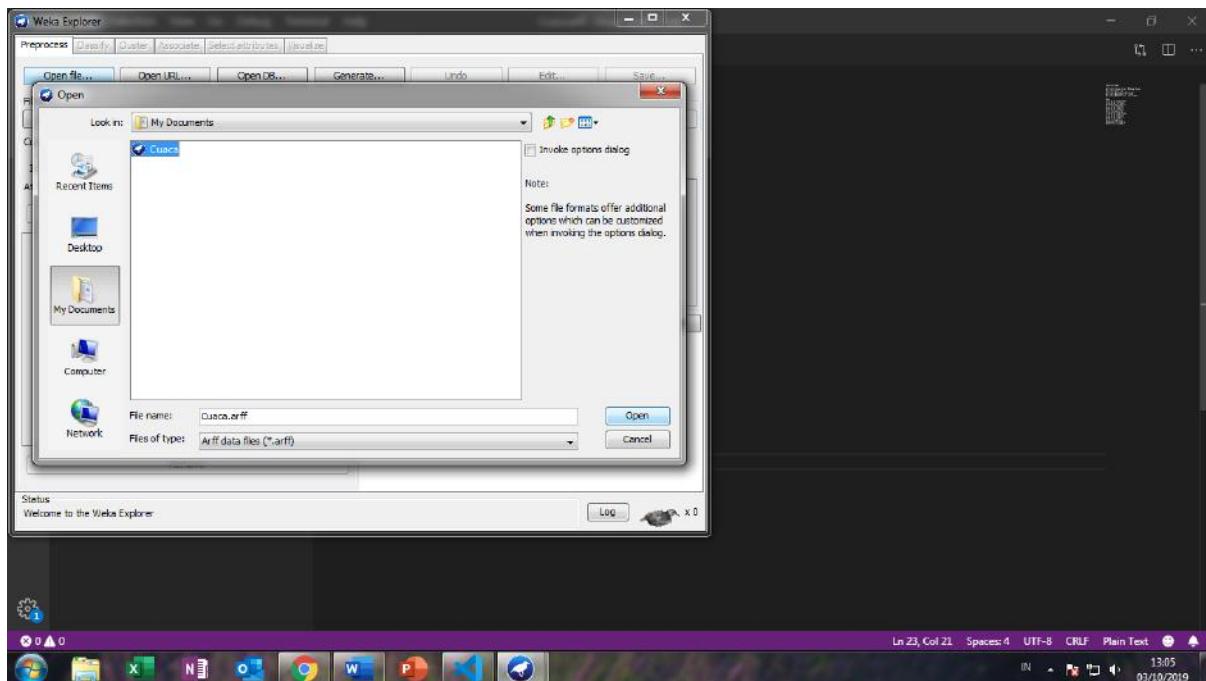
## 1. Buka aplikasi Weka.



## 2. Memilih menu Explorer

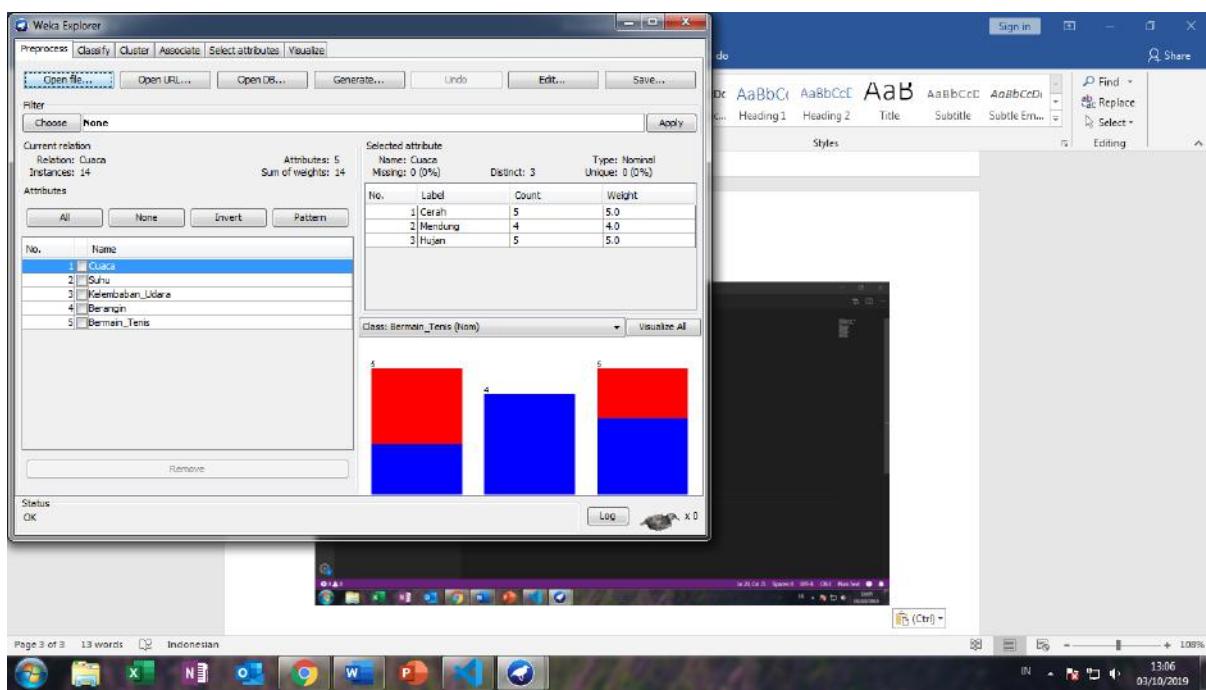


### 3. Pilih tombol Open File

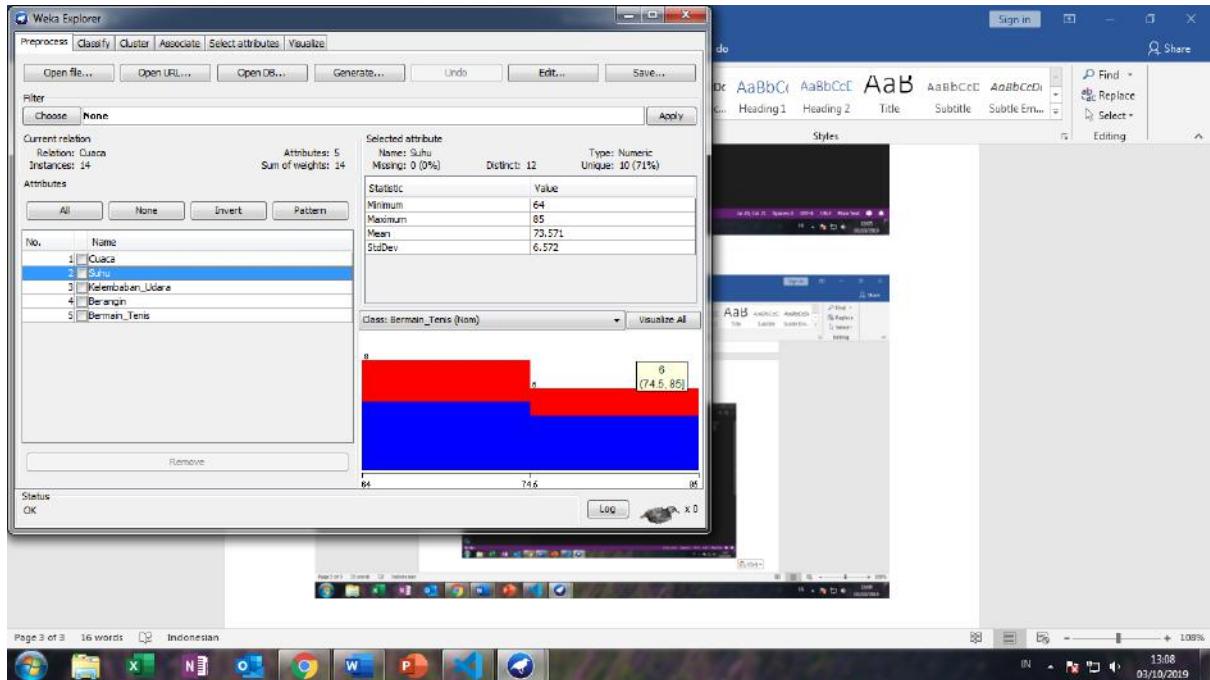


### 4. Grafik statistik

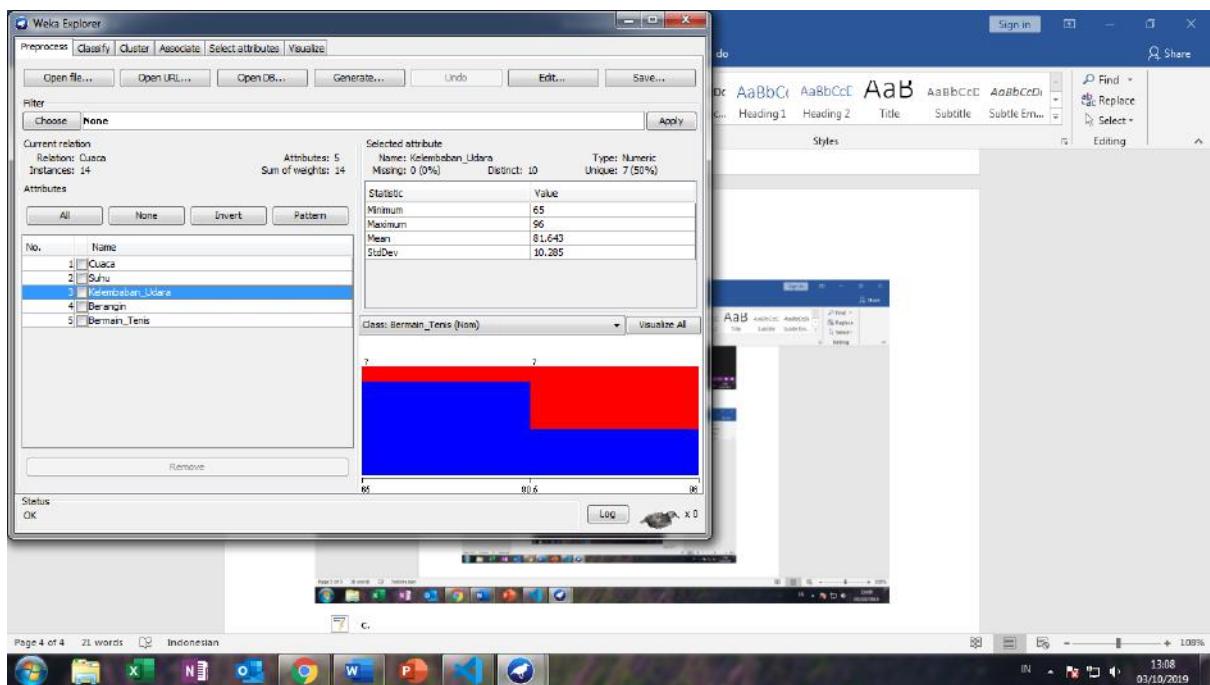
#### a. Cuaca



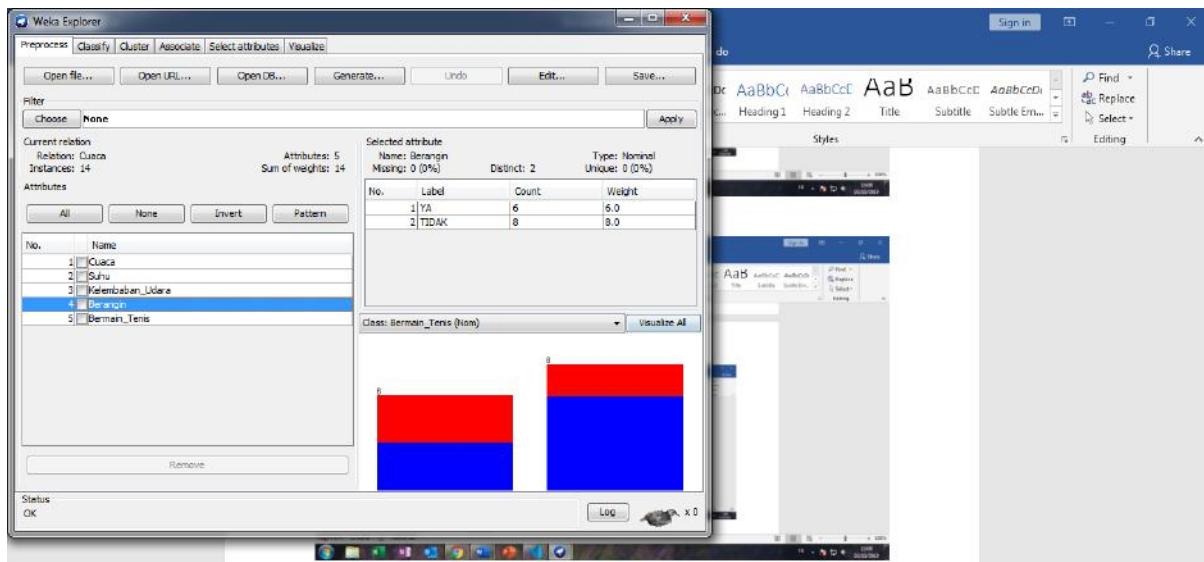
## b. Suhu



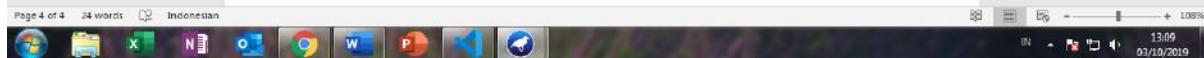
## c. Kelembaban\_Udara



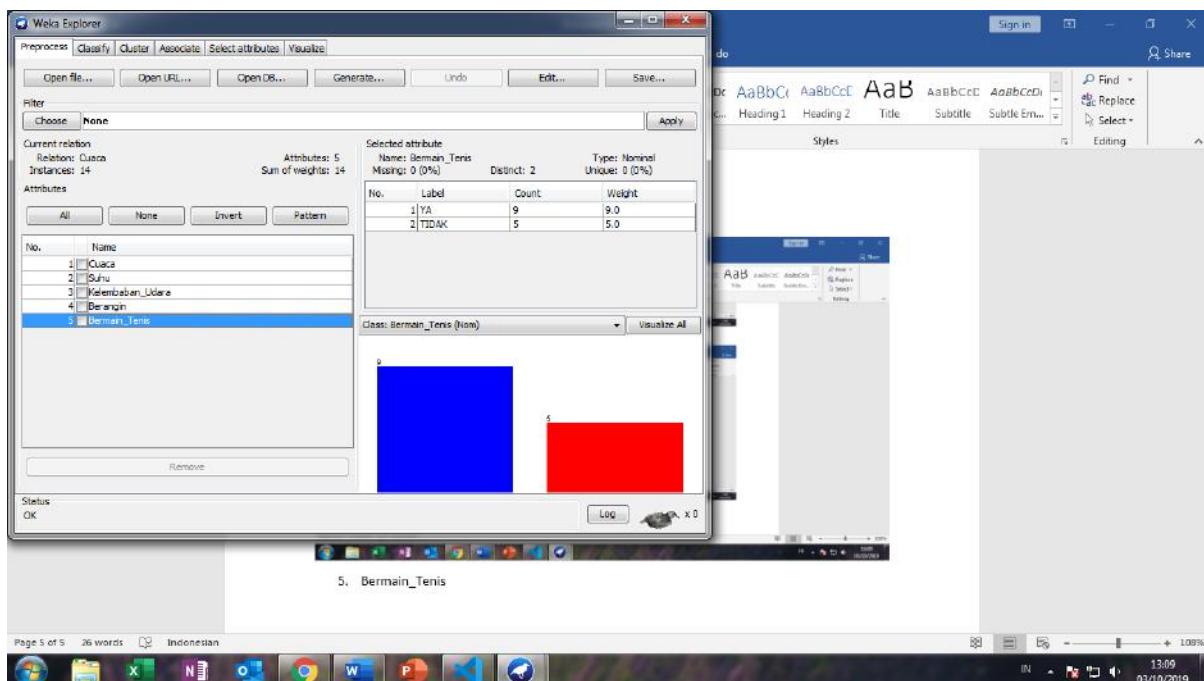
#### d. Berangin



d. Berangin



#### e. Bermain\_Tenis



5. Bermain\_Tenis



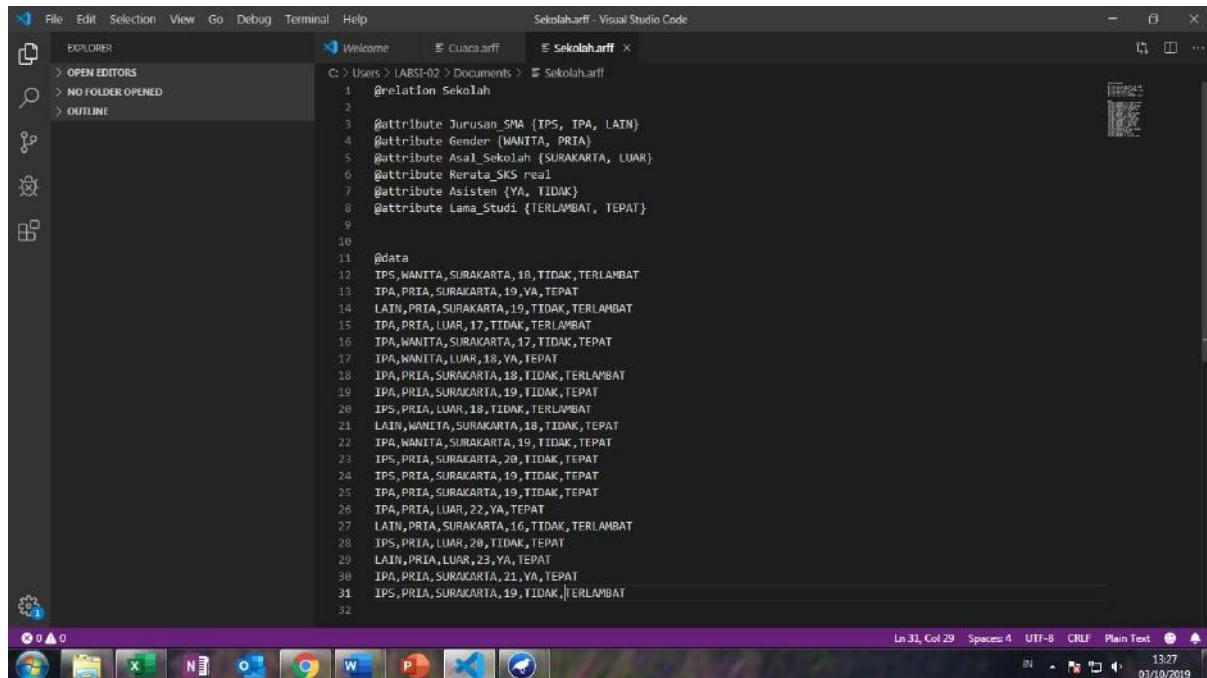
Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 7 DATA PREPROCESSING

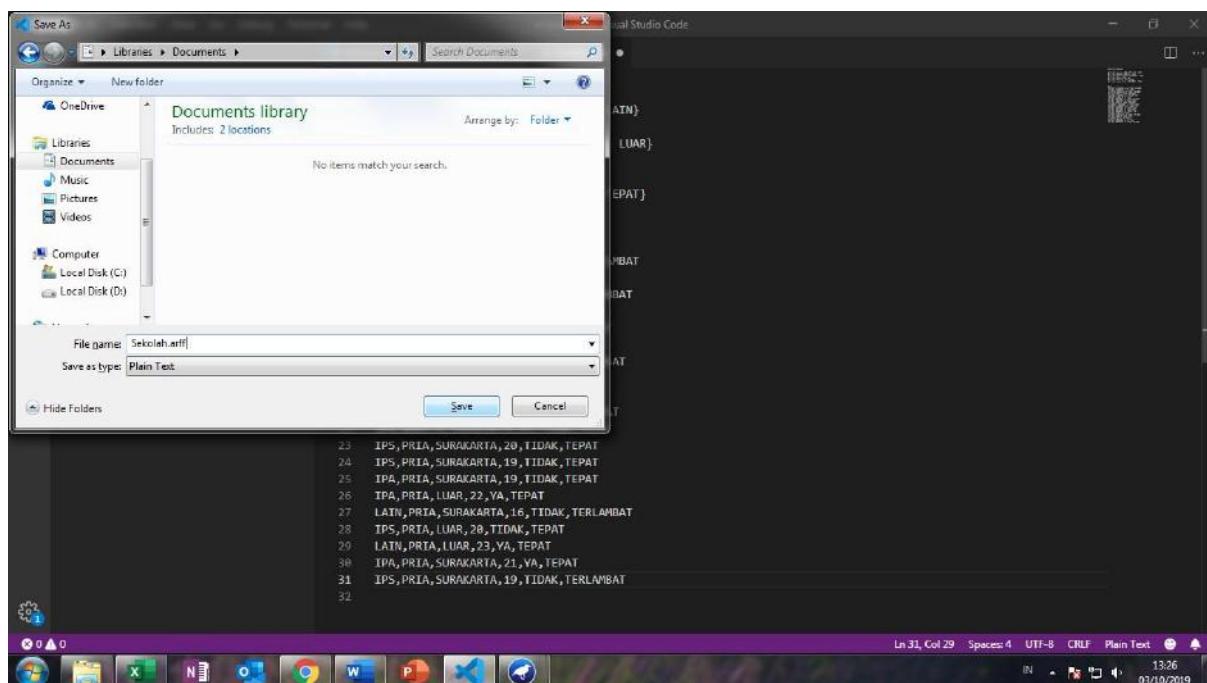
### Tugas



```
@relation Sekolah
@attribute Jurusan SMA {IPS, IPA, LATN}
@attribute Gender {WANITA, PRTA}
@attribute Asal_Sekolah {SURAKARTA, LUAR}
@attribute Kerata_SKS real
@attribute Asisten {YA, TIDAK}
@attribute Lama_Studi {TERLAMBAT, TEPAT}

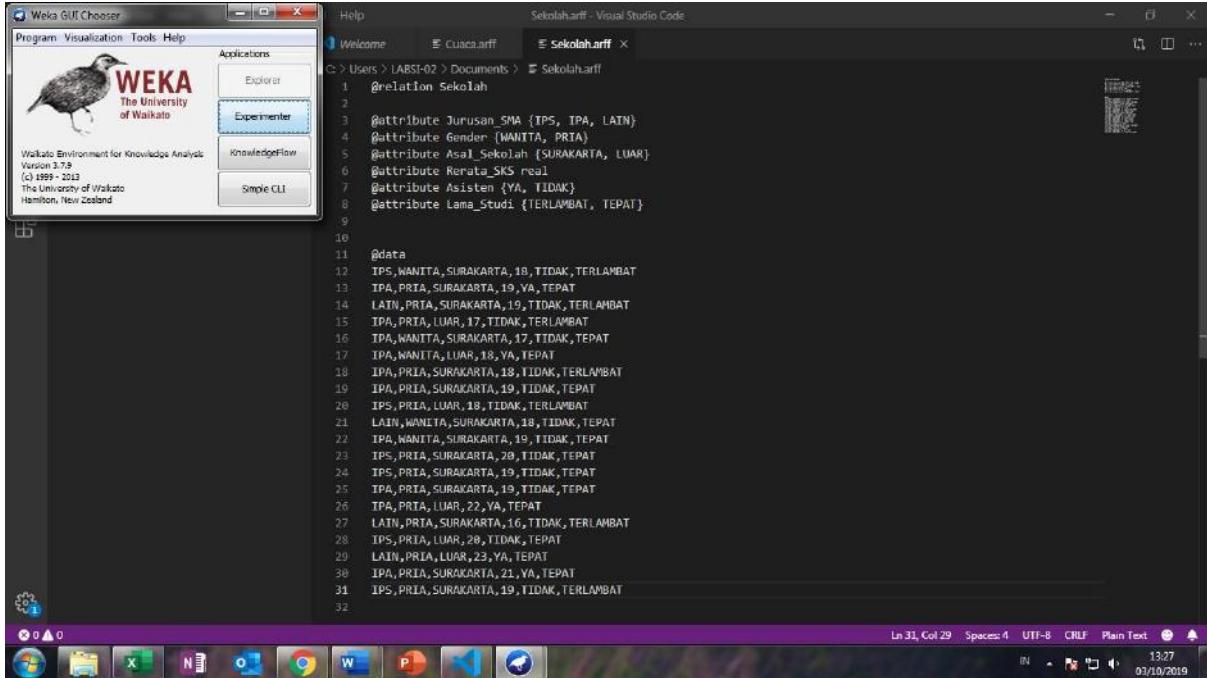
@data
IPS,WANITA,SURAKARTA,18,TIDAK,TERLAMBAT
IPA,PRTA,SURAKARTA,19,YA,TEPAT
LATN,PRIA,SURAKARTA,19,TIDAK,TERLAMBAT
IPA,PRTA,LUAR,17,TIDAK,TERLAMBAT
IPA,WANITA,SURAKARTA,17,TIDAK,TEPAT
IPA,WANITA,LUAR,18,YA,TEPAT
IPA,PRIA,SURAKARTA,18,TIDAK,TERLAMBAT
IPA,PRIA,SURAKARTA,19,TIDAK,TEPAT
IPS,PRIA,LUAR,18,TIDAK,TERLAMBAT
IPS,PRIA,LUAR,20,TIDAK,TERLAMBAT
LAIN,WANITA,SURAKARTA,18,TIDAK,TEPAT
IPA,WANITA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,SURAKARTA,20,TIDAK,TEPAT
IPS,PRTA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,LUAR,22,YA,TEPAT
LATN,PRIA,SURAKARTA,16,TIDAK,TERLAMBAT
IPS,PRIA,LUAR,20,TIDAK,TEPAT
LAIN,PRIA,LUAR,23,YA,TEPAT
IPA,PRIA,SURAKARTA,21,YA,TEPAT
IPS,PRIA,SURAKARTA,19,TIDAK,TERLAMBAT
```

Menyimpan file

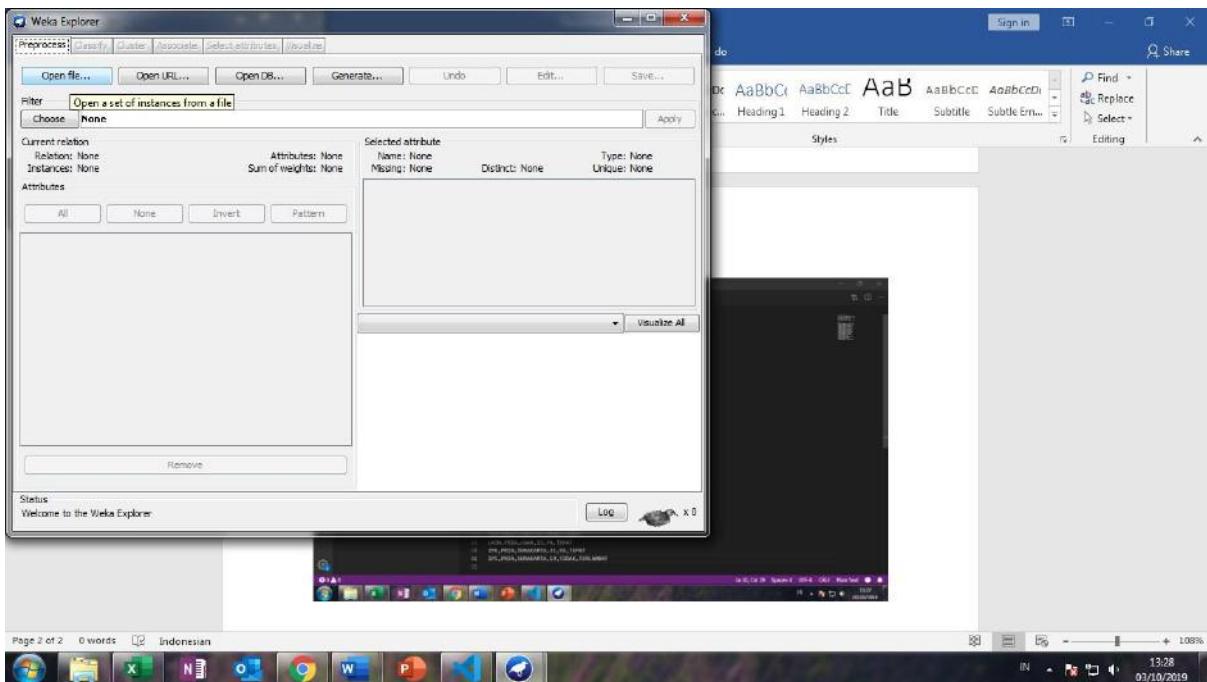


## Menggunakan File ARFF dengan Weka

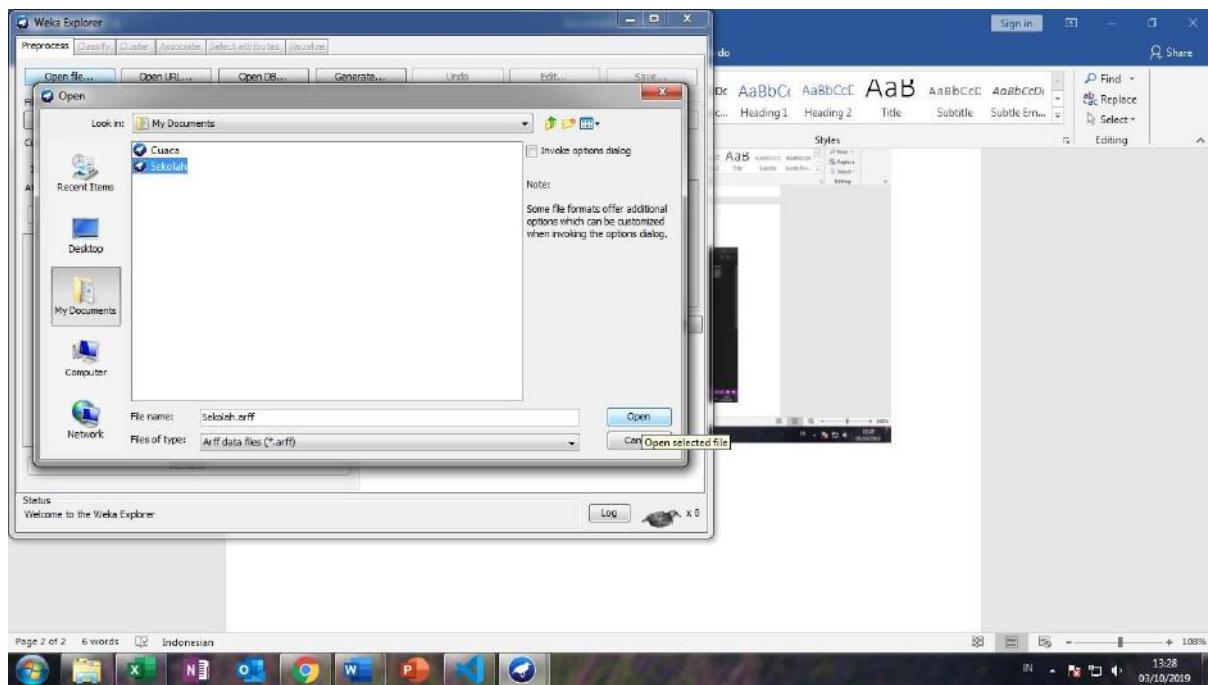
### 1. Membuka aplikasi Weka



### 2. Memilih menu Explorer

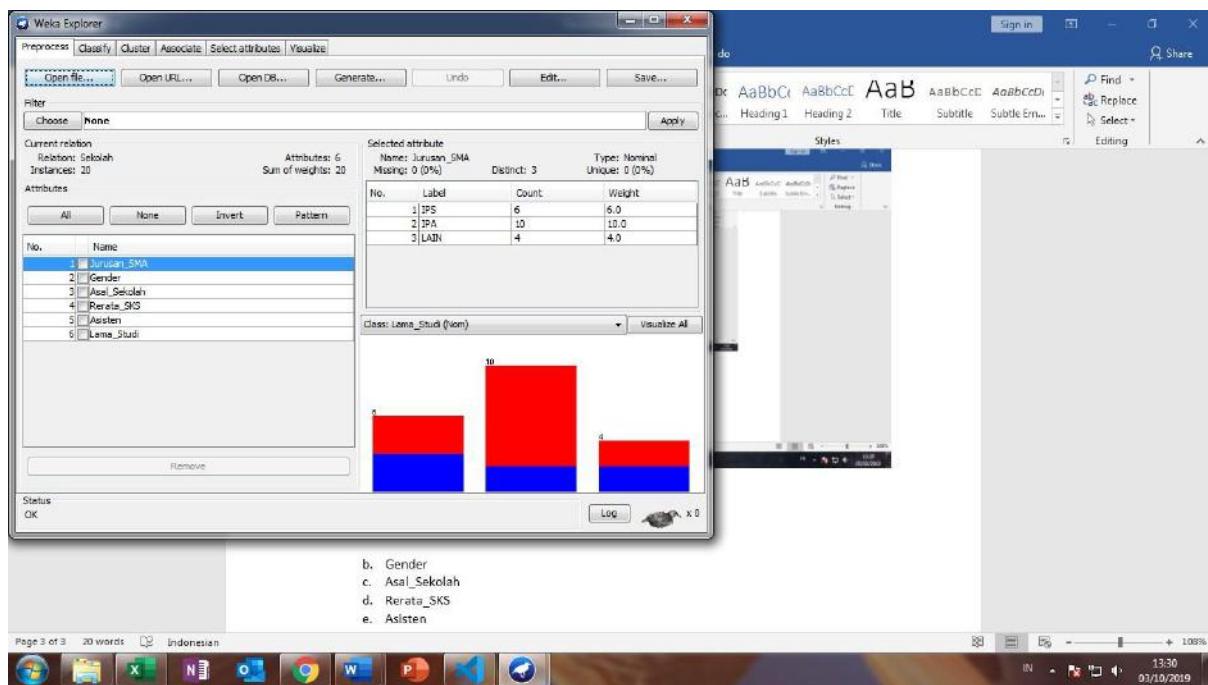


### 3. Memilih tombol Open File

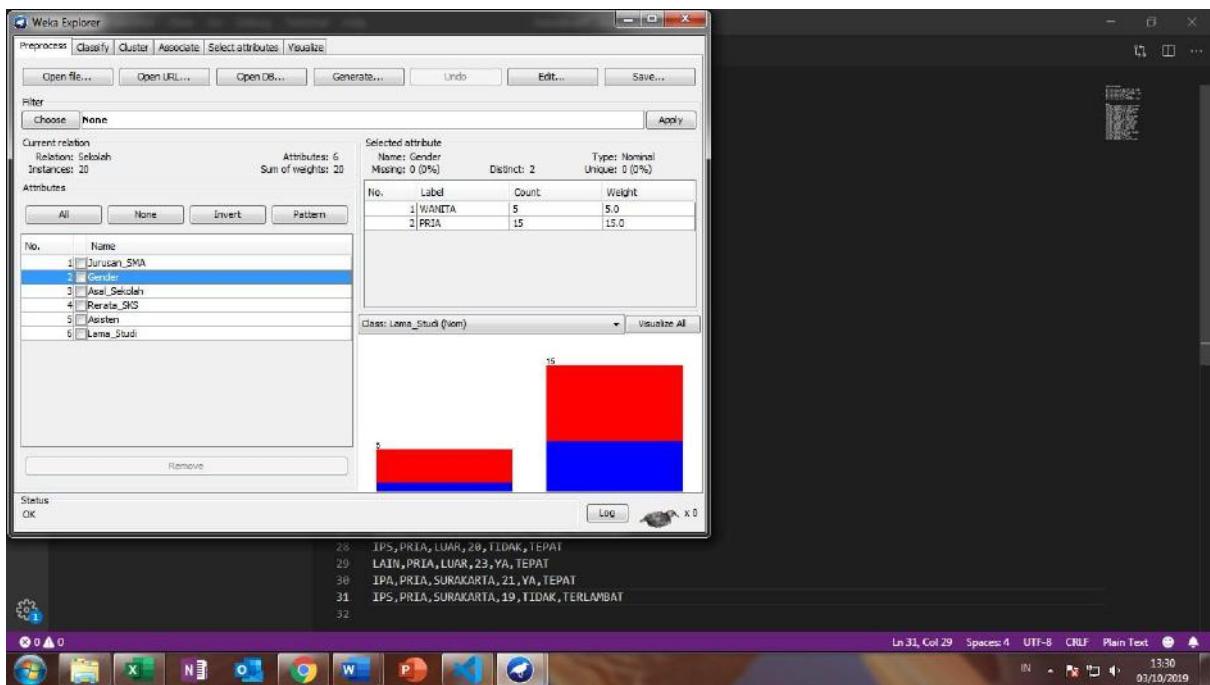


#### 4. Grafik statistik

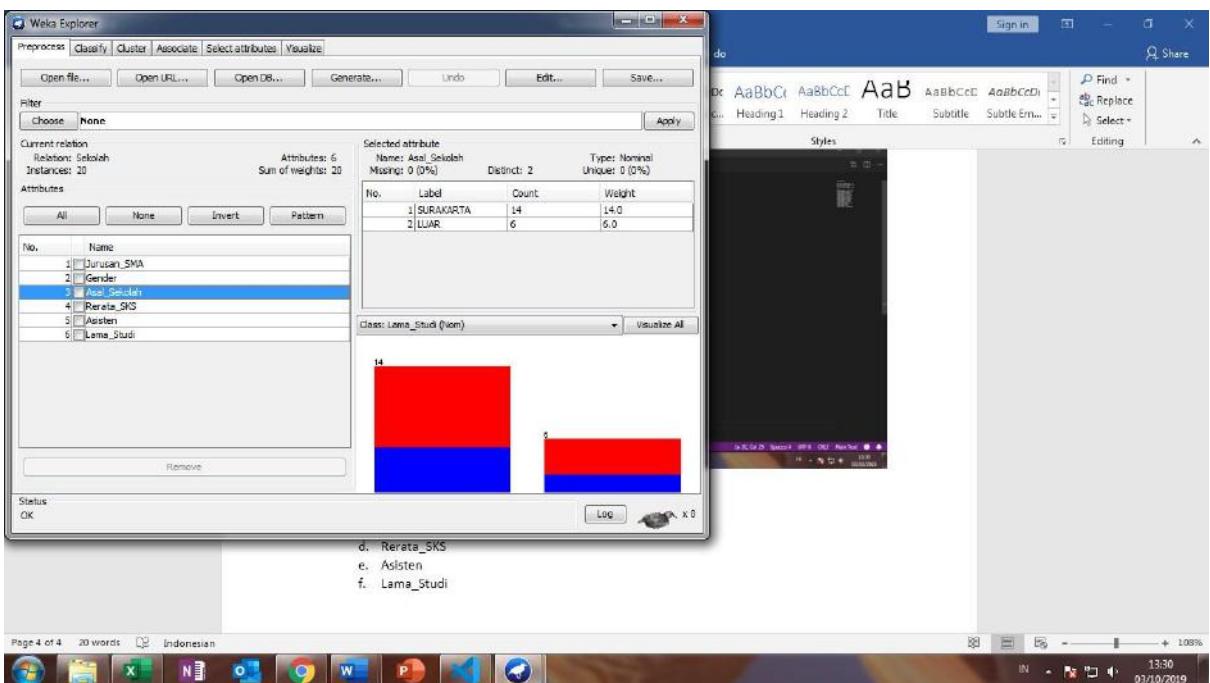
##### a. Jurusan\_SMA



##### b. Gender

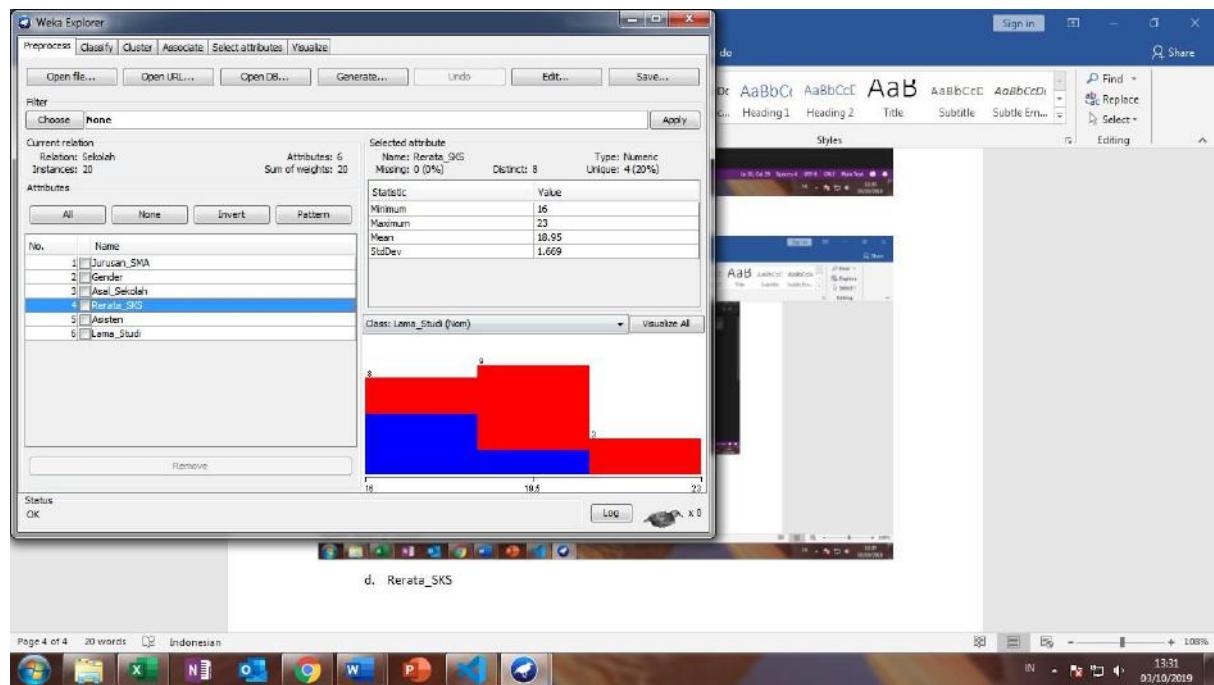


c. Asal\_Sekolah

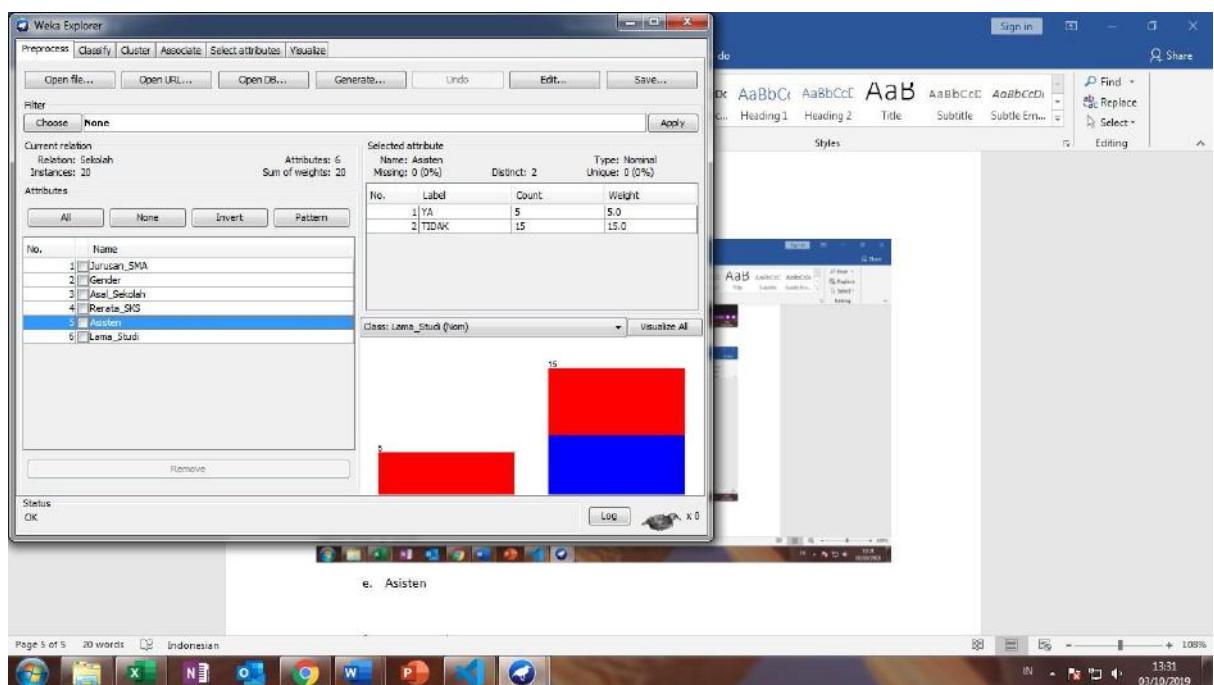


- d. Rerata\_SKS
- e. Asisten
- f. Lama\_Studi

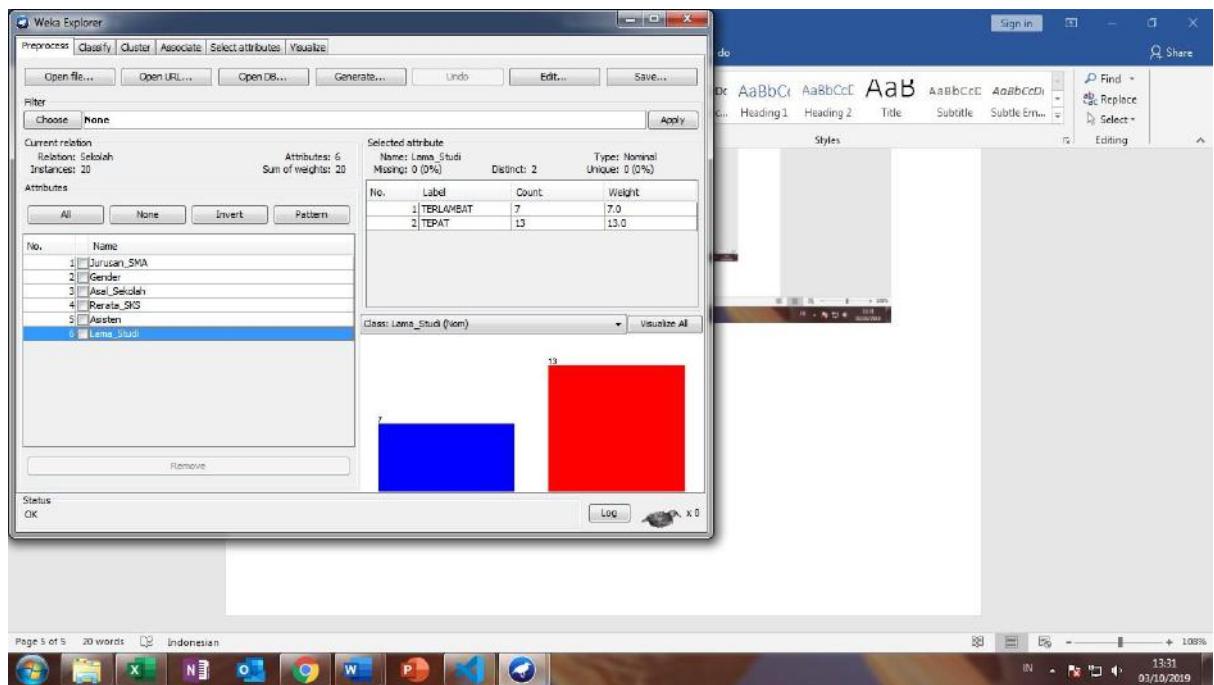
d. Rerata\_SKS



e. Asisten



f. Lama\_Studi



Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

MODUL 8

## KLASIFIKASI : NAÏVE BAYES

## Implementasi Naïve Bayes dengan RapidMiner

1. Persiapkan file **Table\_Cuaca.xls** yang terdiri dari 2 sheet
  2. Sheet 1 digunakan sebagai data training, dan sheet 2 digunakan sebagai data uji
  3. **Tabel data training** pada Sheet1

File Home Insert Page Layout Formulas Data Review View

Cut Copy Format Painter

Font Alignment Number Conditional Formatting as Table Styles Cell Styles Cells

AutoSum Fill Clear Sort & Find & Filter Select Editing

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Cuaca	Suhu	Kelembaban_Udara	Berangin	Bерmain_Tenis												
2	Cerah	85	85	TIDAK	TIDAK												
3	Cerah	80	90	YA	TIDAK												
4	Mendung	83	86	TIDAK	YA												
5	Hujan	70	96	TIDAK	YA												
6	Hujan	68	80	TIDAK	YA												
7	Hujan	65	70	YA	TIDAK												
8	Mendung	64	65	YA	YA												
9	Cerah	72	95	TIDAK	TIDAK												
10	Cerah	69	70	TIDAK	YA												
11	Hujan	75	80	TIDAK	YA												
12	Cerah	75	70	YA	YA												
13	Mendung	72	90	YA	YA												
14	Mendung	81	75	TIDAK	YA												
15	Hujan	71	91	YA	TIDAK												
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	

Activate Windows  
Go to Settings to activate Windows.

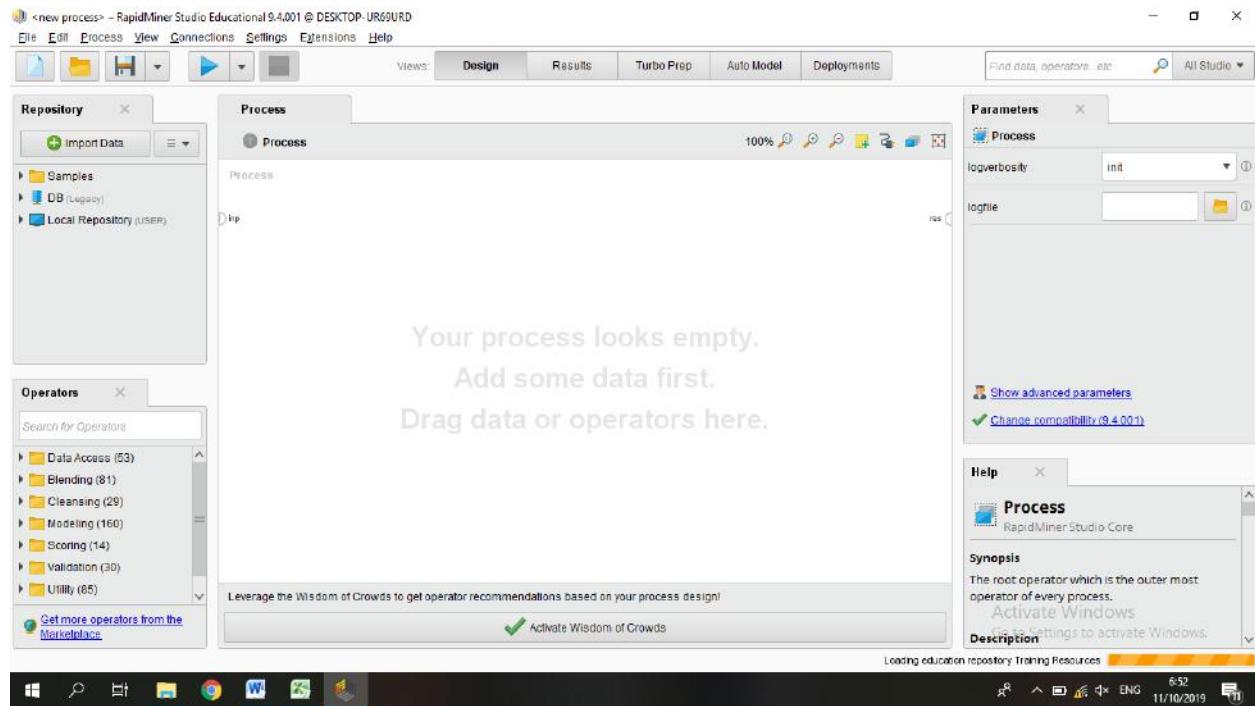
Training Testing

Ready

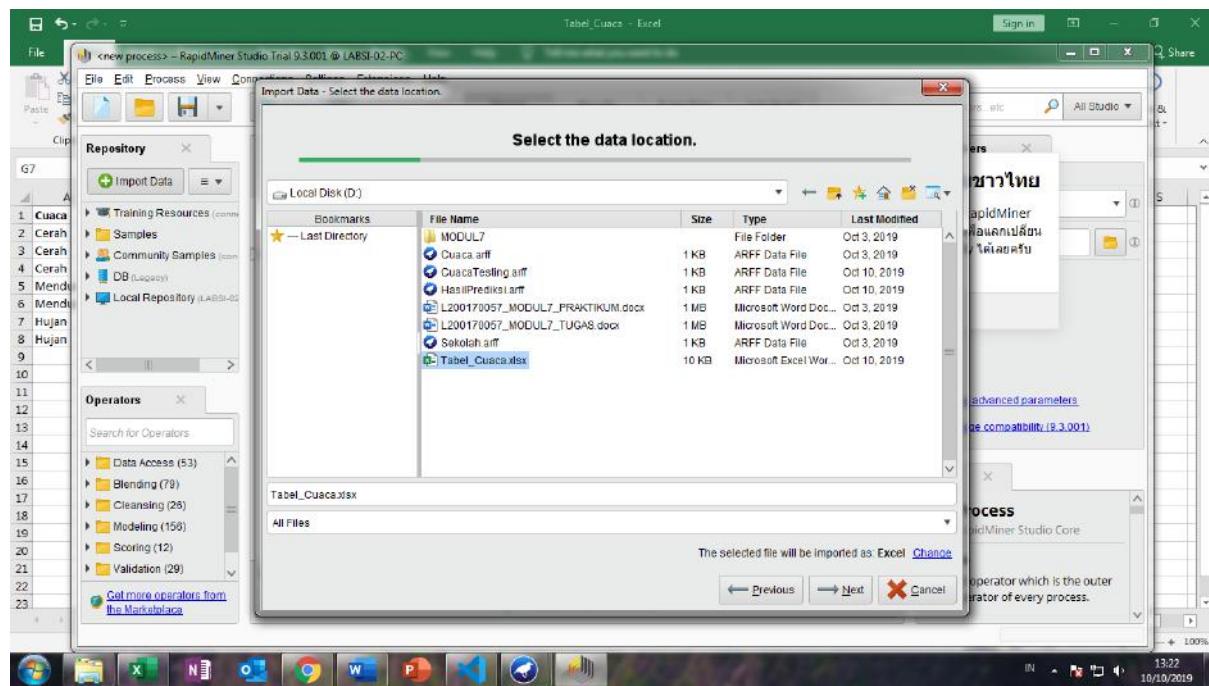
100% 647 ENG 11/10/2019

**Tabel data uji** pada Sheet 2 tanpa ada variable **Bermain\_Tenis**

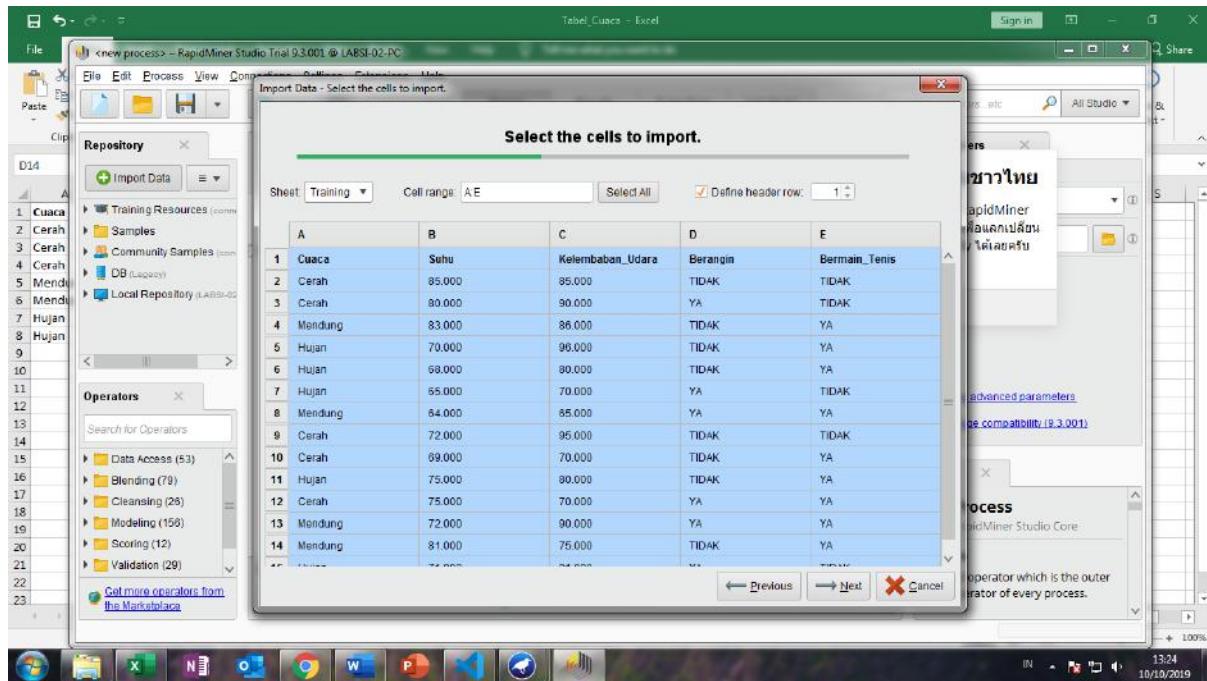
#### 4. Membuka aplikasi RapidMiner



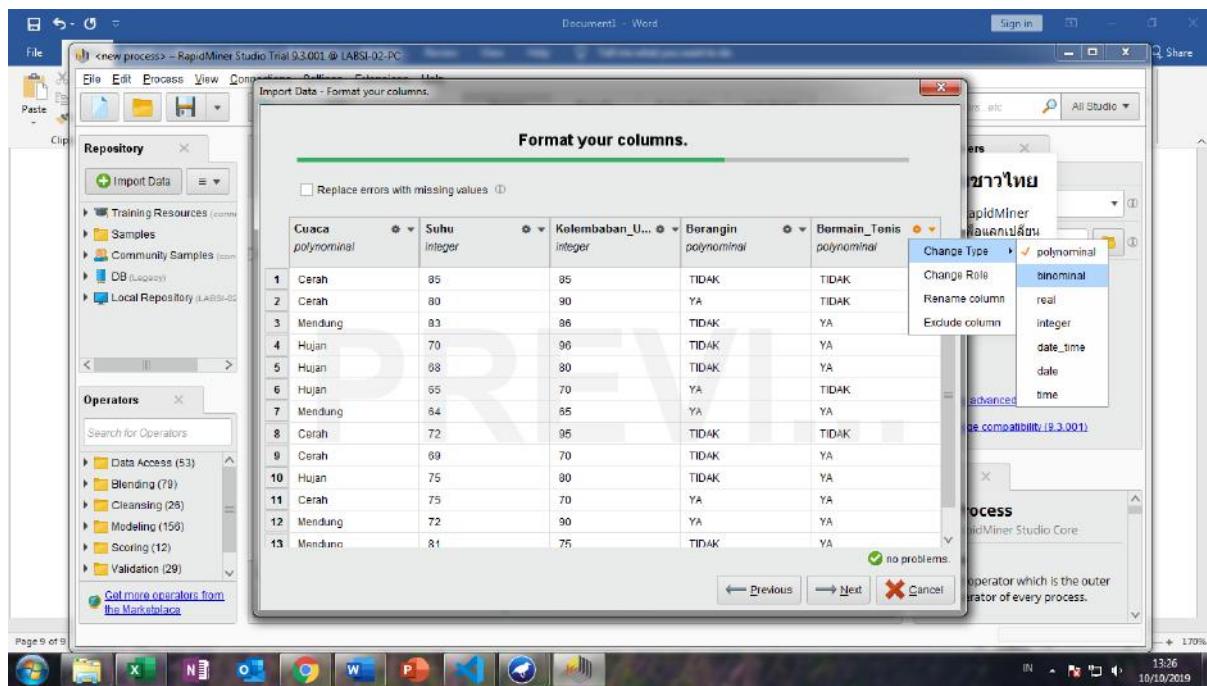
5. Klik Import Data. Arahkan direktori tempat penyimpanan file pada langkah **Select the data location**, kemudian pilih file yang digunakan dan klik Next



6. Pastikan sel Excel sesuai di langkah **Select the cells to import**



7. Pada langkah **Format your colums** ubah kolom **Bermain\_Tenis** dengan tipe data **binomial** karena hanya ada dua keputusan (YA dan TIDAK)



## 8. Ubah pula sebagai **label** pada Change Role

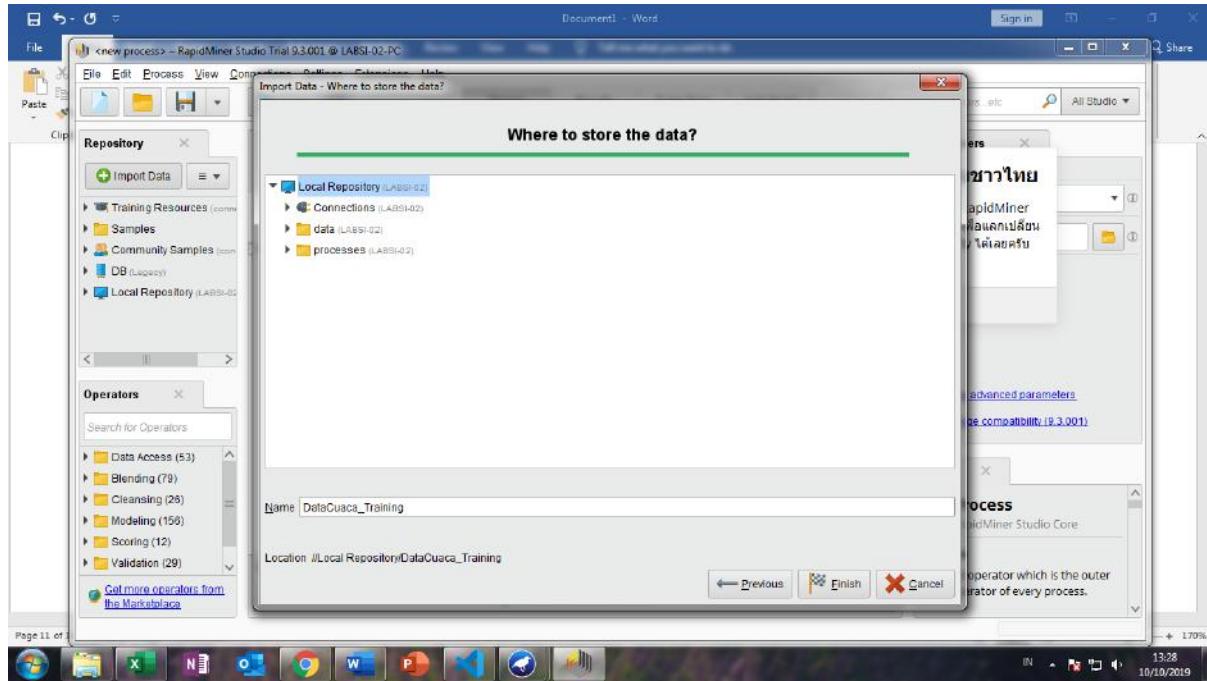
The screenshot shows the RapidMiner Studio interface with the 'Format your columns' dialog open. A sub-dialog titled 'Change role' is displayed, prompting the user to enter a new role. The 'Label' field contains the text 'Label'. The main table has 13 rows and 6 columns, with the last column labeled 'Bermain\_Tenis'.

	Cuaca	Suhu	Kolembaban_U...	Berangin	Bermain_Tenis
1	Cerah				
2	Cerah				
3	Mendung				
4	Hujan				
5	Hujan				
6	Hujan				
7	Mendung				
8	Cerah				
9	Cerah	89	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

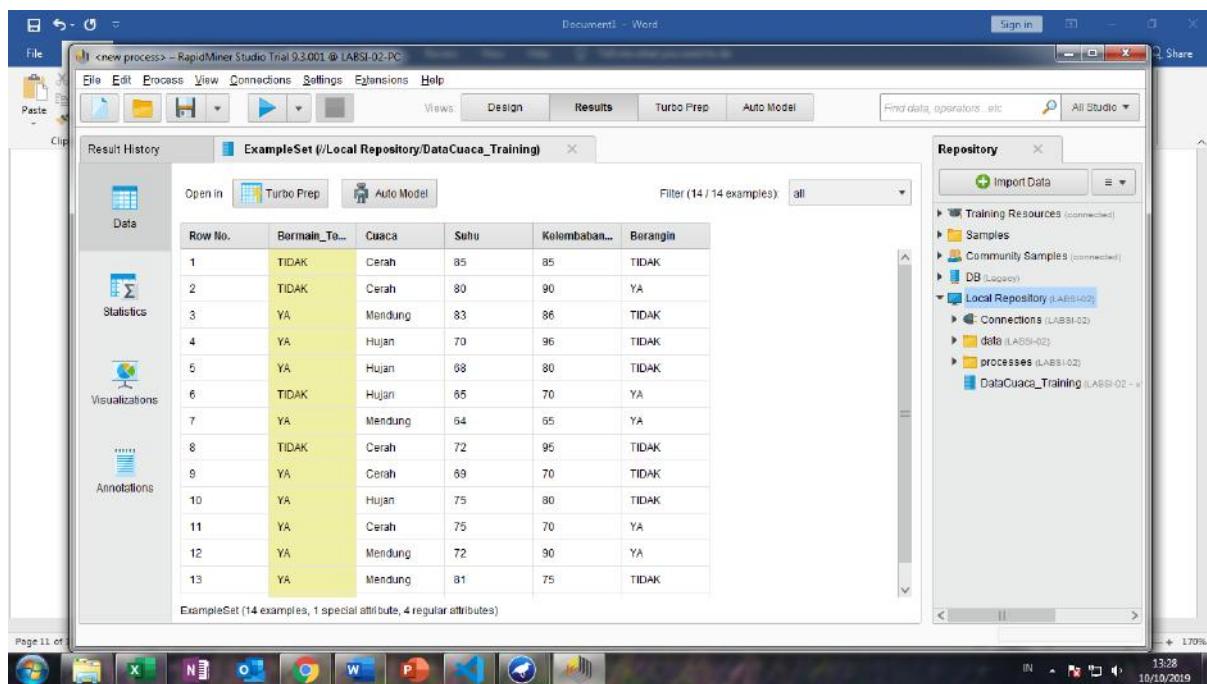
The screenshot shows the RapidMiner Studio interface with the 'Format your columns' dialog open. The 'Label' column is highlighted in yellow. The main table has 13 rows and 6 columns, with the last column labeled 'Bermain\_Tenis'.

	Cuaca	Suhu	Kolembaban_U...	Berangin	Bermain_Tenis
1	Cerah	85	85	TIDAK	TIDAK
2	Cerah	80	90	YA	TIDAK
3	Mendung	83	96	TIDAK	YA
4	Hujan	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

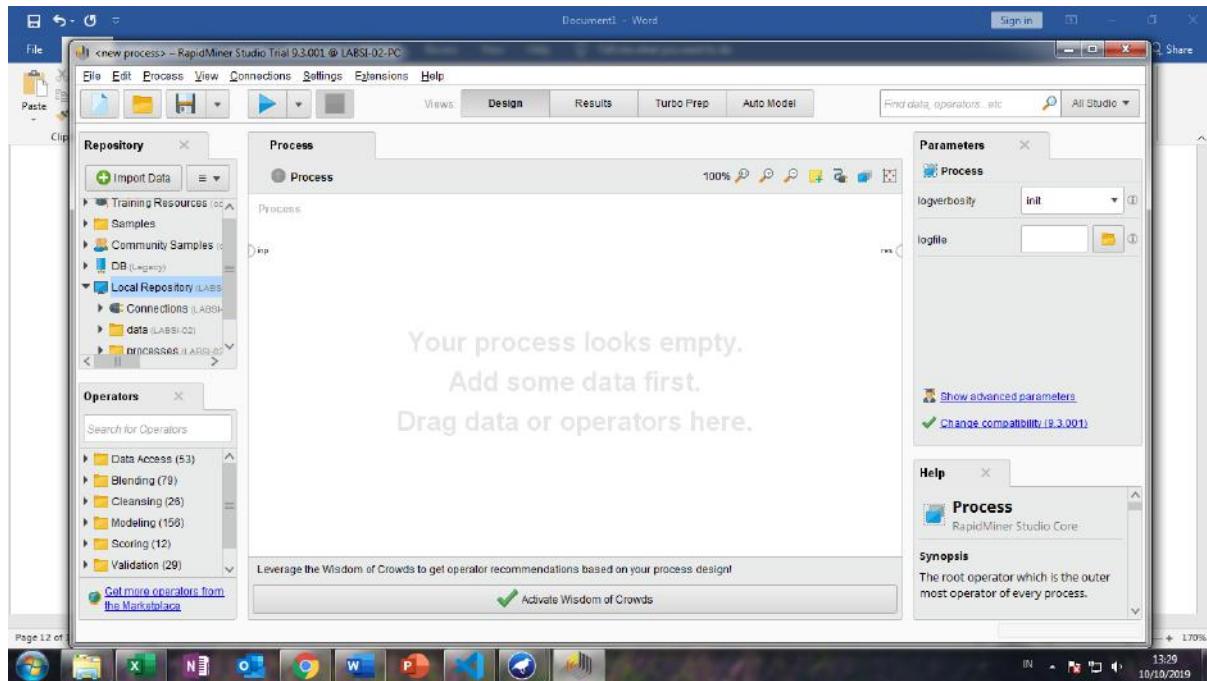
9. Simpan dengan nama **DataCuaca\_Testing** dilanjutkan klik tombol **Finish**



10. Hasil import file **Tabel\_Cuaca.xls** pada Sheet1 akan ditampilkan

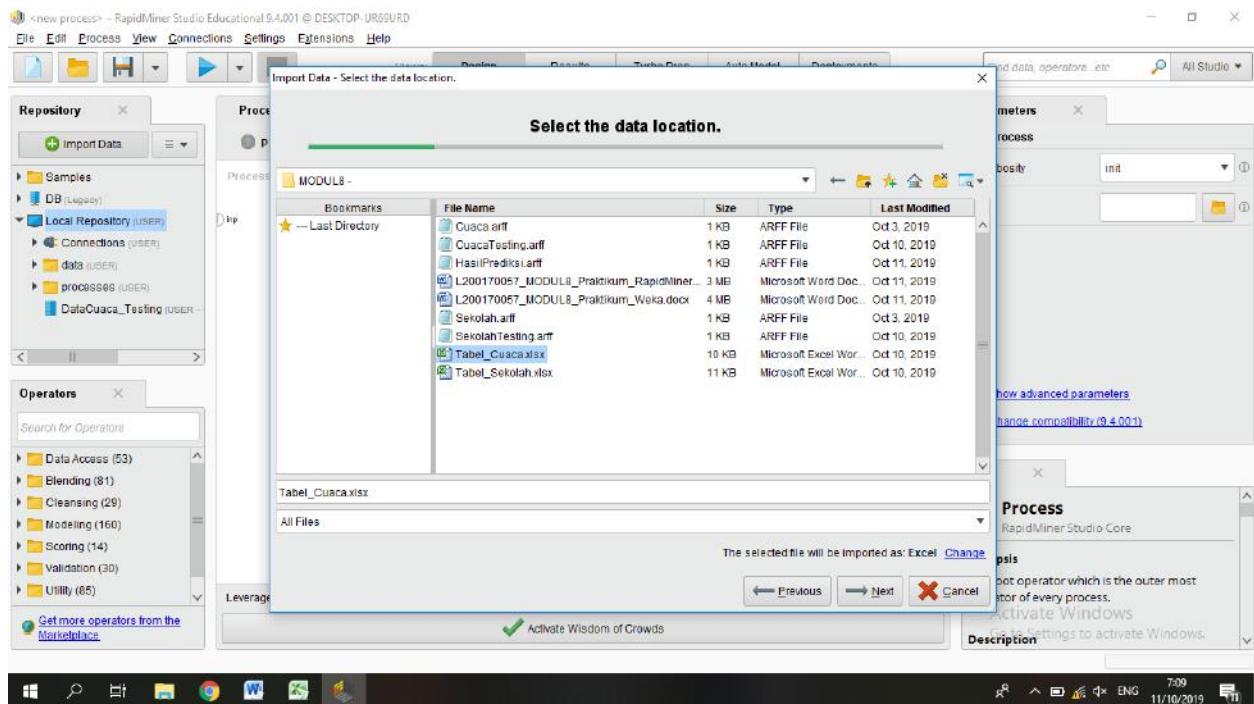


## 11. Kembali ke jendela Design Perspective



12. Lakukan hal yang sama untuk data testing yang diambil dari **Tabel\_Cuaca.xls** pada Sheet2 (Testing)

- Klik **Import Data**. Arahkan direktori tempat penyimpanan file pada langkah **Select the data location**, kemudian pilih file yang digunakan dan klik **Next**



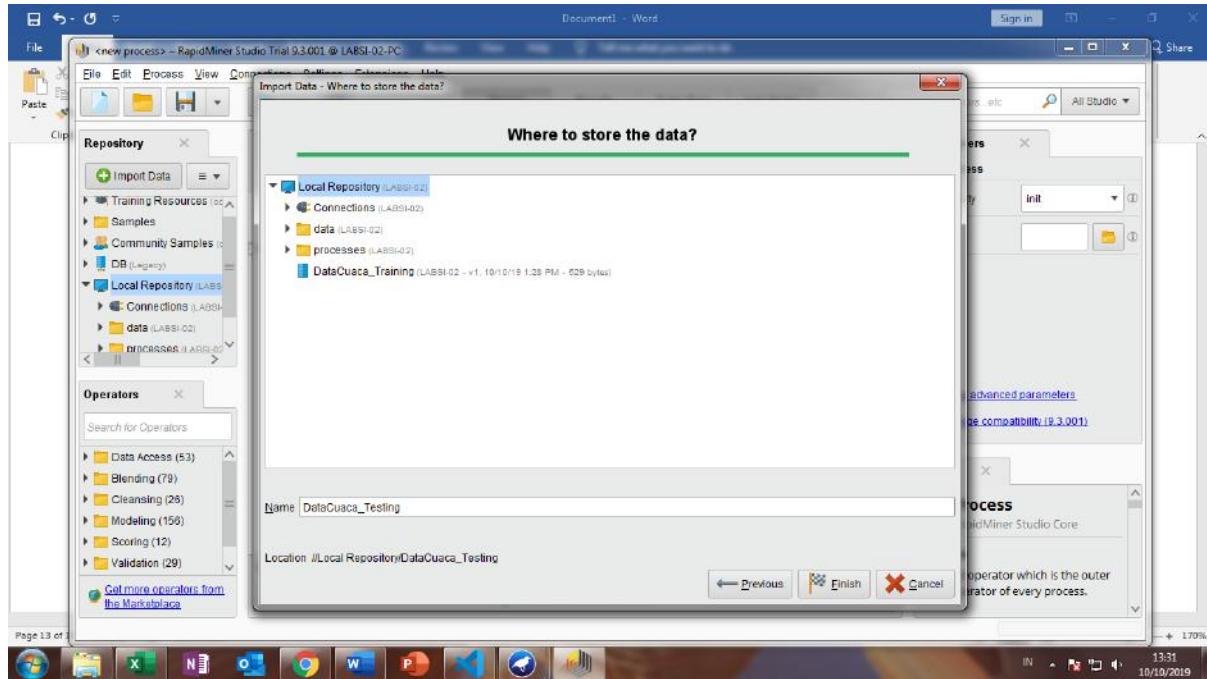
b. Pastikan sel Excel sesuai di langkah **Select the cells to import**

The screenshot shows the RapidMiner Studio interface with the 'Import Data' dialog open. The dialog title is 'Import Data - Select the cells to import.' It displays a preview of an Excel sheet with four columns: A, B, C, and D. The first row contains the column headers. The 'Selected All' button is checked, and the 'Define header row' checkbox is checked with a value of 1. The background shows the RapidMiner studio environment with various operators and repositories visible.

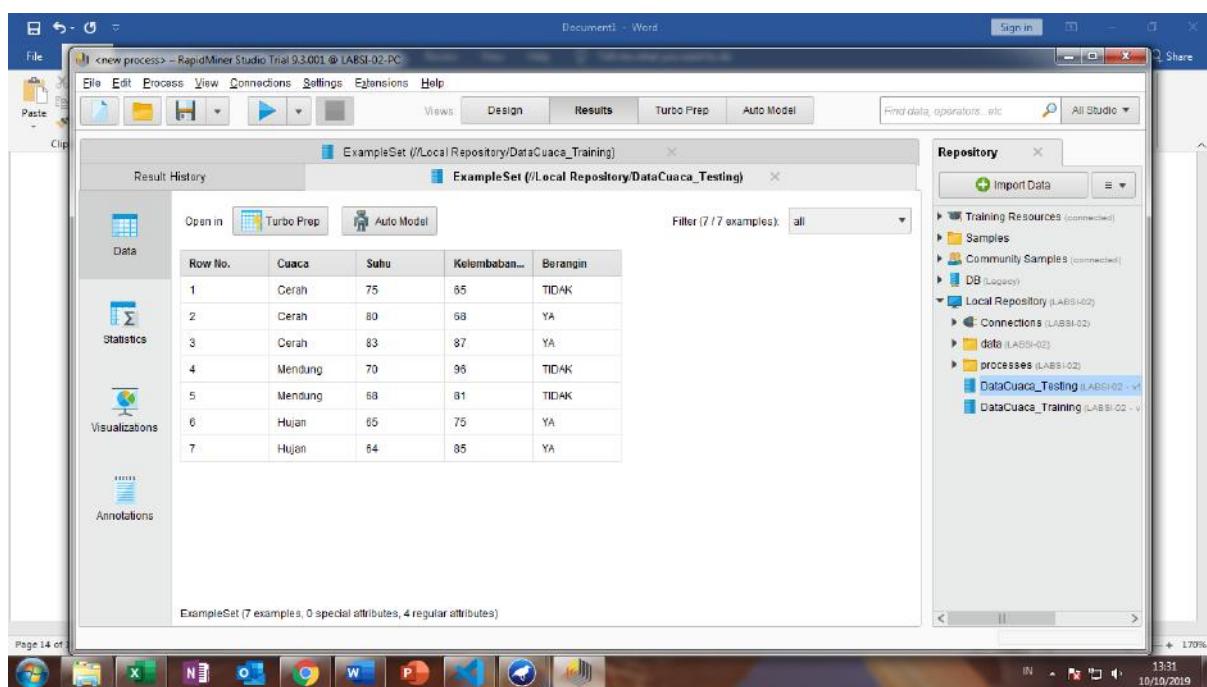
c. Langkah **Format your columns**

The screenshot shows the 'Format your columns' dialog from the RapidMiner Studio 'Import Data' process. The dialog title is 'Format your columns.' It displays a preview of the data with four columns: Cuaca, Suhu, Kelembaban\_Udara, and Berangin. Each column has its data type set to 'Integer'. The 'no problems' button is highlighted at the bottom right of the dialog. The background shows the RapidMiner studio environment with various operators and repositories visible.

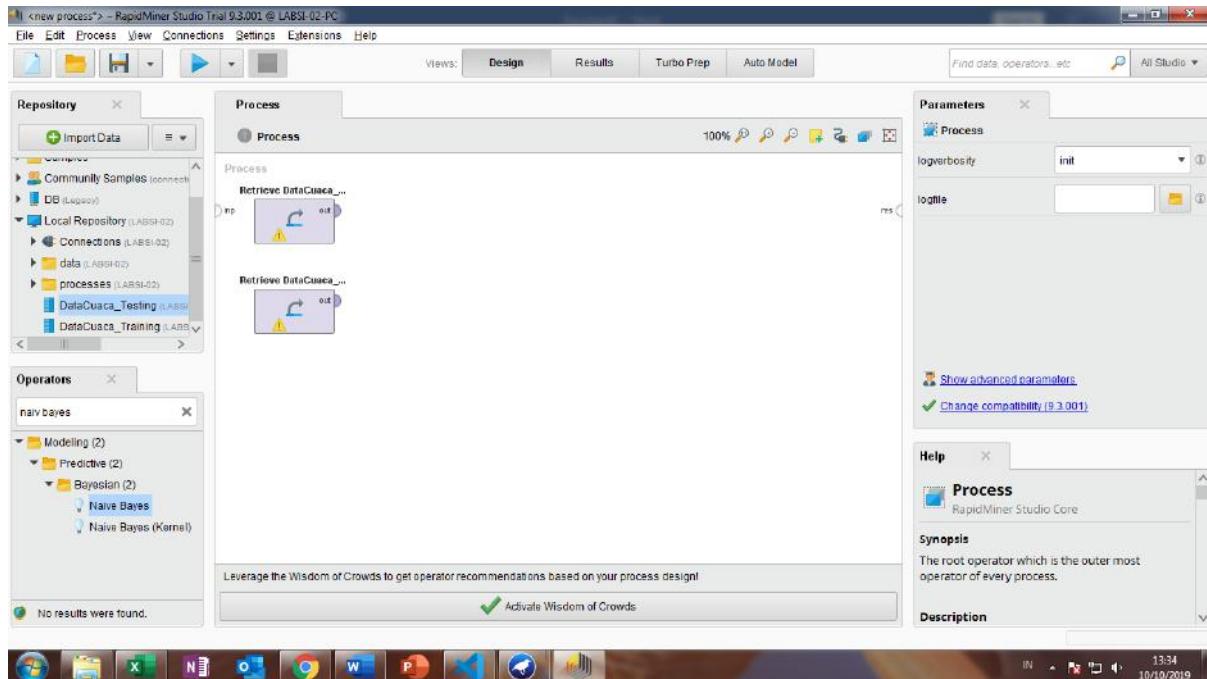
13. Simpan dengan nama **DataCuaca\_Testing** dilanjutkan klik tombol **Finish**



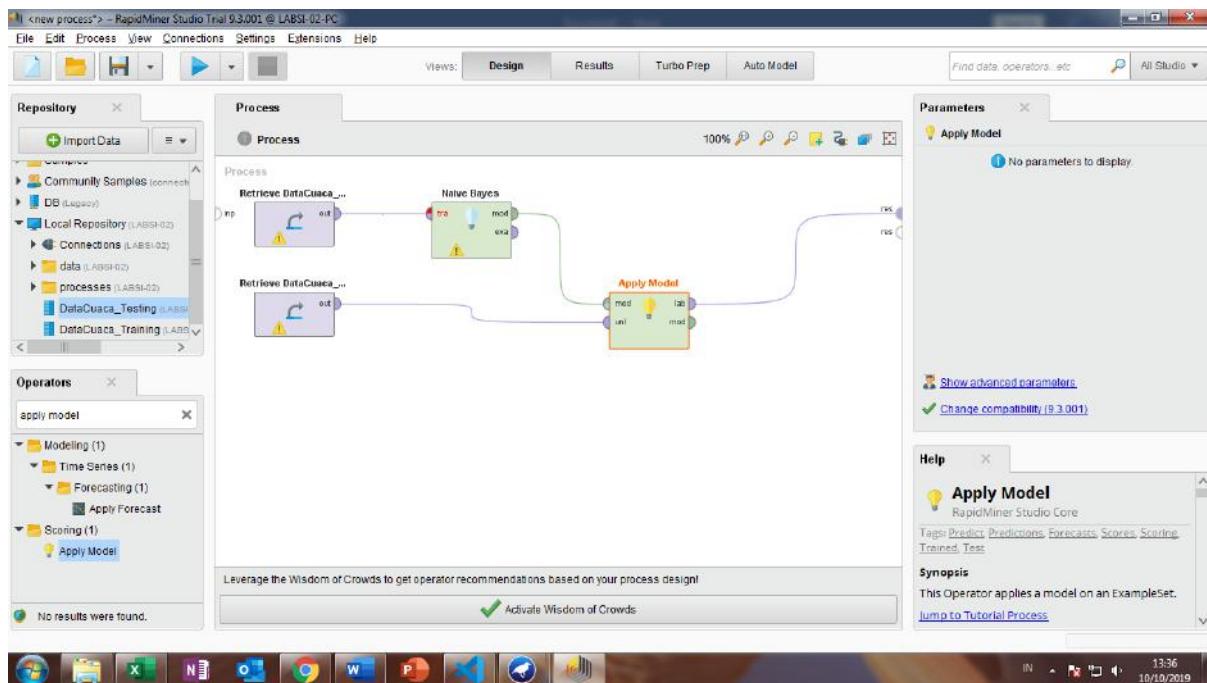
Hasil import file **Tabel\_Cuaca.xls** pada Sheet1 akan ditampilkan



14. Membuat desain Naïve Bayes. Drag **DataCuaca\_Training** dan **DataCuaca\_Testing** ke dalam jendela Process View



15. Masukkan juga operator **Naïve Bayes** dan **Apply Model** ke dalam Process View.  
Hubungkan konektor masing – masing data terhadap operator



16. Jalankan proses naïve bayes dengan menekan tombol **Run**



17. Pada tab **Data**, dapat dilihat hasil prediksi terhadap data testing serta tingkat confidence nilai kelas pada masing – masing data

Row No.	prediction(Bern...)	confidence(...)	confidence(...)	Cuaca	Suhu	Kelembaban...	Berangin
1	YA	0.164	0.846	Cerah	75	85	TIDAK
2	YA	0.498	0.502	Cerah	80	88	YA
3	TIDAK	0.056	0.144	Cerah	83	87	YA
4	YA	0.019	0.981	Mendung	70	98	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	95	YA

Pada tab **Statistics**, dapat dilihat bahwa distribusi nilai kelas pada variable Y (Bermain\_Tenis) rerata nilai confidence sebesar 0,353 untuk nilai TIDAK, dan 0,647 untuk nilai YA

Name	Type	Missing	Statistics	Filter (7 / 7 attributes):	Search for Attributes
<b>prediction(Bermain_Tenis)</b>	Binomial	0	Least: TIDAK (2) Most: YA (5)	Values	YA (5), TIDAK (2)
<b>confidence(TIDAK)</b>	Real	0	Min: 0.007 Max: 0.856	Average	0.353
<b>confidence(YA)</b>	Real	0	Min: 0.144 Max: 0.993	Average	0.647
<b>Cuaca</b>	Polynomial	0	Least: Mendung (2) Most: Cerah (3)	Values	Cerah (3), Huja (2), Mendung (2)
<b>Suhu</b>	Integer	0	Min: 64 Max: 83	Average	72.143
<b>Kelembaban_Udara</b>	Integer	0	Min: 65 Max: 96	Average	79.571
<b>Berangin</b>	Polynomial	0	Least: TIDAK (3) Most: YA (4)	Values	YA (4), TIDAK (3)

PNama: Titis Ulfa Mustikawati

NIM : L200170057

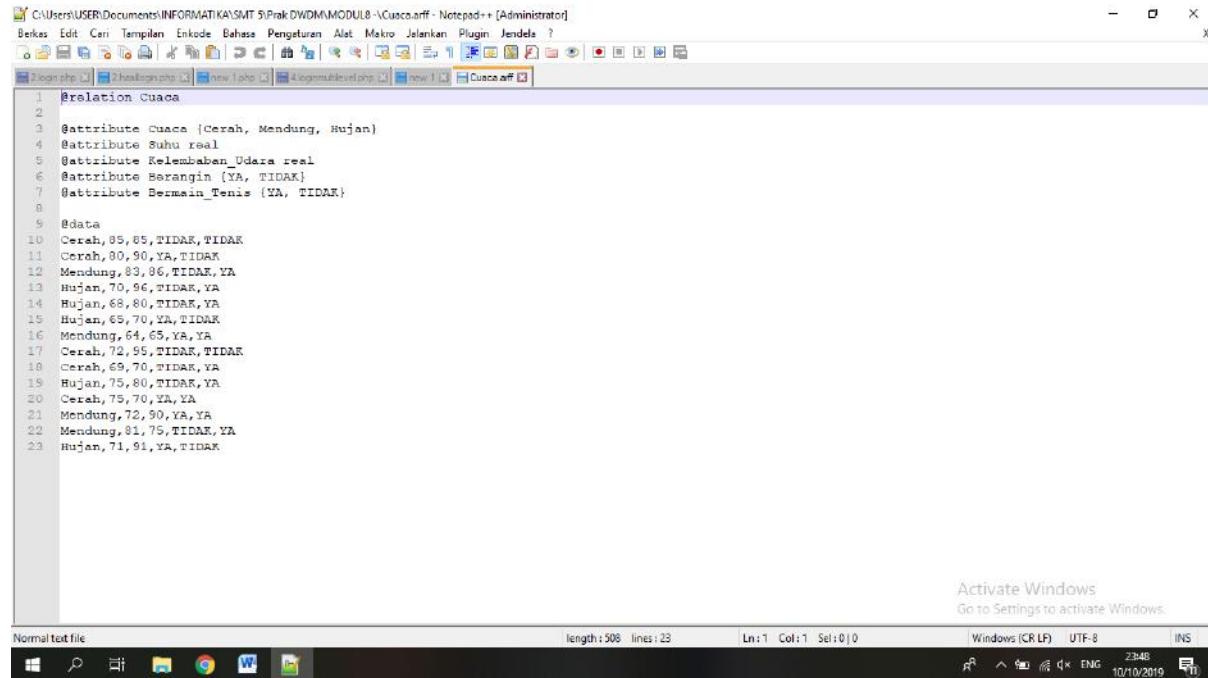
Kelas : C

## MODUL 8

### KLASIFIKASI : NAÏVE BAYES

#### Implementasi Naïve Bayes dengan Weka

##### 1. Persiapkan file Cuaca.arff sebagai data training

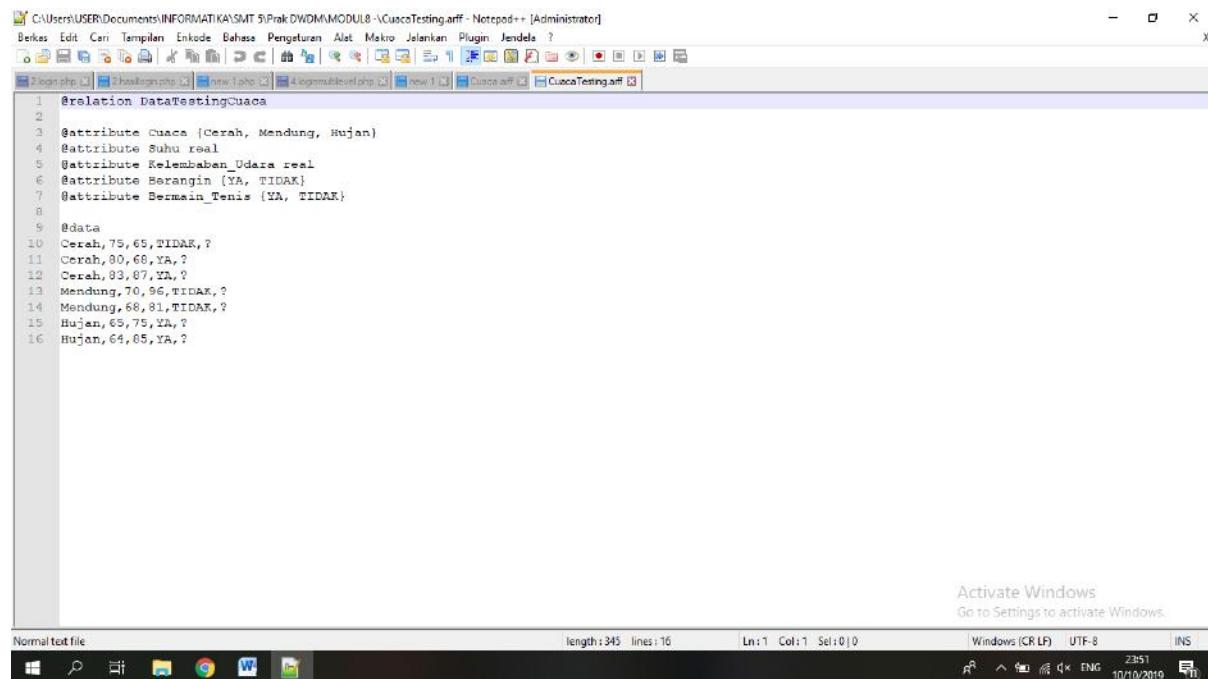


The screenshot shows a Notepad++ window with the file "Cuaca.arff" open. The code in the editor is:

```
1 @relation Cuaca
2
3 @attribute Cuaca {Cerah, Mendung, Hujan}
4 @attribute Suhu real
5 @attribute Kelembaban_Udara real
6 @attribute Berangin {YA, TIDAK}
7 @attribute Bermain_Tenis {YA, TIDAK}
8
9 @data
10 Cerah,85,85,TIDAK,YA
11 Cerah,80,90,YA,TIDAK
12 Mendung,83,86,TIDAK,YA
13 Hujan,70,96,TIDAK,YA
14 Hujan,68,80,TIDAK,YA
15 Hujan,65,70,YA,TIDAK
16 Mendung,64,65,YA,YA
17 Cerah,72,95,TIDAK,TIDAK
18 Cerah,69,70,TIDAK,YA
19 Hujan,75,80,TIDAK,YA
20 Cerah,75,70,YA,YA
21 Mendung,72,90,YA,YA
22 Mendung,61,75,TIDAK,YA
23 Hujan,71,91,YA,TIDAK
```

The status bar at the bottom indicates: length: 508 lines: 23 Ln:1 Col:1 Sel:0|0 Windows (CR LF) UTF-8 INS.

##### 2. Membuat Data Testing Cuaca

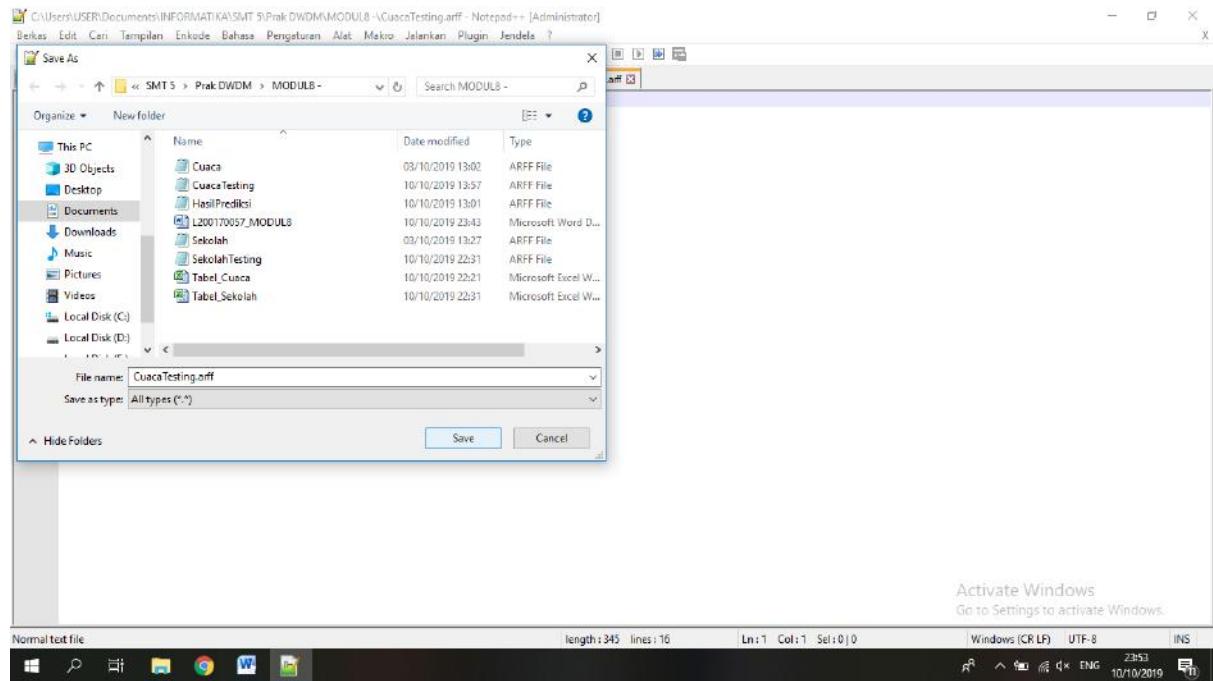


The screenshot shows a Notepad++ window with the file "CuacaTesting.arff" open. The code in the editor is:

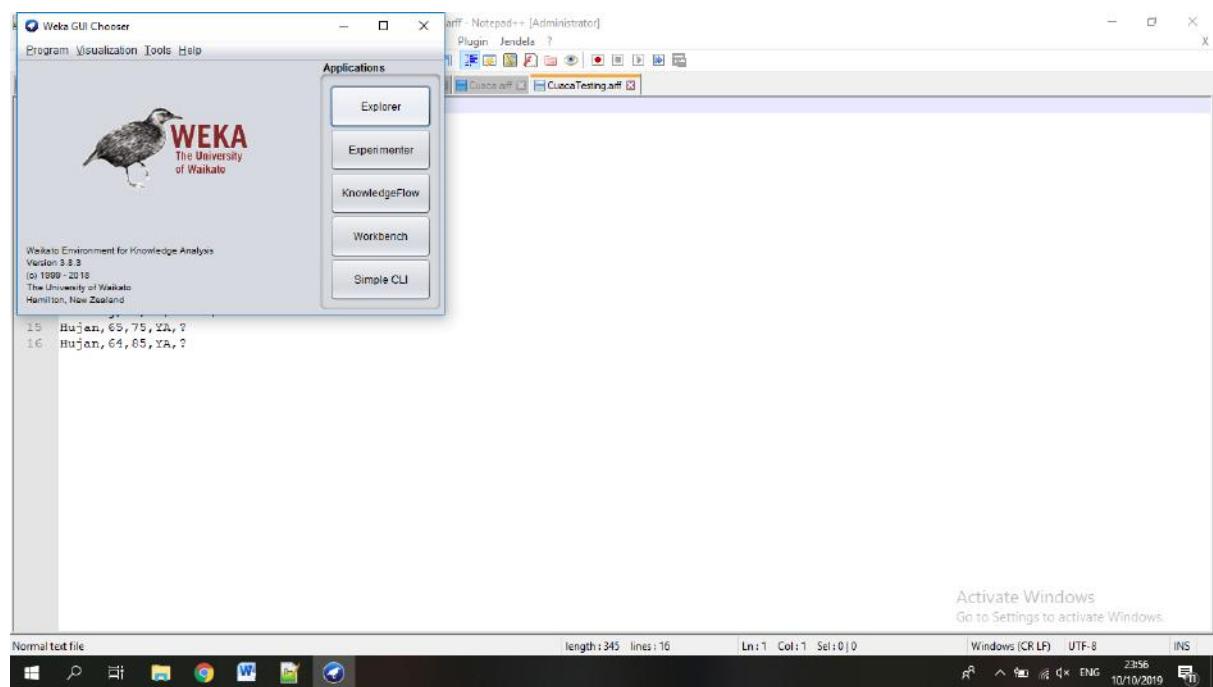
```
1 @relation DataTestingCuaca
2
3 @attribute Cuaca {Cerah, Mendung, Hujan}
4 @attribute Suhu real
5 @attribute Kelembaban_Udara real
6 @attribute Berangin {YA, TIDAK}
7 @attribute Bermain_Tenis {YA, TIDAK}
8
9 @data
10 Cerah,75,65,TIDAK,?
11 Cerah,80,68,YA,?
12 Cerah,83,87,YA,?
13 Mendung,70,96,TIDAK,?
14 Mendung,68,81,TIDAK,?
15 Hujan,65,75,YA,?
16 Hujan,64,85,YA,?
```

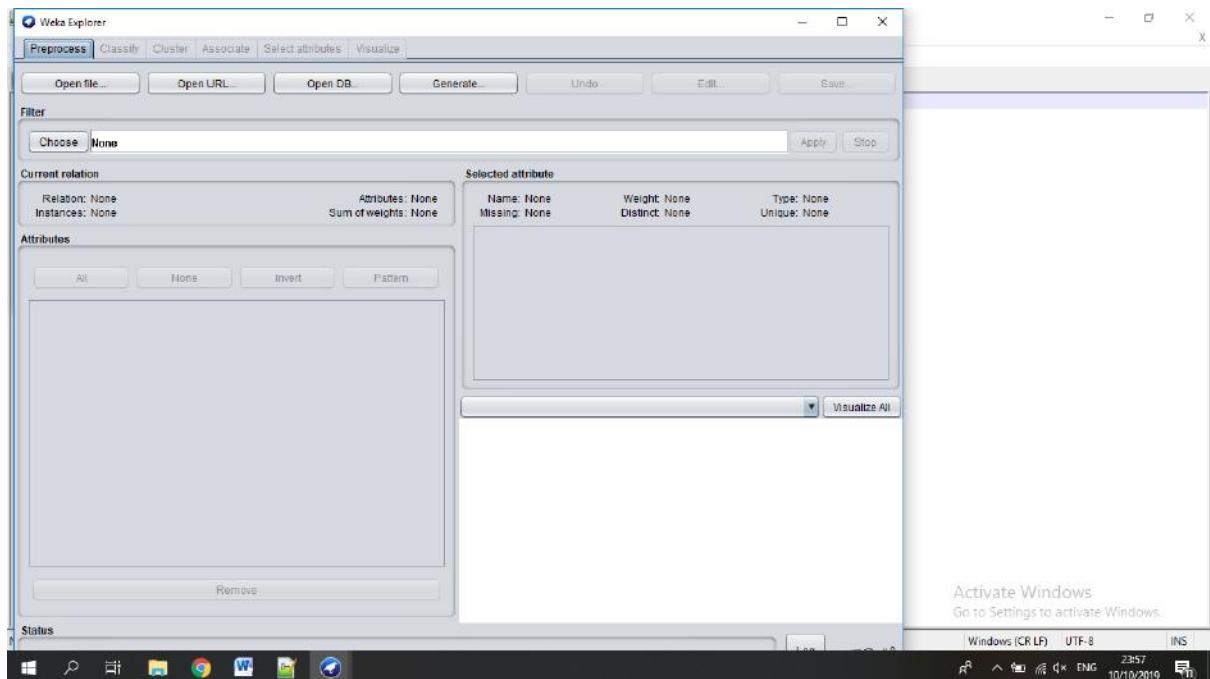
The status bar at the bottom indicates: length: 345 lines: 16 Ln:1 Col:1 Sel:0|0 Windows (CR LF) UTF-8 INS.

### 3. Simpan dengan nama CuacaTesting.arff

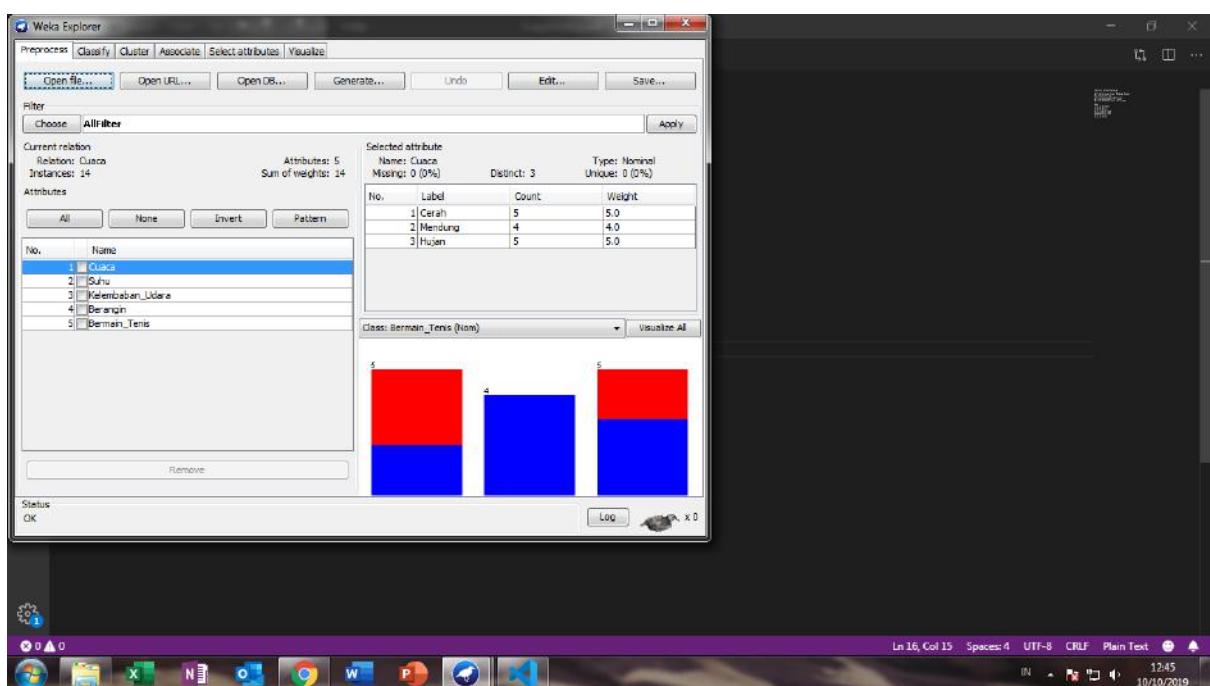


### 4. Membuka aplikasi Weka, masuk dalam menu Weka Explorer

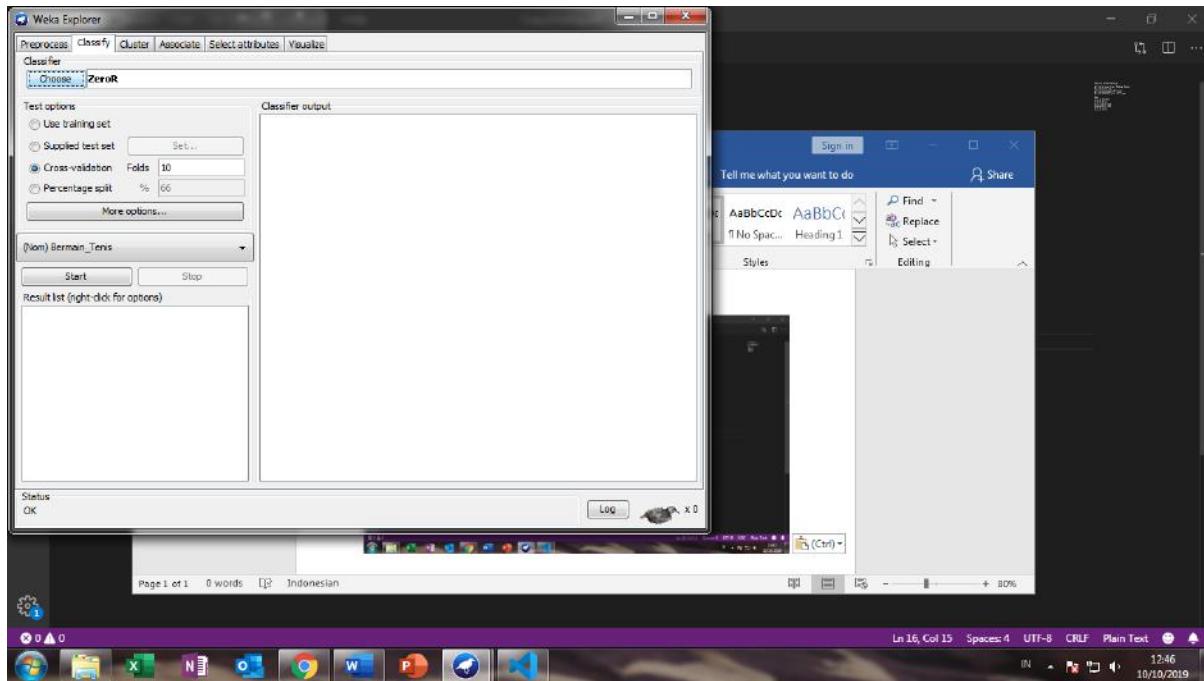




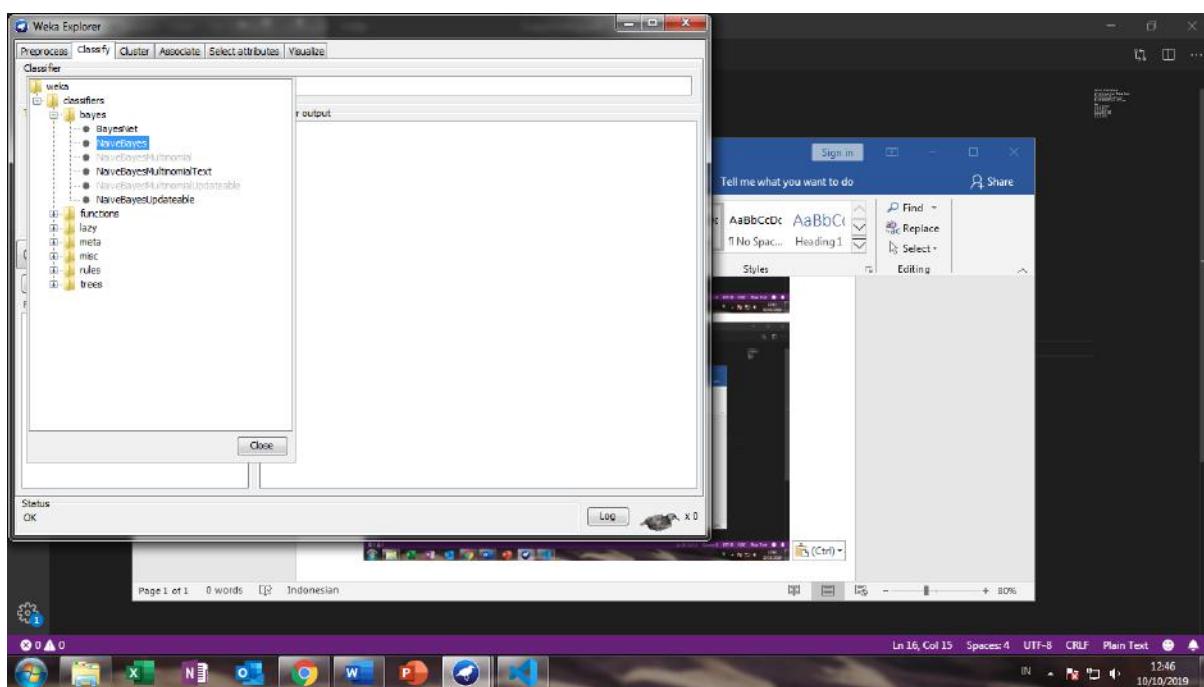
## 5. Membuka kembali file Cuaca.arff dengan Weka Explorer



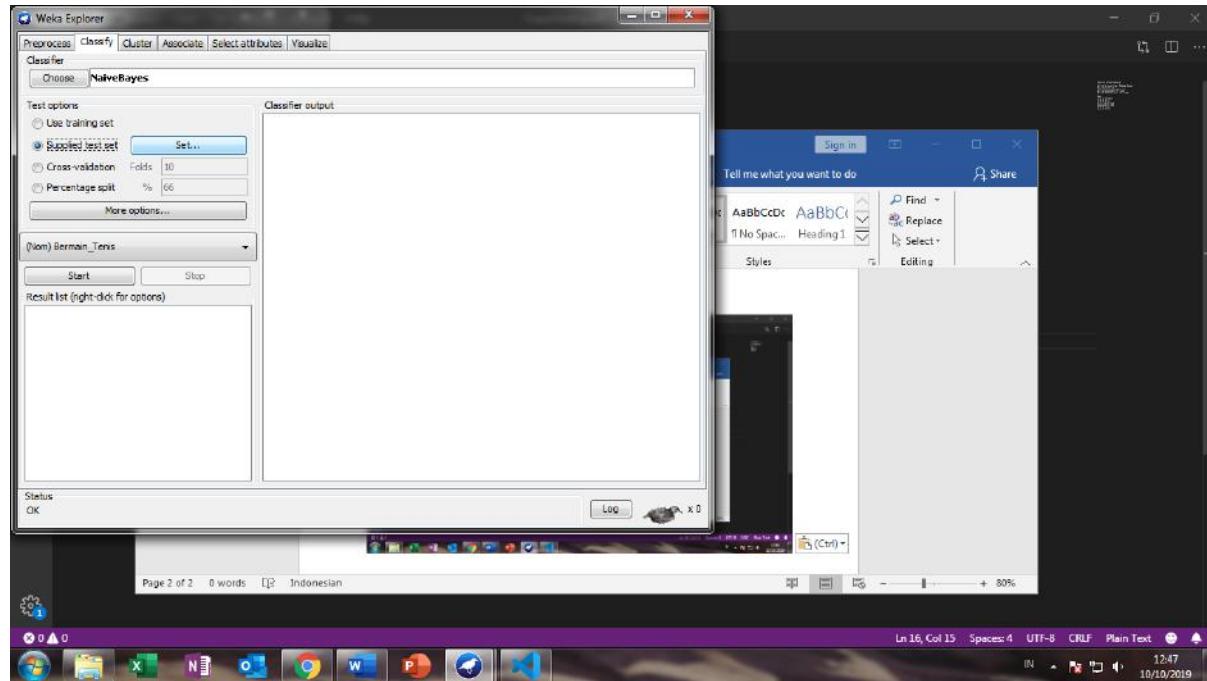
6. Pada jendela Weka Explorer, pilih tab **Classify**



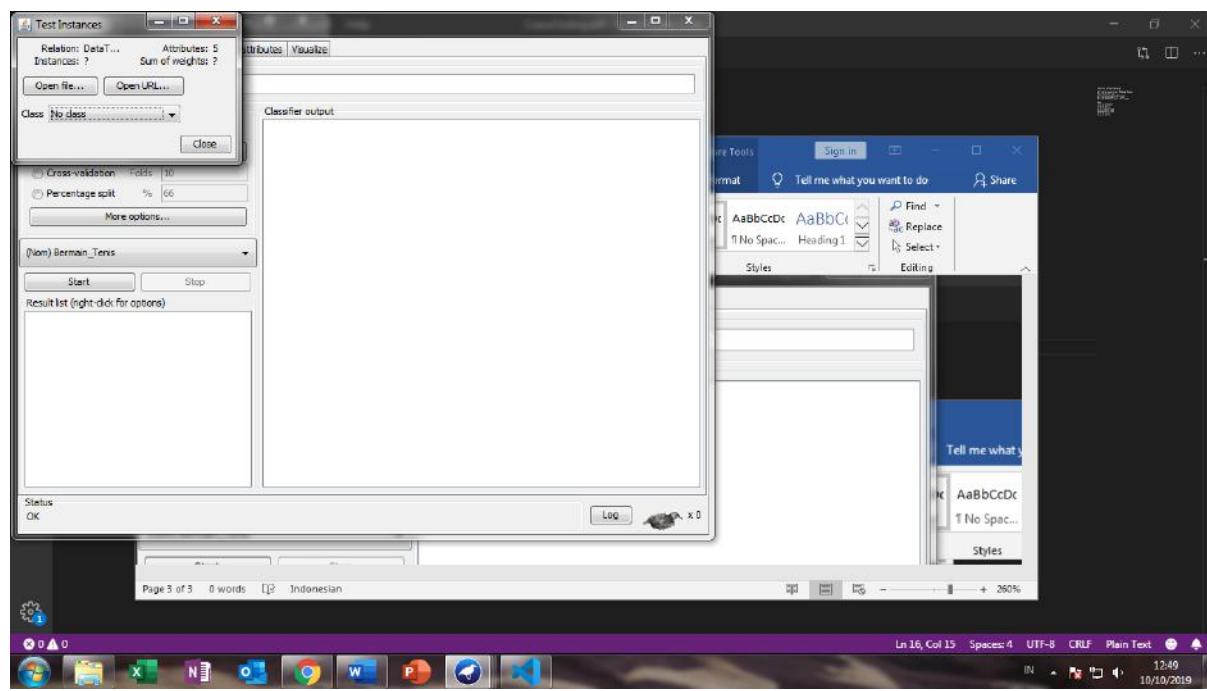
7. Klik tombol **Choose** untuk memilih metode / algoritma **Naïve Bayes**



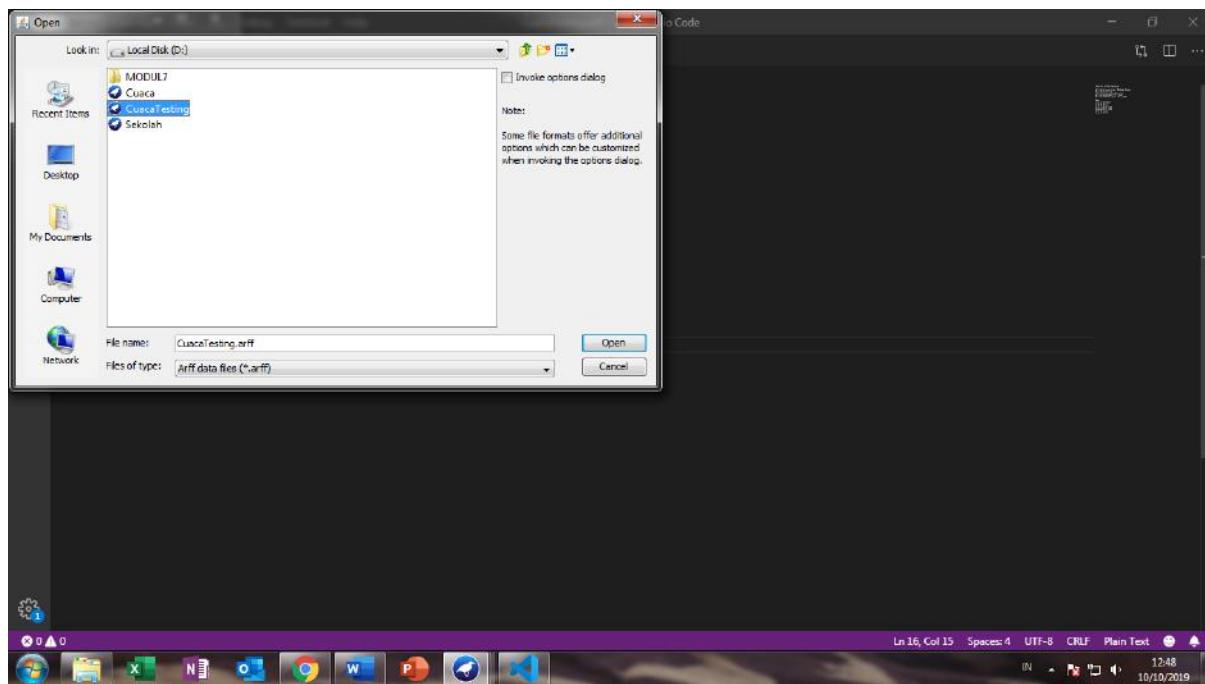
8. Menentukan **CuacaTesting.arff** sebagai data yang akan diprediksi variable dependennya
9. Pada menu Test Options terdapat 4 pilihan pengujian, yaitu: use training set; supplied test set; cross-validation, percentage split
10. Memilih **Supplied test set**. Klik tombol Set untuk menentukan file ARFF sebagai data uji



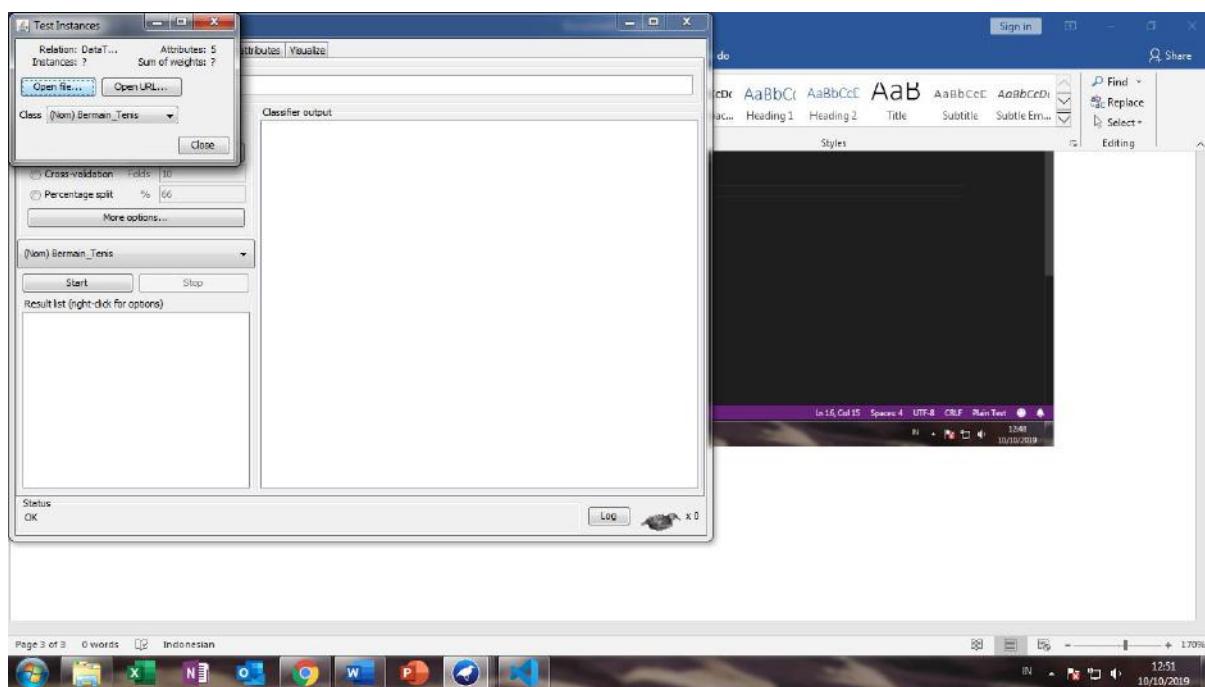
11. Akan muncul jendela Test Instance. Klik Open file...



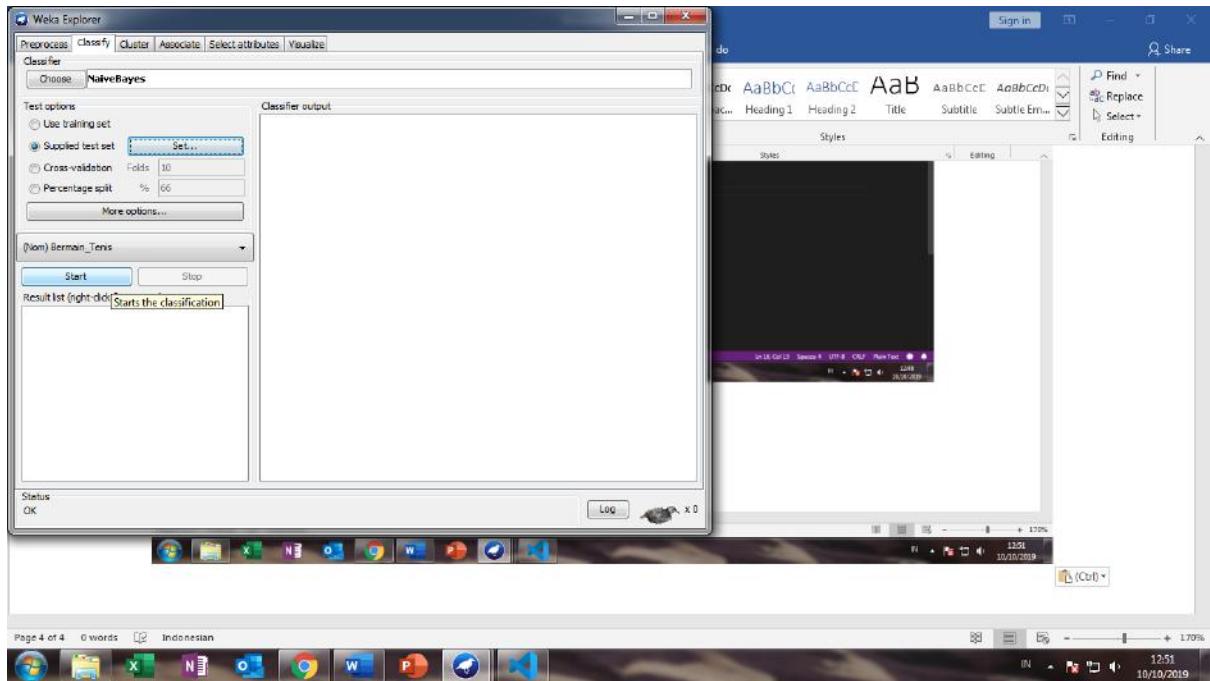
12. Pilih file **CuacaTesting.arff** sebagai data uji. Klik **Open**



13. File **CuacaTesting.arff** akan diset sebagai data uji pada jendela Test Instance dengan variable predictor (Class) adalah Bermain\_Tenis. Klik **Close**



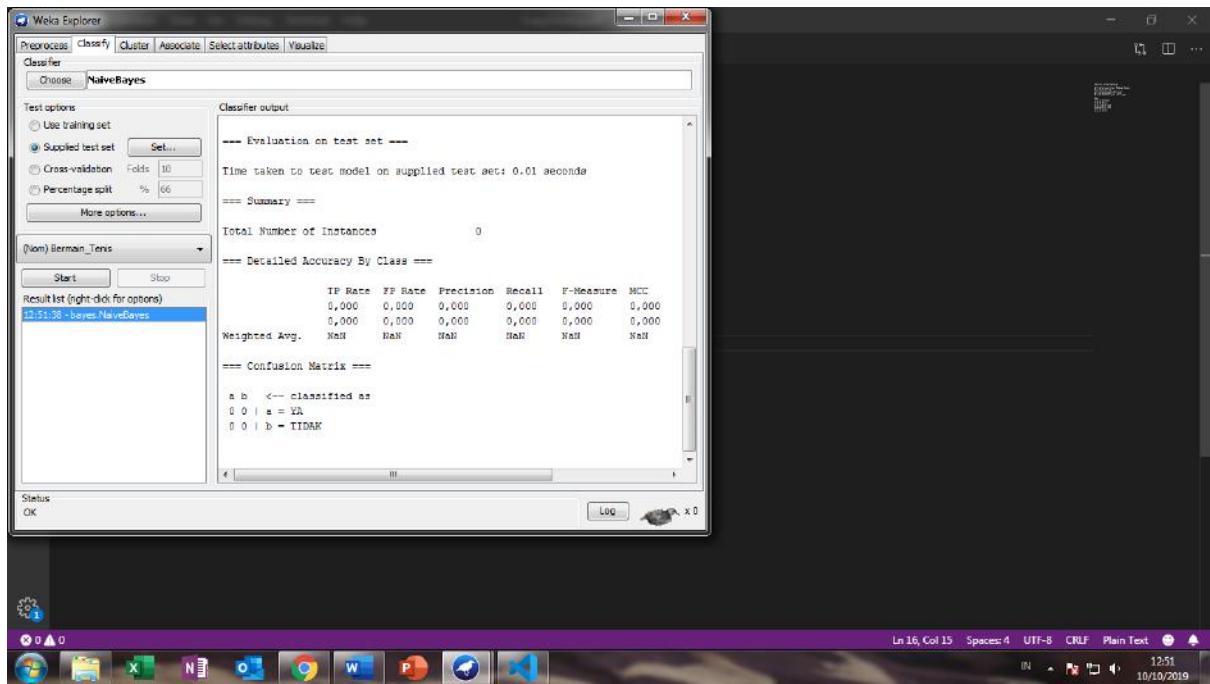
14. Klik start untuk memulai proses naïve bayes



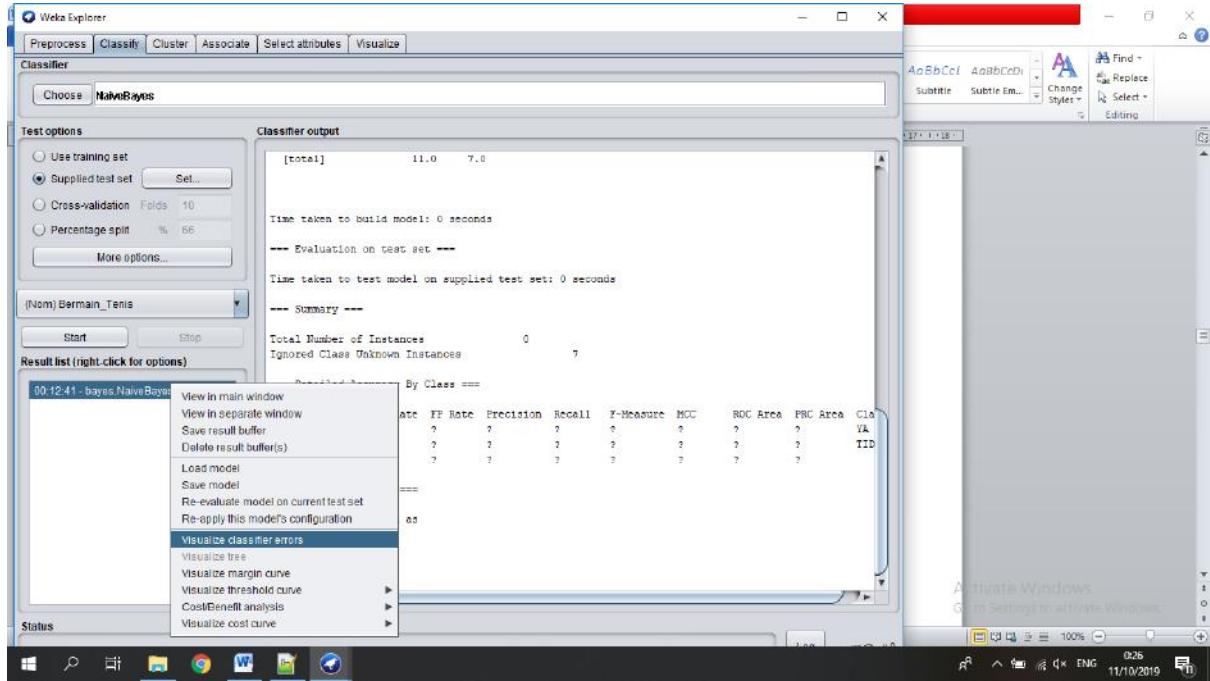
15. Jika muncul jendela pesan **Classifier Panel**, kita abaikan dengan mengklik Yes.

Sehingga algoritma naïve bayes akan diproses

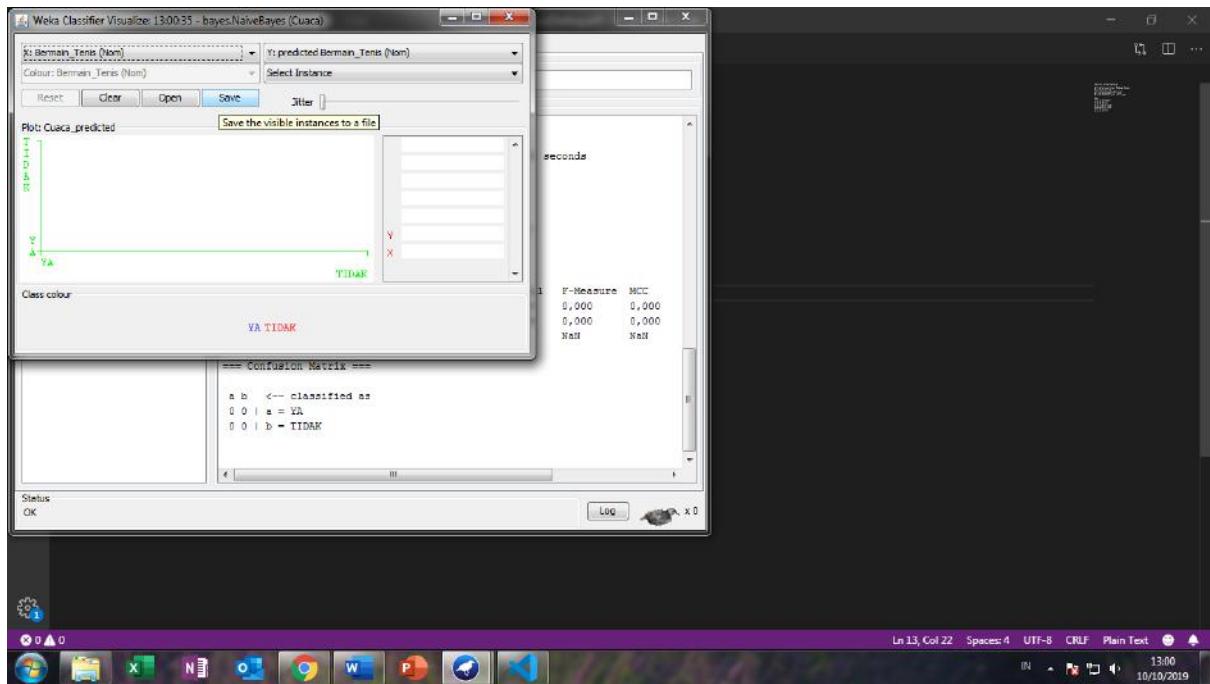
16. Abaikan nilai – nilai yang ditampilkan dalam jendela **Classifier Output**

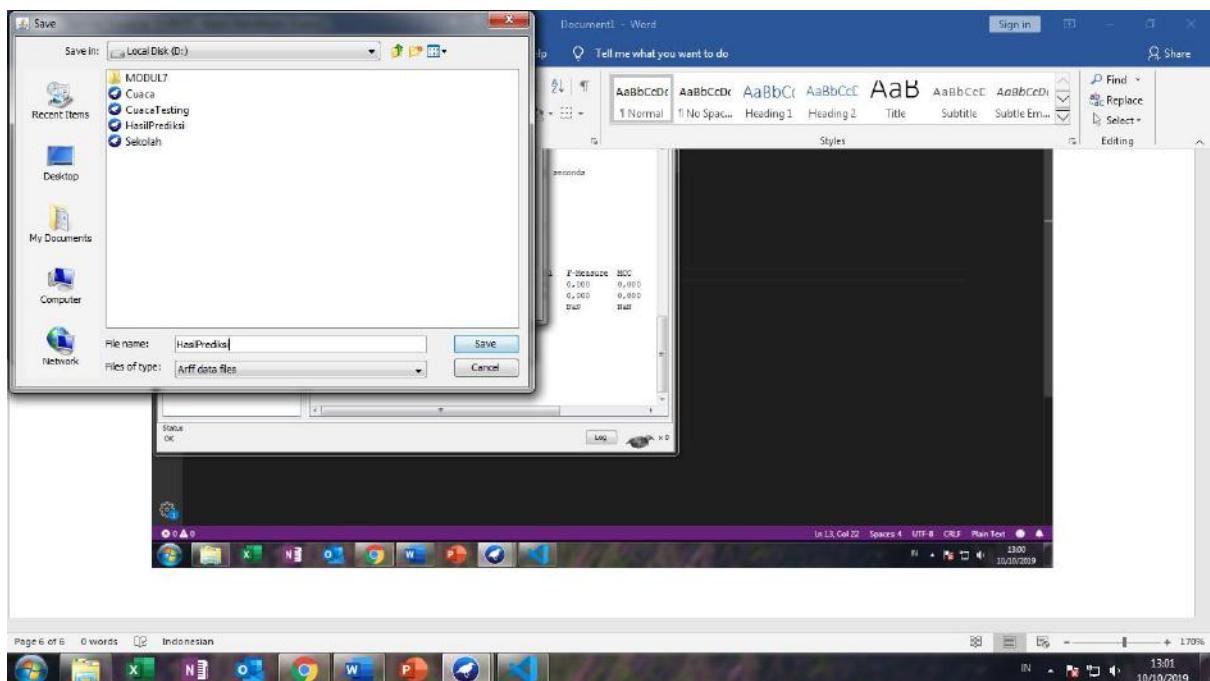


17. Melihat nilai **Classifier Error** dengan cara klik kanan pada hasil proses dalam kotak **result list**. Pilih menu **Visualize classifier errors**

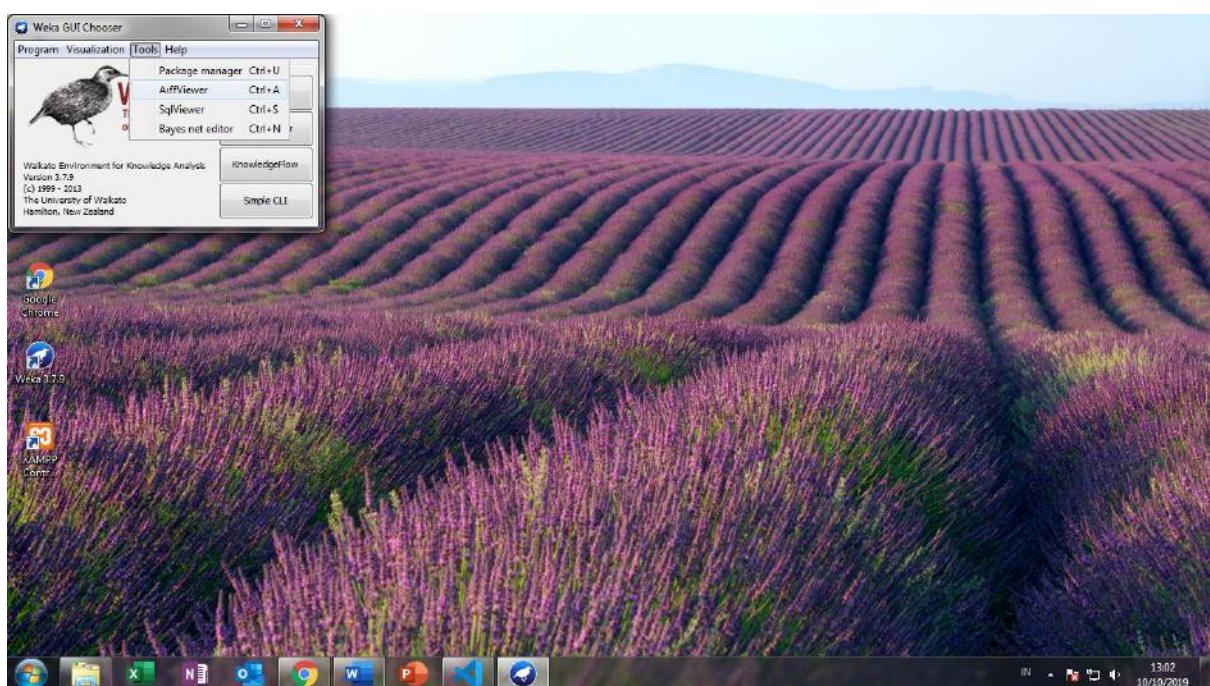


18. Klik save. Simpan dengan nama file **HasilPrediksi.arff**

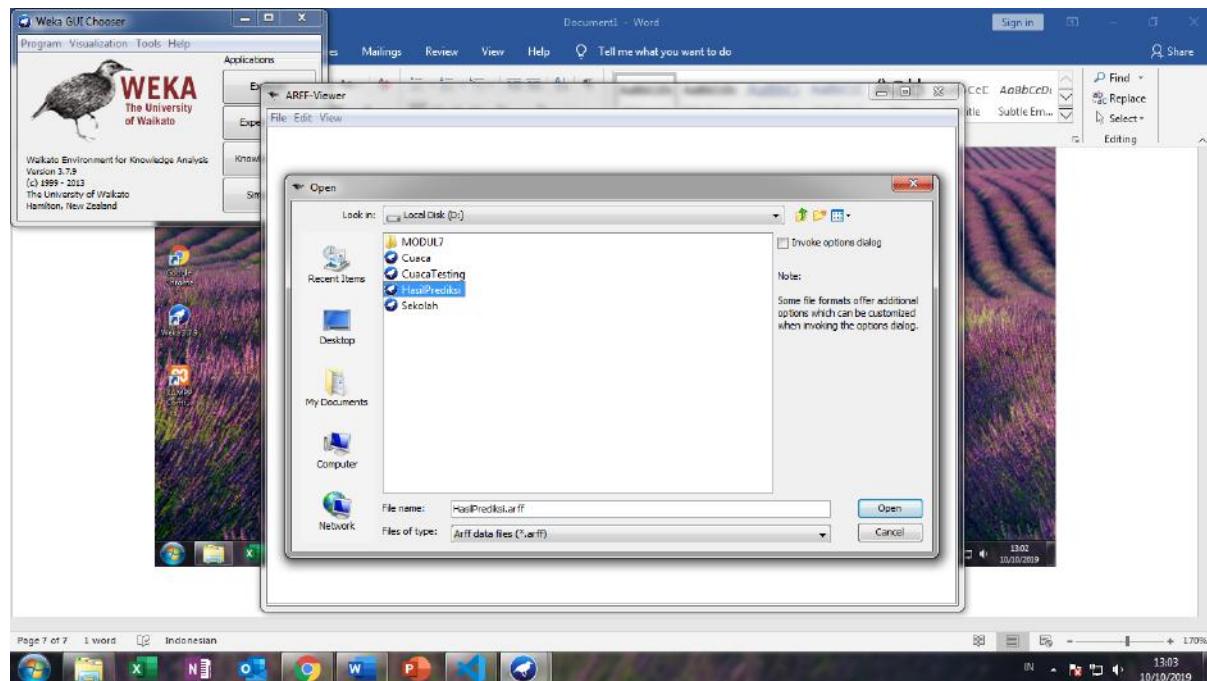




## 19. Kembali ke Weka GUI Chooser. Pilih menu Tools - ArffViewer



20. Buka menu **File – Open**. Tunjukkan pada file **HasilPrediksi.arff**. Hasil prediksi telah diketahui pada kolom **predicted Bermain\_Tenis Nominal**



The screenshot shows the ARFF-Viewer window displaying the contents of the 'HasilPrediksi.arff' file. The window title is 'ARFF-Viewer - D:\HasilPrediksi.arff'. The table has the following structure:

No.	1: Cueca Nominal	2: Suhu Numeric	3: Kelembaban_Udara Numeric	4: Bermain_Tenis Nominal	5: prediction margin Numeric	6: predicted Bermain_Tenis Nominal	7: Bermain_Tenis Nominal
1	Cerah	75.0	65.0	TIDAK	0.762785	YA	
2	Cerah	80.0	68.0	YA	0.087878	YA	
3	Cerah	83.0	87.0	YA	-0.676866	TIDAK	
4	Mendung	70.0	96.0	TIDAK	0.528523	YA	
5	Mendung	68.0	81.0	TIDAK	0.833996	YA	
6	Hujan	65.0	75.0	YA	0.253733	YA	
7	Hujan	64.0	85.0	YA	-0.160143	TIDAK	

Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

MODUL 8

## **KLASIFIKASI : NAÏVE BAYES**

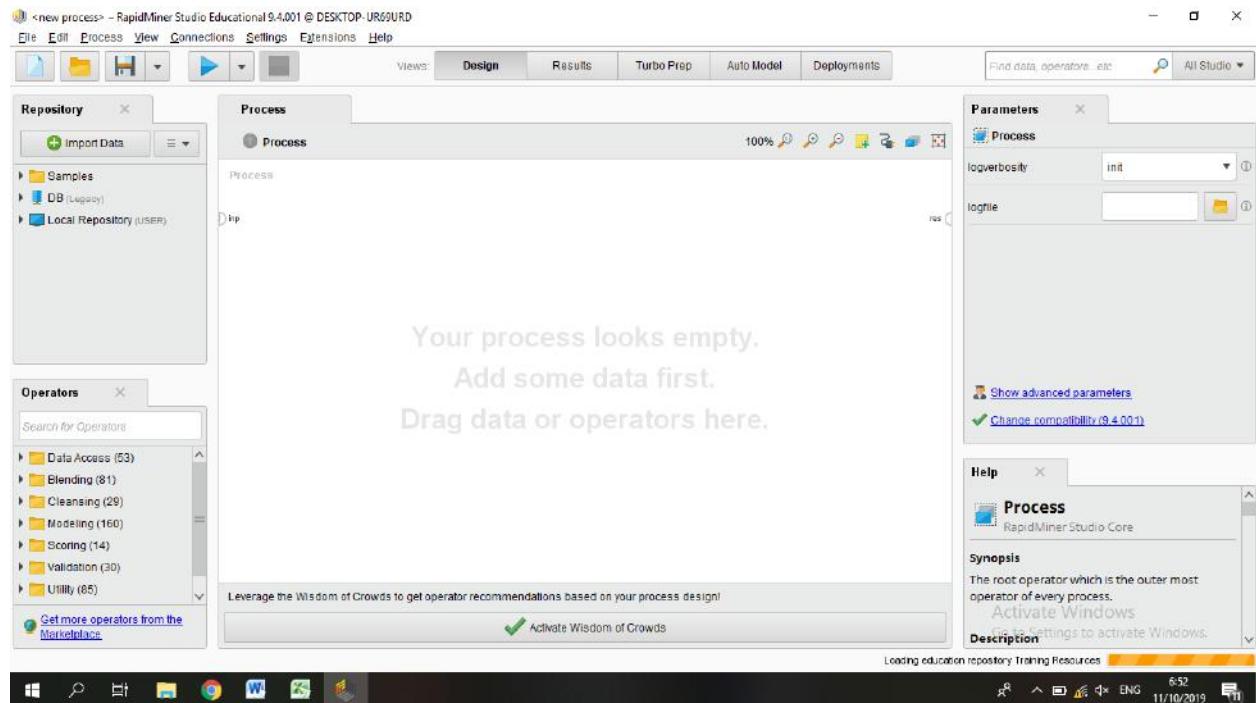
## TUGAS

## Implementasi Naïve Bayes dengan RapidMiner

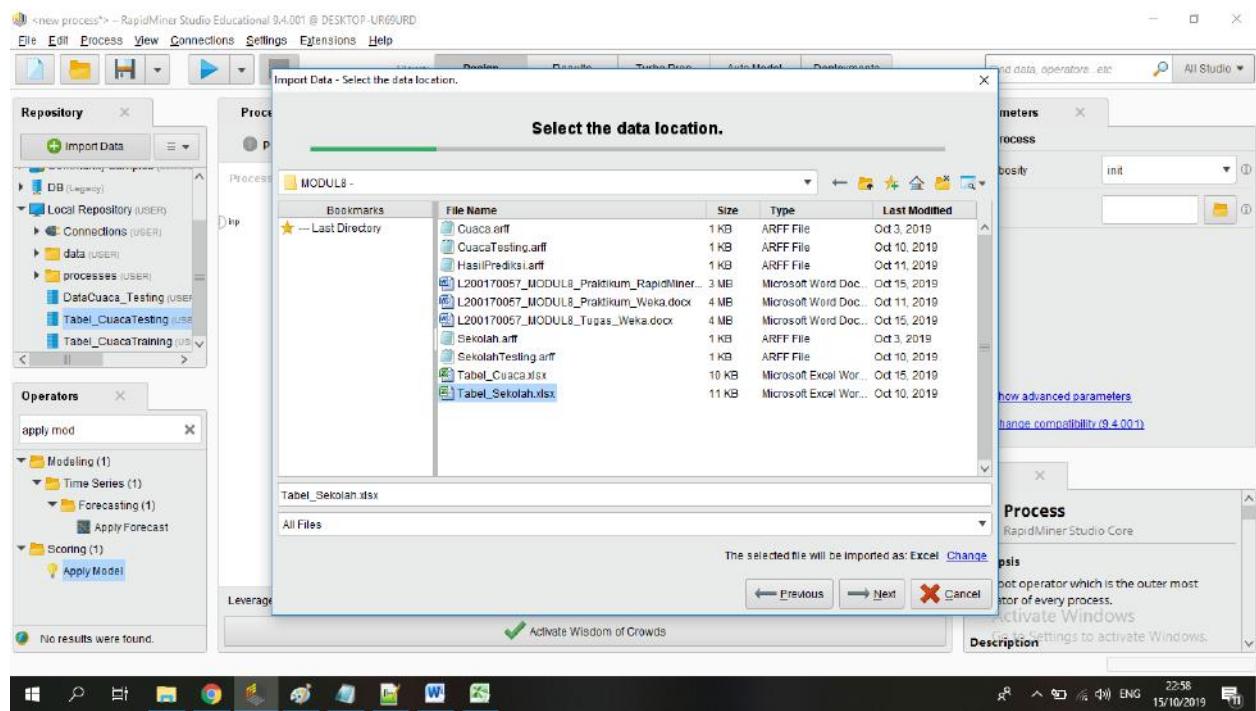
1. Persiapkan file **Table\_Sekolah.xls** yang terdiri dari 2 sheet
  2. Sheet 1 digunakan sebagai data training, dan sheet 2 digunakan sebagai data uji
  3. **Tabel data training** pada Sheet1

**Tabel data uji** pada Sheet 2 tanpa ada variable **Lama Studi**

#### 4. Membuka aplikasi RapidMiner



5. Klik Import Data. Arahkan direktori tempat penyimpanan file pada langkah **Select the data location**, kemudian pilih file yang digunakan dan klik Next



## 6. Pastikan sel Excel sesuai di langkah Select the cells to import

The screenshot shows the 'Import Data - Select the cells to import' dialog in RapidMiner Studio. The dialog displays a preview of a CSV file with the following columns: Jurusan\_SMA, Gender, Asal\_Sekolah, Rerata\_SKS, Asisten, and Lama\_Studi. The 'Cell range' is set to A:F, and the 'Select All' button is checked. The 'Define header row' checkbox is checked with a value of 1. The background shows the RapidMiner interface with various operators and repositories.

## 7. Pada langkah Format your columns ubah kolom **Lama\_Studi** dengan tipe data **binomial** karena hanya ada dua keputusan (TEPAT dan TERLAMBAT)

The screenshot shows the 'Import Data - Format your columns' dialog in RapidMiner Studio. The dialog displays a preview of the same CSV file. The 'Change Type' dropdown for the 'Lama\_Studi' column is open, showing options like 'polynomial', 'binomial', 'real', 'integer', etc. The 'binomial' option is selected. The background shows the RapidMiner interface with various operators and repositories.

## 8. Ubah pula sebagai label pada Change Role

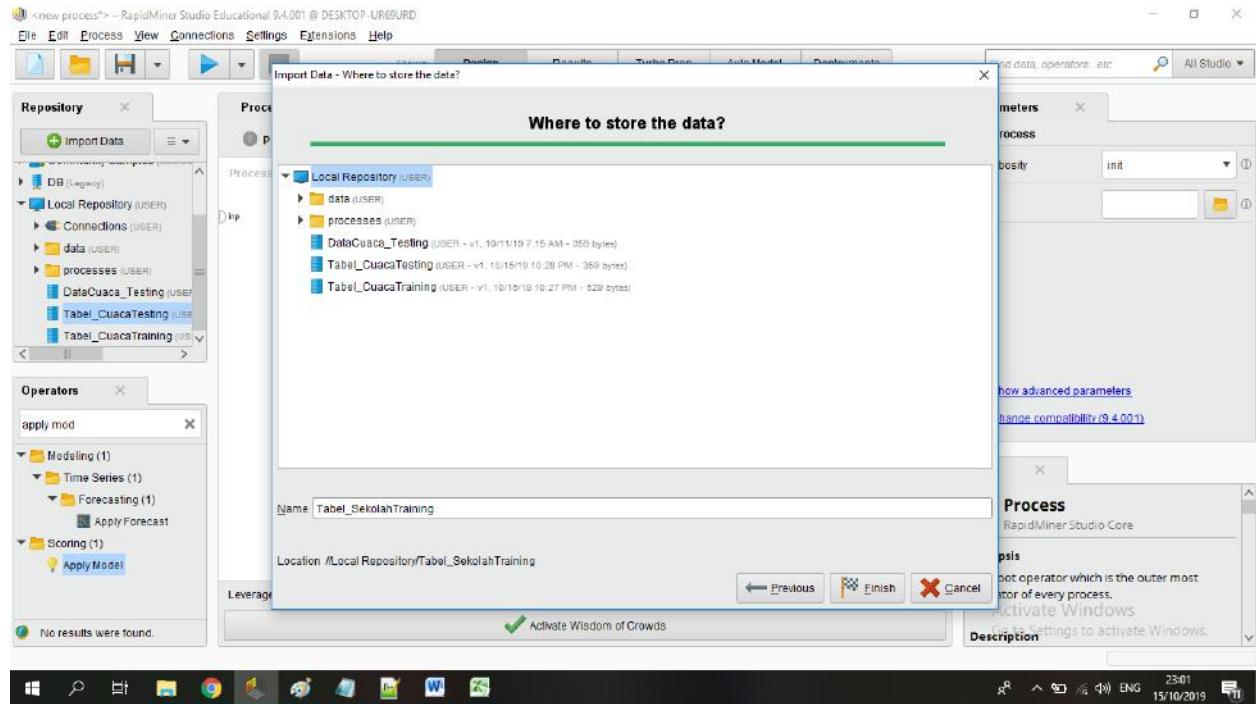
The screenshot shows the RapidMiner Studio interface with the 'Format your columns' dialog open. A modal window titled 'Change role' is displayed, asking 'Please enter the new role:' with a text input field containing 'label'. The background table has the following data:

	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten	Lama_Studi
1	IPS	Change role	SURAKARTA	18	TIDAK	TERLAMBAT
2	IPA	PRIA	LUAR	18	TIDAK	TEPAT
3	LAIN	PRIA	SURAKARTA	18	TIDAK	TERLAMBAT
4	IPA	PRIA	LUAR	19	TIDAK	TERLAMBAT
5	IPA	PRIA	SURAKARTA	20	TIDAK	TEPAT
6	IPA	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT
7	IPA	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT
8	IPS	PRIA	SURAKARTA	18	TIDAK	TEPAT
9	IPS	PRIA	LUAR	18	TIDAK	TERLAMBAT
10	LAIN	WANITA	SURAKARTA	18	TIDAK	TEPAT
11	IPA	WANITA	SURAKARTA	19	TIDAK	TEPAT
12	IPS	PRIA	SURAKARTA	20	TIDAK	TEPAT
13	IPS	PRIA	SURAKARTA	19	TIDAK	TEPAT

The screenshot shows the RapidMiner Studio interface with the 'Format your columns' dialog open. A modal window titled 'Change role' is displayed, asking 'Please enter the new role:' with a text input field containing 'label'. The background table has the following data:

	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten	Lama_Studi
1	IPS	label	SURAKARTA	18	TIDAK	TERLAMBAT
2	IPA	PRIA	SURAKARTA	19	YA	TEPAT
3	LAIN	PRIA	SURAKARTA	18	TIDAK	TERLAMBAT
4	IPA	PRIA	LUAR	17	TIDAK	TERLAMBAT
5	IPA	WANITA	SURAKARTA	17	TIDAK	TEPAT
6	IPA	WANITA	LUAR	18	YA	TEPAT
7	IPA	PRIA	SURAKARTA	18	TIDAK	TERLAMBAT
8	IPA	PRIA	SURAKARTA	19	TIDAK	TEPAT
9	IPS	PRIA	LUAR	18	TIDAK	TERLAMBAT
10	LAIN	WANITA	SURAKARTA	18	TIDAK	TEPAT
11	IPA	WANITA	SURAKARTA	19	TIDAK	TEPAT
12	IPS	PRIA	SURAKARTA	20	TIDAK	TEPAT
13	IPS	PRIA	SURAKARTA	19	TIDAK	TEPAT

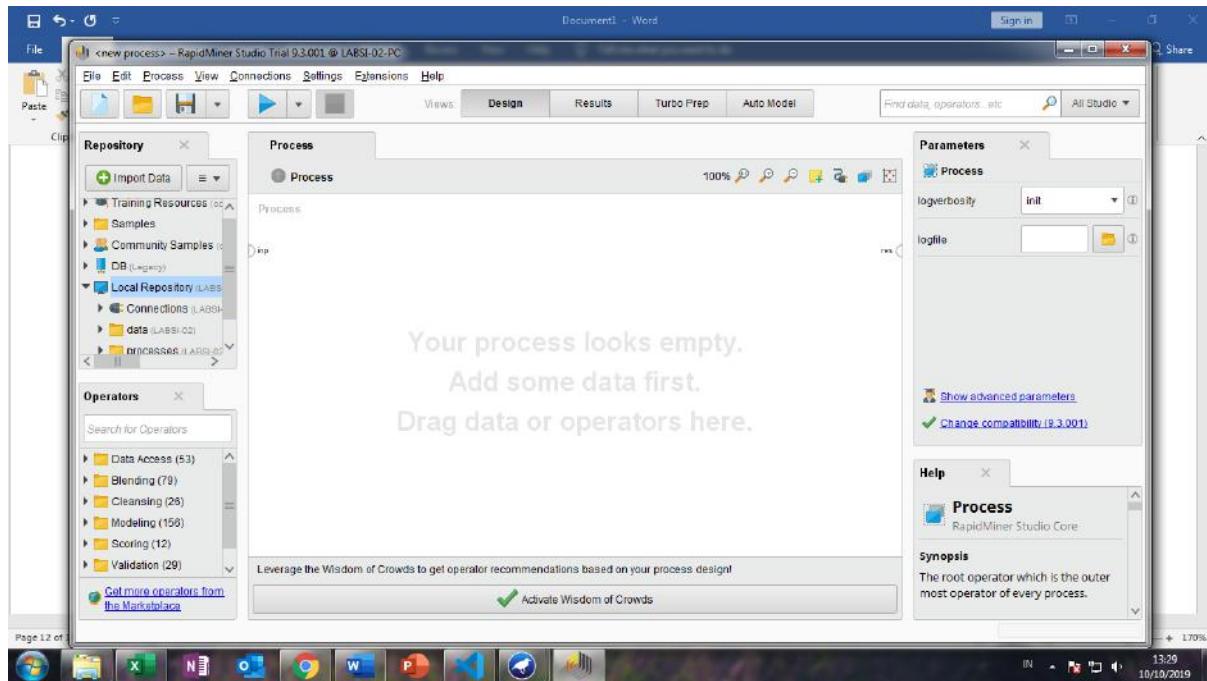
9. Simpan dengan nama **Tabel\_SekolahTraining** dilanjutkan klik tombol **Finish**



10. Hasil import file **Tabel\_Cuaca.xls** pada Sheet1 akan ditampilkan

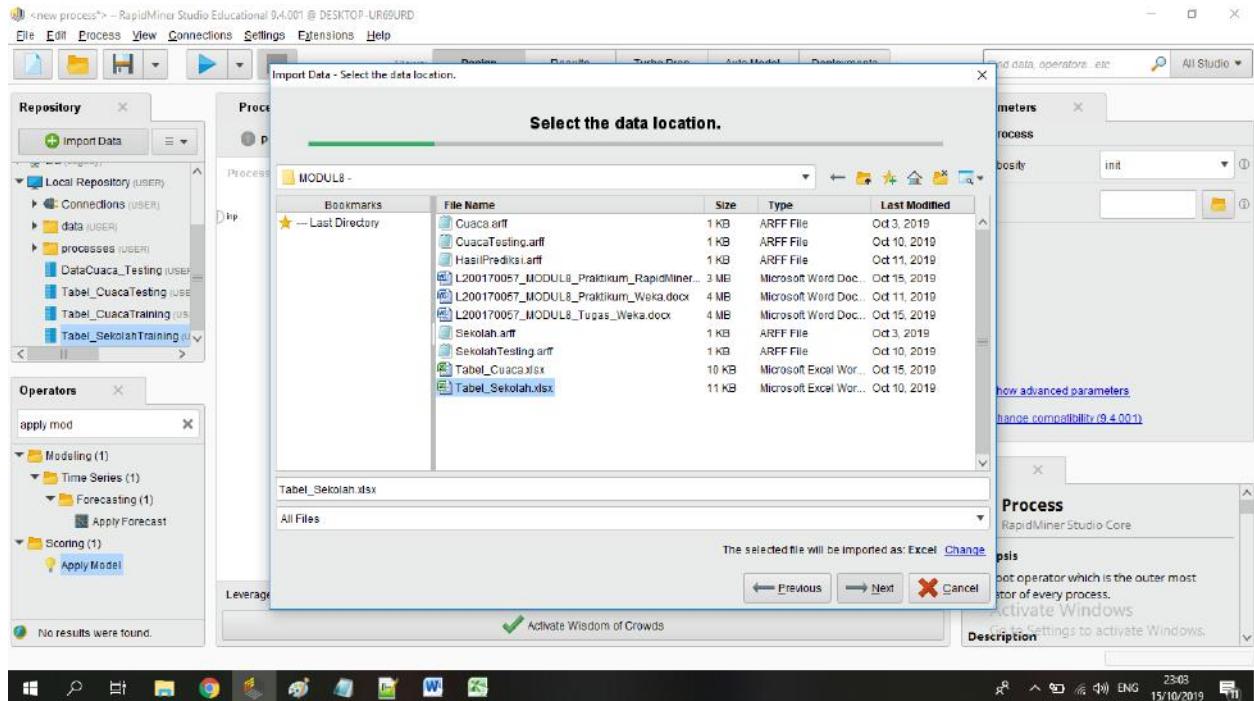
Row No.	Lama_Studi	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
1	TERLAMBAT	IPS	WANITA	SURAKARTA	18	TIDAK
2	TEPAT	IPA	PRIA	SURAKARTA	19	YA
3	TERLAMBAT	LAIN	PRIA	SURAKARTA	19	TIDAK
4	TERLAMBAT	IPA	PRIA	LUAR	17	TIDAK
5	TEPAT	IPA	WANITA	SURAKARTA	17	TIDAK
6	TEPAT	IPA	WANITA	LUAR	18	YA
7	TERLAMBAT	IPA	PRIA	SURAKARTA	18	TIDAK
8	TEPAT	IPA	PRIA	SURAKARTA	19	TIDAK
9	TERLAMBAT	IPS	PRIA	LUAR	18	TIDAK
10	TEPAT	LAIN	WANITA	SURAKARTA	18	TIDAK
11	TEPAT	IPA	WANITA	SURAKARTA	19	TIDAK
12	TEPAT	IPS	PRIA	SURAKARTA	20	TIDAK
13	TEPAT	IPS	PRIA	SURAKARTA	19	TIDAK
14	TEPAT	IPA	PRIA	SURAKARTA	19	TIDAK

## 11. Kembali ke jendela Design Perspective



12. Lakukan hal yang sama untuk data testing yang diambil dari **Tabel\_Sekolah.xls** pada Sheet2 (Testing)

- Klik **Import Data**. Arahkan direktori tempat penyimpanan file pada langkah **Select the data location**, kemudian pilih file yang digunakan dan klik **Next**



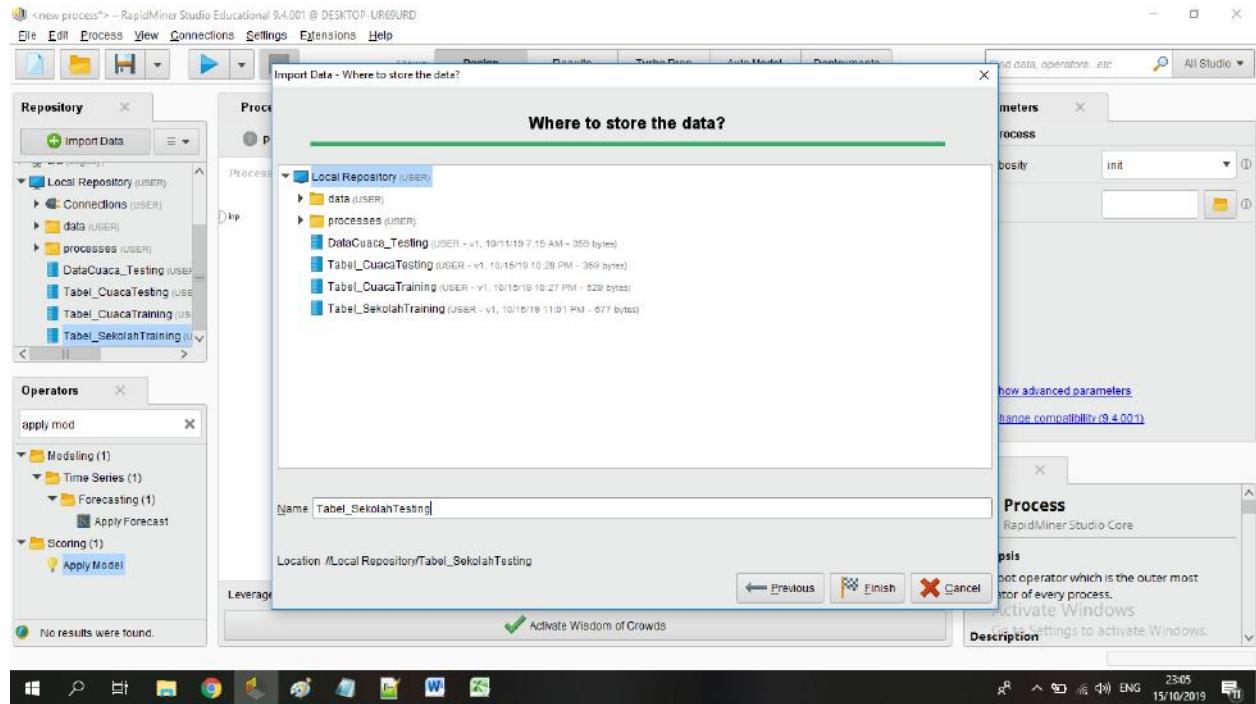
b. Pastikan sel Excel sesuai di langkah **Select the cells to import**

A	B	C	D	E	F
1	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
2	LAIN	WANITA	SURAKARTA	18.000	TIDAK
3	IPA	PRIA	SURAKARTA	19.000	YA
4	LAIN	PRIA	SURAKARTA	19.000	TIDAK
5	IPS	PRIA	LUAR	17.000	TIDAK
6	LAIN	WANITA	SURAKARTA	17.000	TIDAK
7	IPA	WANITA	LUAR	18.000	YA
8	IPA	PRIA	SURAKARTA	18.000	TIDAK
9	IPA	PRIA	SURAKARTA	19.000	TIDAK
10	IPS	PRIA	LUAR	18.000	TIDAK
11	LAIN	WANITA	SURAKARTA	18.000	TIDAK

c. Langkah Format your columns

Jurusan_SMA	Gender	Asal_Sekolah	Rerata_SKS	Asisten
1	WANITA	SURAKARTA	18	TIDAK
2	IPA	SURAKARTA	19	YA
3	PRIA	SURAKARTA	19	TIDAK
4	IPS	PRIA	17	TIDAK
5	LAIN	WANITA	17	TIDAK
6	IPA	LUAR	18	YA
7	IPA	SURAKARTA	18	TIDAK
8	IPA	LUAR	19	TIDAK
9	IPS	PRIA	18	TIDAK
10	LAIN	WANITA	19	TIDAK

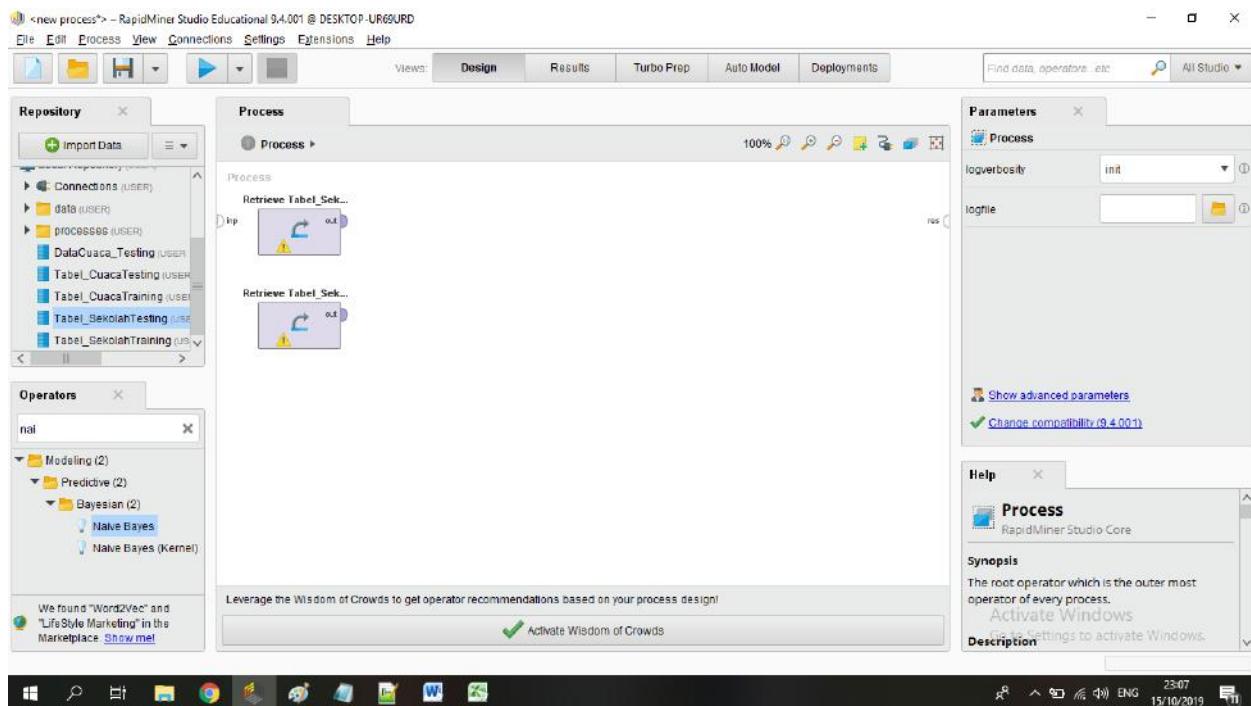
13. Simpan dengan nama **Tabel\_SekolahTesting** dilanjutkan klik tombol **Finish**



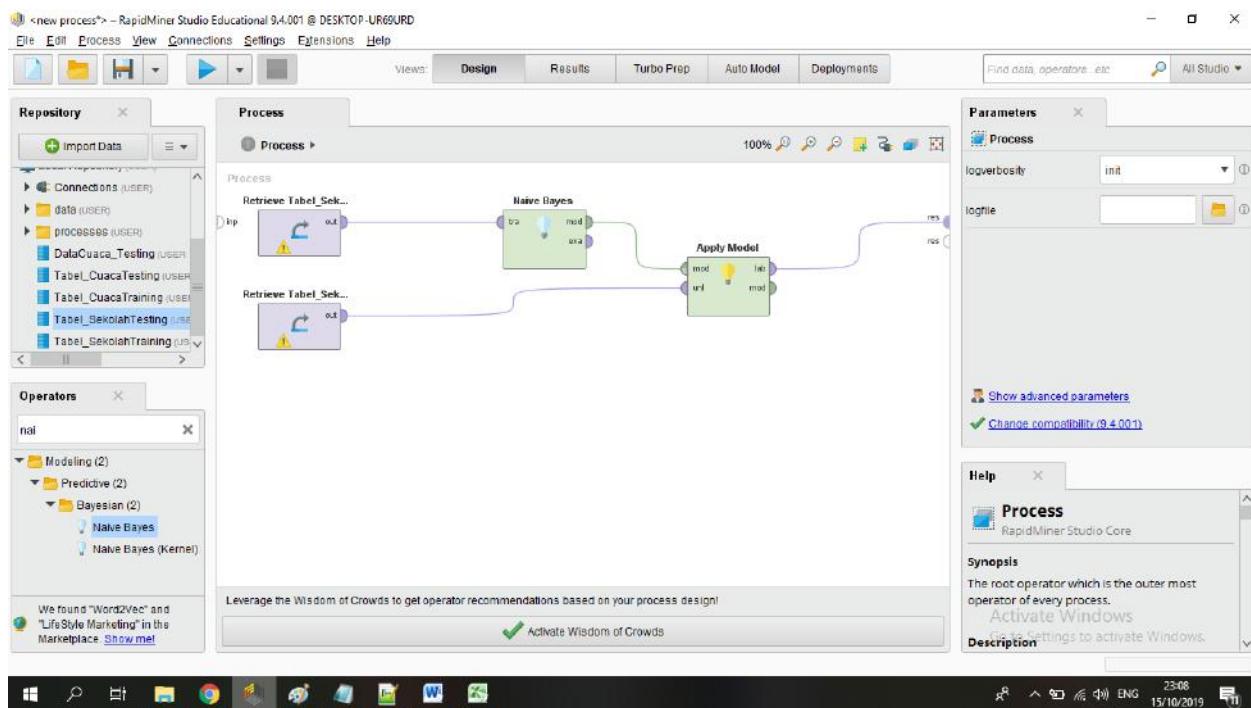
Hasil import file **Tabel\_Cuaca.xls** pada Sheet1 akan ditampilkan

Row No.	Jurusan_SMA	Gender	Asal_Sekolah	Rata_rata_SKS	Asisten
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

14. Membuat desain Naïve Bayes. Drag **Tabel\_SekolahTraining** dan **Tabel\_SekolahTesting** ke dalam jendela Process View



15. Masukkan juga operator **Naïve Bayes** dan **Apply Model** ke dalam Process View. Hubungkan konektor masing – masing data terhadap operator



16. Jalankan proses naïve bayes dengan menekan tombol **Run**



17. Pada tab **Data**, dapat dilihat hasil prediksi terhadap data testing serta tingkat confidence nilai kelas pada masing – masing data

Row No.	prediction(Lama_Studi)	confidence(TEPAT)	confidence(TERLAMBAT)	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	0.650	0.350	LAIN	PRIA	SURAKARTA	19	TIDAK
4	TERLAMBAT	0.666	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	0.811	0.189	IPS	PRIA	LUAR	18	TIDAK
10	TERLAMBAT	0.648	0.352	LAIN	WANITA	SURAKARTA	18	TIDAK

Pada tab **Statistics**, dapat dilihat bahwa distribusi nilai kelas pada variable Y (Bermain\_Tenis) rerata nilai confidence sebesar 0,353 untuk nilai TIDAK, dan 0,647 untuk nilai YA

Name	Type	Missing	Statistics	Filter (8 / 8 attributes):	Search for Attribute
<b>prediction(Lama_Studi)</b>	Polynomial	0	Least: TEPAT (3) Most: TERLAMBAT (7) Values: TERLAMBAT (7), TEPAT (3)		
<b>confidence(TERLAMBAT)</b>	Real	0	Min: 0.005 Max: 0.868 Average: 0.524		
<b>confidence(TEPAT)</b>	Real	0	Min: 0.132 Max: 0.995 Average: 0.476		
<b>Jurusan_SMA</b>	Polynomial	0	Least: IPS (2) Most: IPA (4) Values: IPA (4), LAIN (4)		
<b>Gender</b>	Polynomial	0	Least: WANITA (4) Most: PRIA (6) Values: PRIA (6), WANITA (4)		
<b>Asal_Sekolah</b>	Polynomial	0	Least: LUAR (3) Most: SURAKARTA (7) Values: SURAKARTA (7), LUAR (3)		
<b>Rerata_SKS</b>	Integer	0	Min: 17 Max: 19 Average: 18.100		

No. 4

Rerata confidence TEPAT = 0.476

Rerata confodence TERLAMBAT = 0.524

No. 5

Jml lulus TEPAT = 3

Jml lulus TERLAMBAT = 7

No. 6, 7

The screenshot shows the RapidMiner Studio interface. The title bar reads "<new process> - RapidMiner Studio Trial 9.3.001 @ LABSI-03-PC". The menu bar includes File, Edit, Process, View, Connections, Settings, Extensions, Help. The toolbar has icons for New, Open, Save, Run, Stop, and Exit. The Views dropdown is set to Results. The main area displays a Data table titled "ExampleSet (Apply Model)". The table has columns: Row No., prediction(...), confidence(...), confidence(...), Jurusan\_SMA, Gender, Asal\_Sekolah, Rerata\_Sek..., and Asisten. Rows 1 and 2 show predictions TEPAT with confidence values 0.298 and 0.078 respectively. The Jurusan\_SMA column shows IPA and LAIN. The Gender column shows WANITA and PRIA. The Asal\_Sekolah column shows LUAR and SURAKARTA. The Rerata\_Sek... column shows 18 and 17. The Asisten column shows TIDAK and YA. A message at the bottom of the table says "ExampleSet (2 examples, 3 special attributes, 5 regular attributes)". To the right is a "Repository" sidebar with sections for Training Resources, Samples, Community Samples, DB (Legacy), Local Repository (LABSI-03), Connections, data (LABSI-03), and processes (LABSI-03). The processes section lists several files: DataCuaca\_Testing, DataCuaca\_Training, DataSMA\_Testing, DataSMA\_Training, and TugasSMA\_Testing. The status bar at the bottom shows "Downloading Parameter Statistics", "11:42", and "02/10/2019".

Row No.	prediction(...)	confidence(...)	confidence(...)	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_Sek...	Asisten
1	TEPAT	0.298	0.702	IPA	WANITA	LUAR	18	TIDAK
2	TEPAT	0.078	0.924	LAIN	PRIA	SURAKARTA	17	YA

PNama: Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

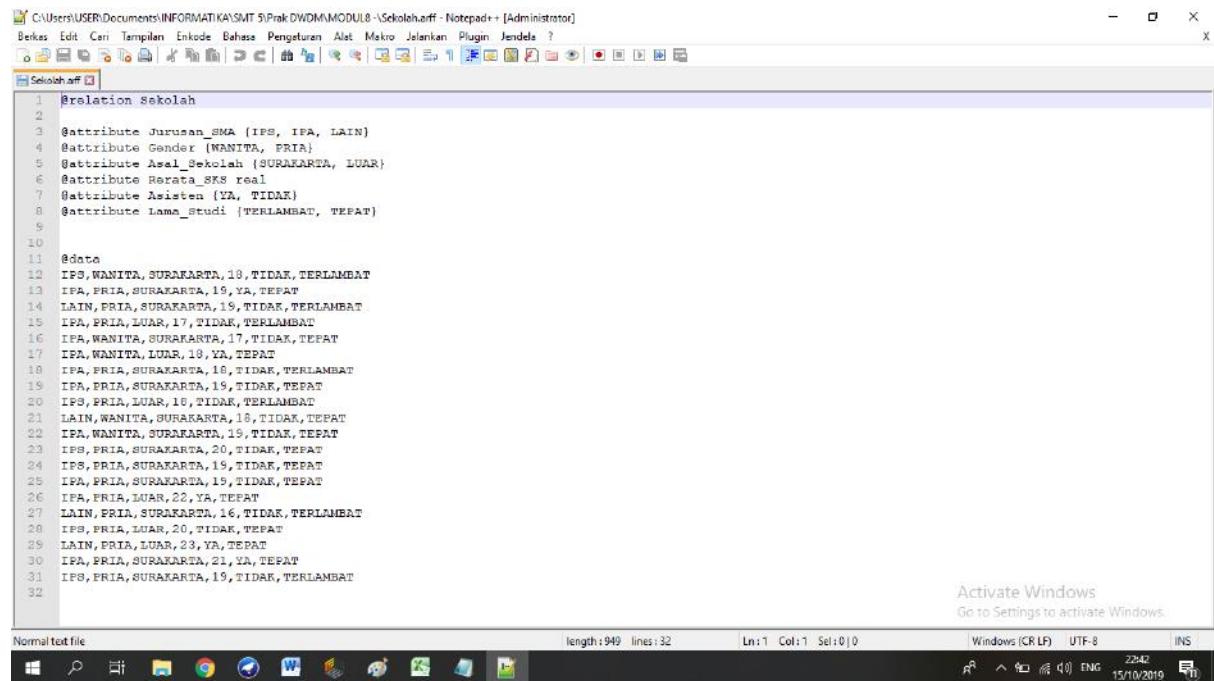
## MODUL 8

### KLASIFIKASI : NAÏVE BAYES

#### TUGAS

##### Implementasi Naïve Bayes dengan Weka

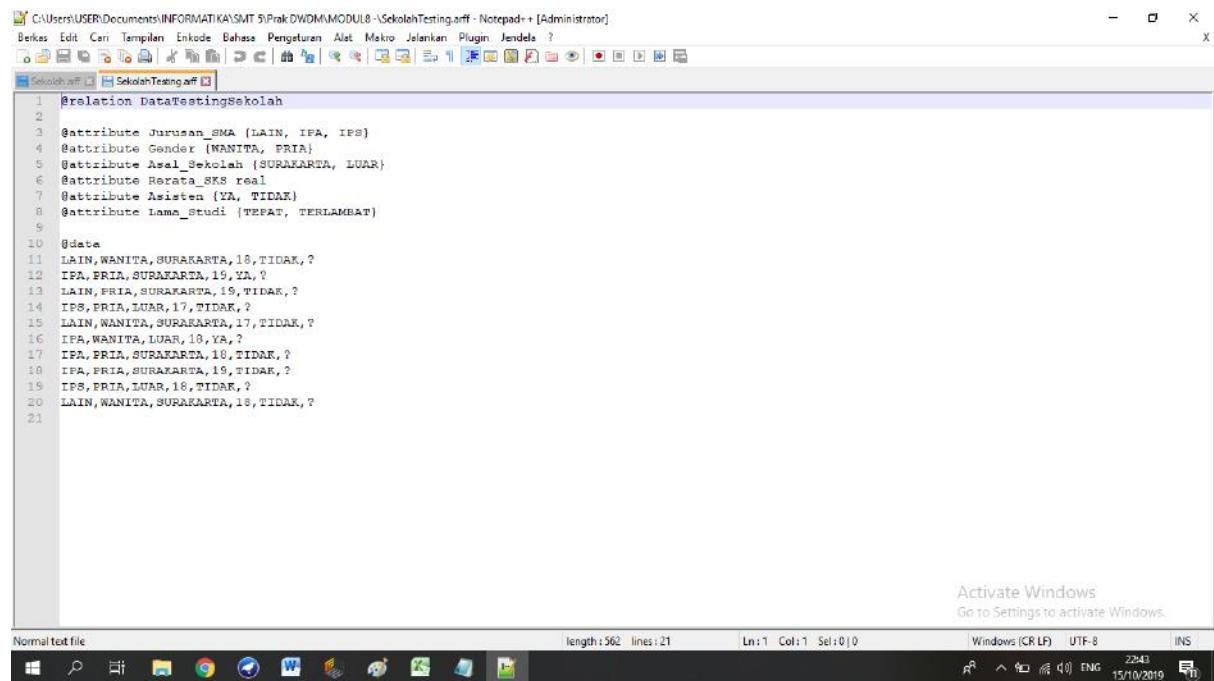
###### 1. Persiapkan file Sekolah.arff sebagai data training



```
@relation Sekolah
@attribute Jurusan_SMA {IPS, IPA, LAIN}
@attribute Gender {WANITA, PRIA}
@attribute Asal_Sekolah {SURAKARTA, LUAR}
@attribute Rerata_SKS real
@attribute Asisten {YA, TIDAK}
@attribute Lama_Studi {TERLAMBAT, TEPAT}

@data
IPS,WANITA,SURAKARTA,18,TIDAK,TERLAMBAT
IPA,PRIA,SURAKARTA,19,YA,TEPAT
LAIN,PRIA,SURAKARTA,19,TIDAK,TERLAMBAT
IPA,PRIA,LUAR,17,TIDAK,TERLAMBAT
IPA,WANITA,SURAKARTA,17,TIDAK,TEPAT
IPA,WANITA,LUAR,18,YA,TEPAT
IPA,PRIA,SURAKARTA,18,TIDAK,TERLAMBAT
IPA,PRIA,SURAKARTA,19,TIDAK,TEPAT
IPS,PRIA,LUAR,16,TIDAK,TERLAMBAT
LAIN,WANITA,SURAKARTA,18,TIDAK,TEPAT
IPA,WANITA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,SURAKARTA,20,TIDAK,TEPAT
IPS,PRIA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,SURAKARTA,19,TIDAK,TEPAT
IPA,PRIA,LUAR,22,YA,TEPAT
LAIN,PRIA,SURAKARTA,16,TIDAK,TERLAMBAT
IPS,PRIA,LUAR,20,TIDAK,TEPAT
LAIN,PRIA,LUAR,23,YA,TEPAT
IPA,PRIA,SURAKARTA,21,YA,TEPAT
IPS,PRIA,SURAKARTA,19,TIDAK,TERLAMBAT
```

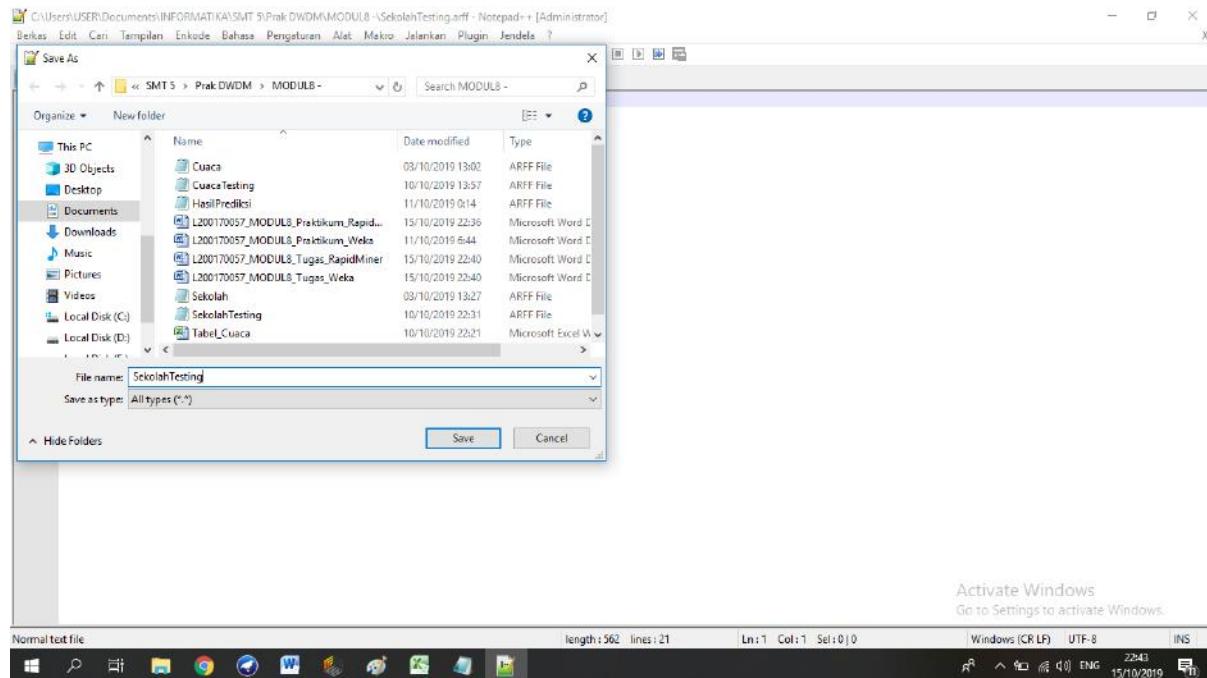
###### 2. Membuat Data Testing Cuaca



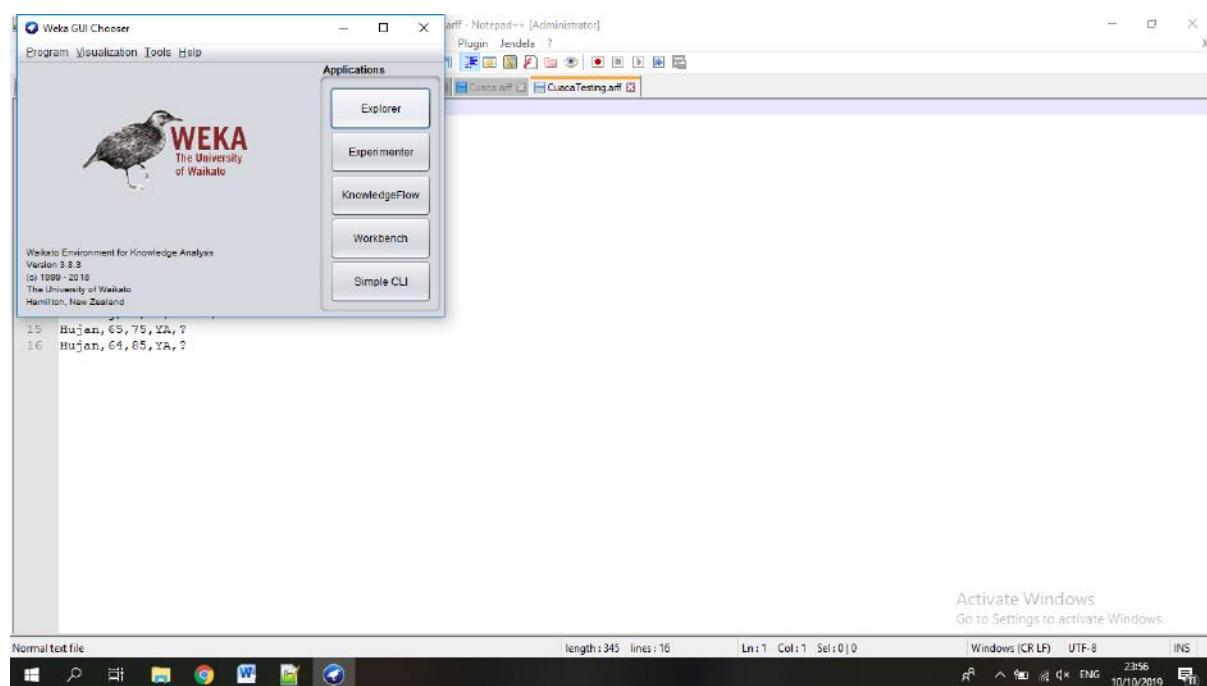
```
@relation DataTestingSekolah
@attribute Jurusan_SMA {LAIN, IPA, IPS}
@attribute Gender {WANITA, PRIA}
@attribute Asal_Sekolah {SURAKARTA, LUAR}
@attribute Rerata_SKS real
@attribute Asisten {YA, TIDAK}
@attribute Lama_Studi {TEPAT, TERLAMBAT}

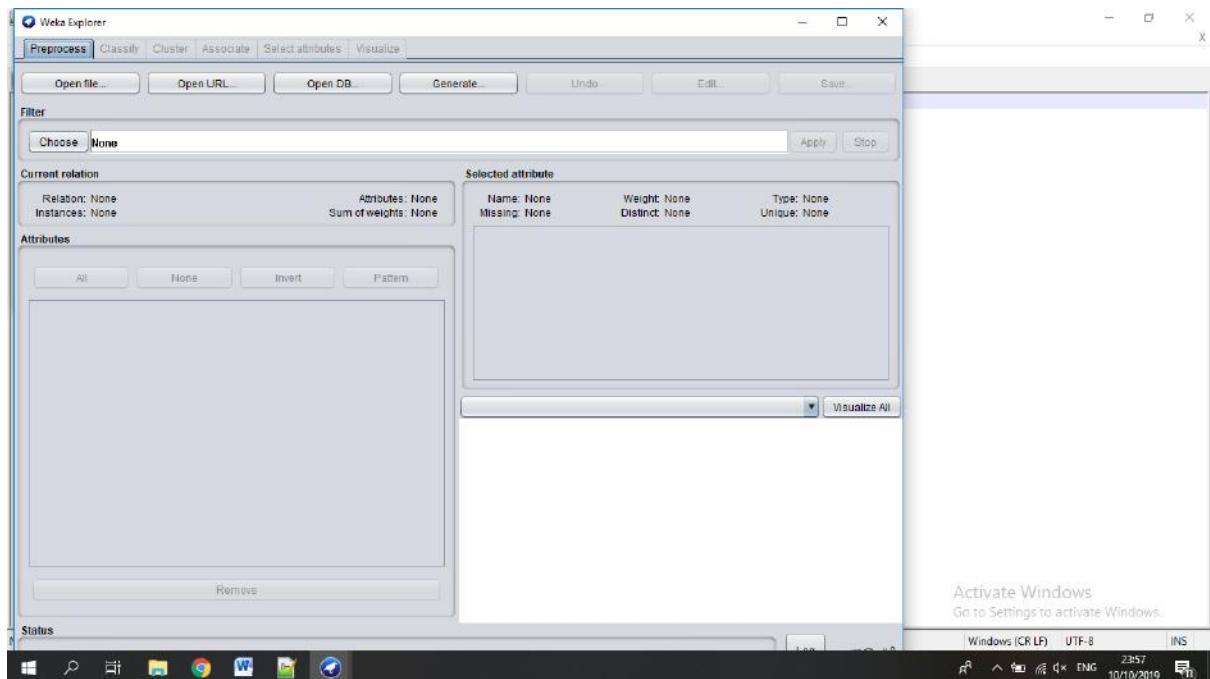
@data
LAIN,WANITA,SURAKARTA,18,TIDAK,?
IPA,PRIA,SURAKARTA,19,YA,?
LAIN,PRIA,SURAKARTA,19,TIDAK,?
IPS,PRIA,LUAR,17,TIDAK,?
LAIN,WANITA,SURAKARTA,17,TIDAK,?
IPA,WANITA,LUAR,18,YA,?
IPA,PRIA,SURAKARTA,18,TIDAK,?
IPA,PRIA,SURAKARTA,19,TIDAK,?
IPS,PRIA,LUAR,18,TIDAK,?
LAIN,WANITA,SURAKARTA,18,TIDAK,?
```

### 3. Simpan dengan nama SekolahTesting.arff

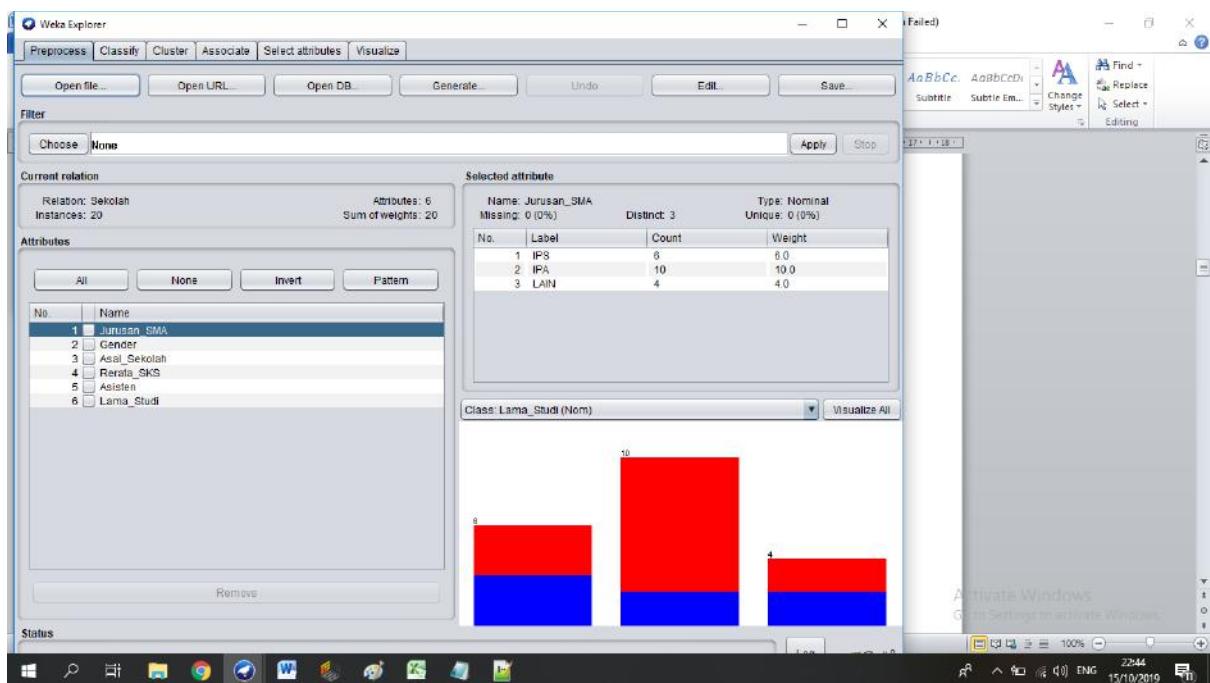


### 4. Membuka aplikasi Weka, masuk dalam menu Weka Explorer

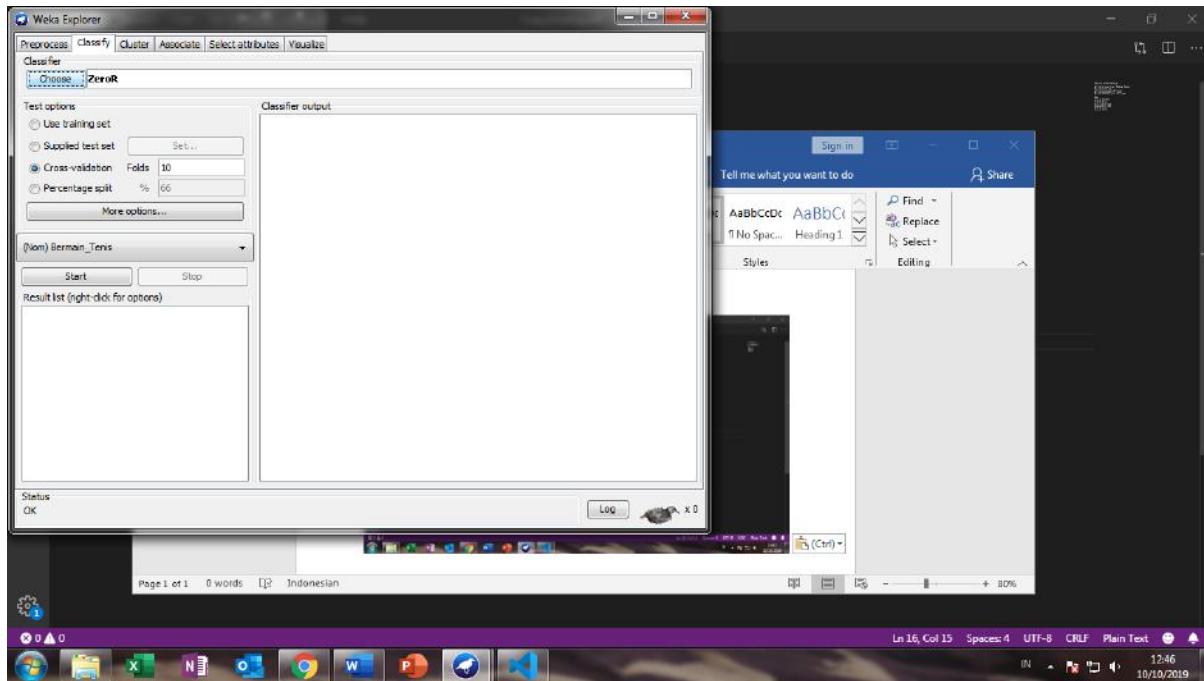




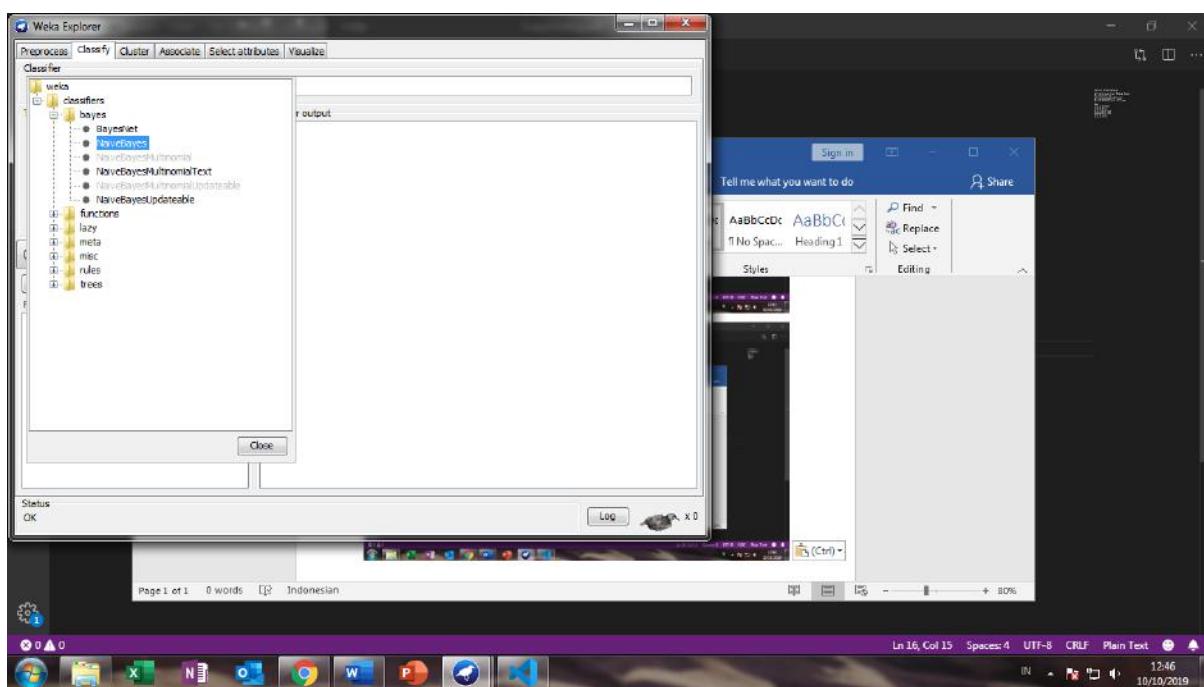
## 5. Membuka kembali file Sekolah.arff dengan Weka Explorer



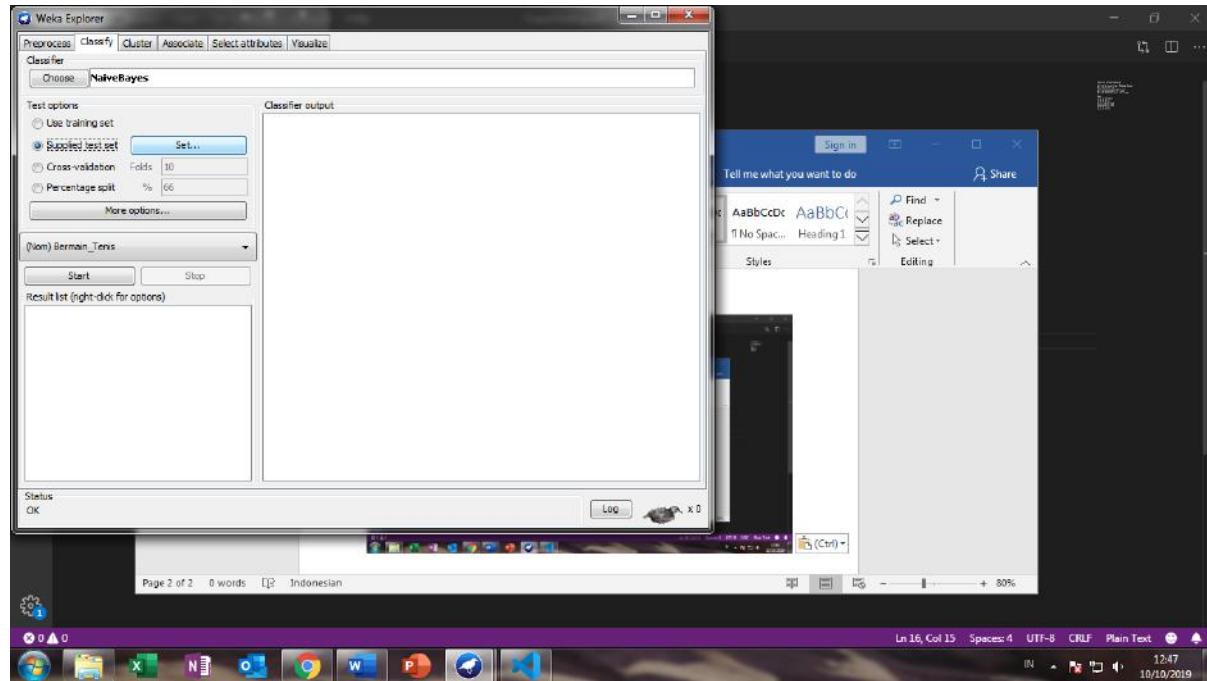
6. Pada jendela Weka Explorer, pilih tab **Classify**



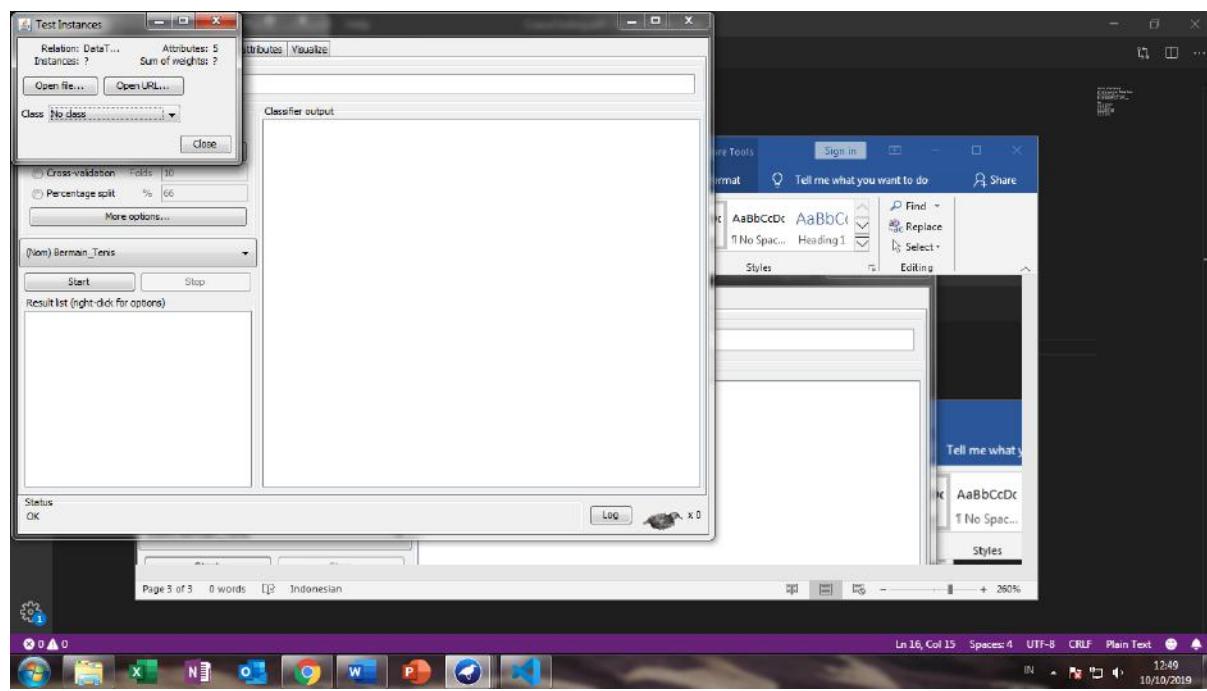
7. Klik tombol **Choose** untuk memilih metode / algoritma **Naïve Bayes**



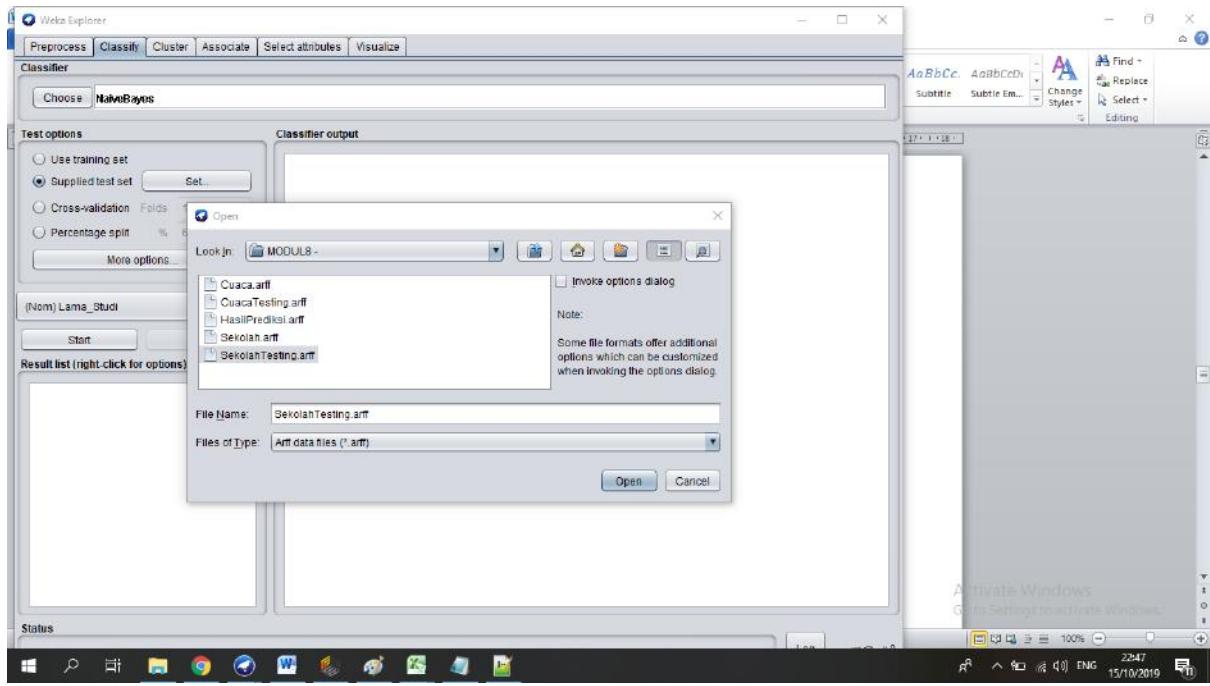
8. Menentukan **CuacaTesting.arff** sebagai data yang akan diprediksi variable dependennya
9. Pada menu Test Options terdapat 4 pilihan pengujian, yaitu: use training set; supplied test set; cross-validation, percentage split
10. Memilih **Supplied test set**. Klik tombol Set untuk menentukan file ARFF sebagai data uji



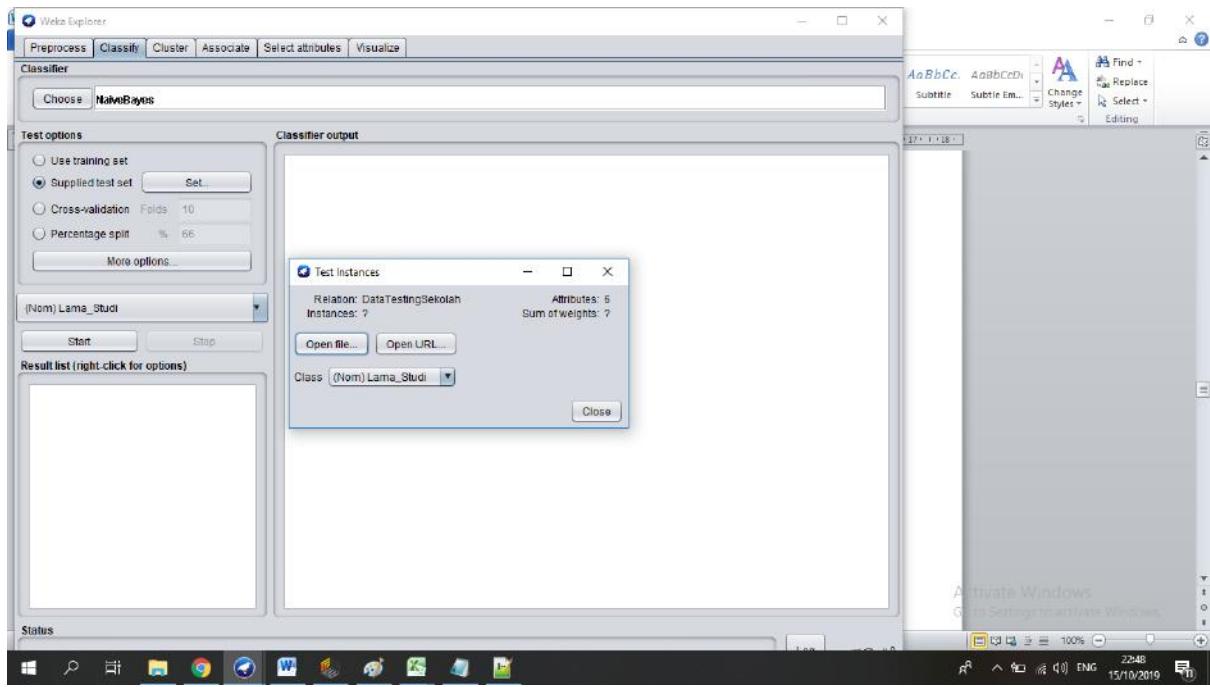
11. Akan muncul jendela Test Instance. Klik Open file...



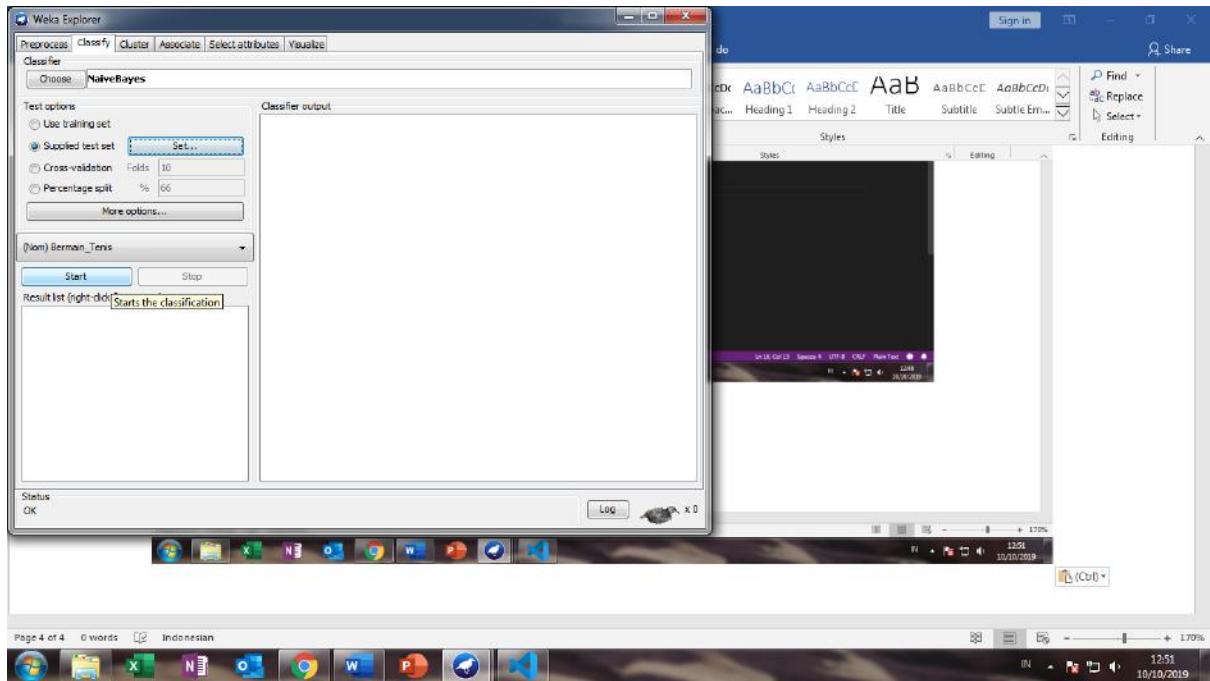
12. Pilih file **SekolahTesting.arff** sebagai data uji. Klik **Open**



13. File **SekolahTesting.arff** akan diset sebagai data uji pada jendela Test Instance dengan variable predictor (Class) adalah Bermain\_Tenis. Klik **Close**



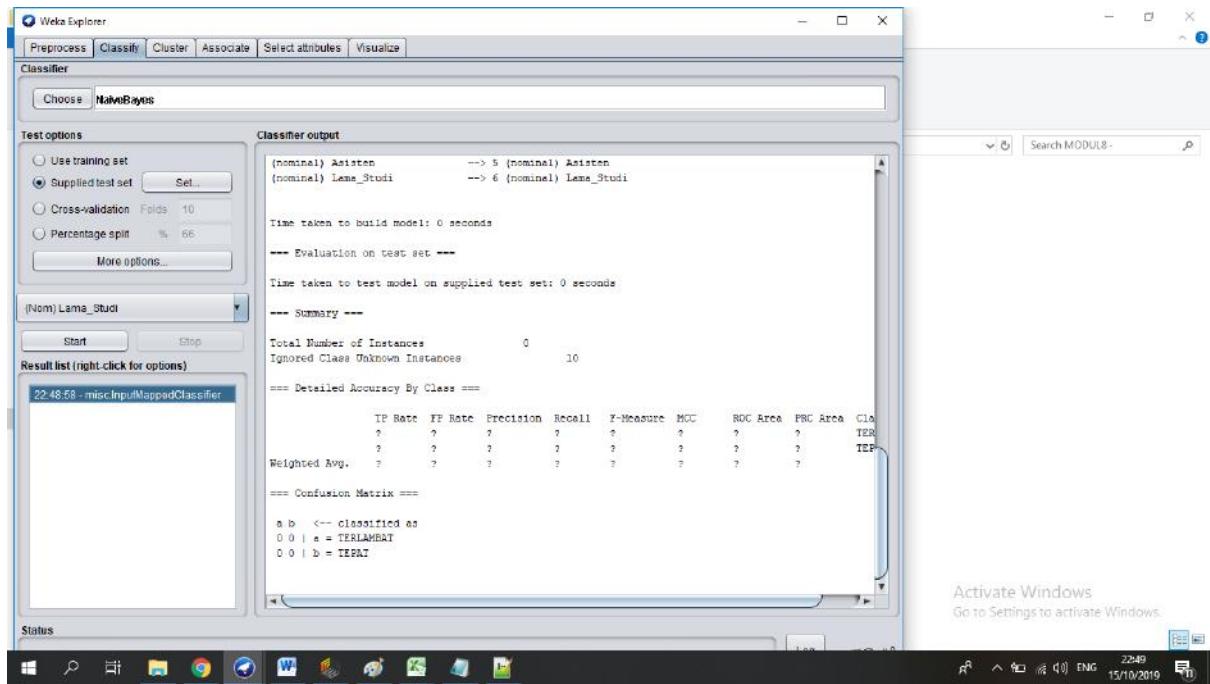
14. Klik start untuk memulai proses naïve bayes



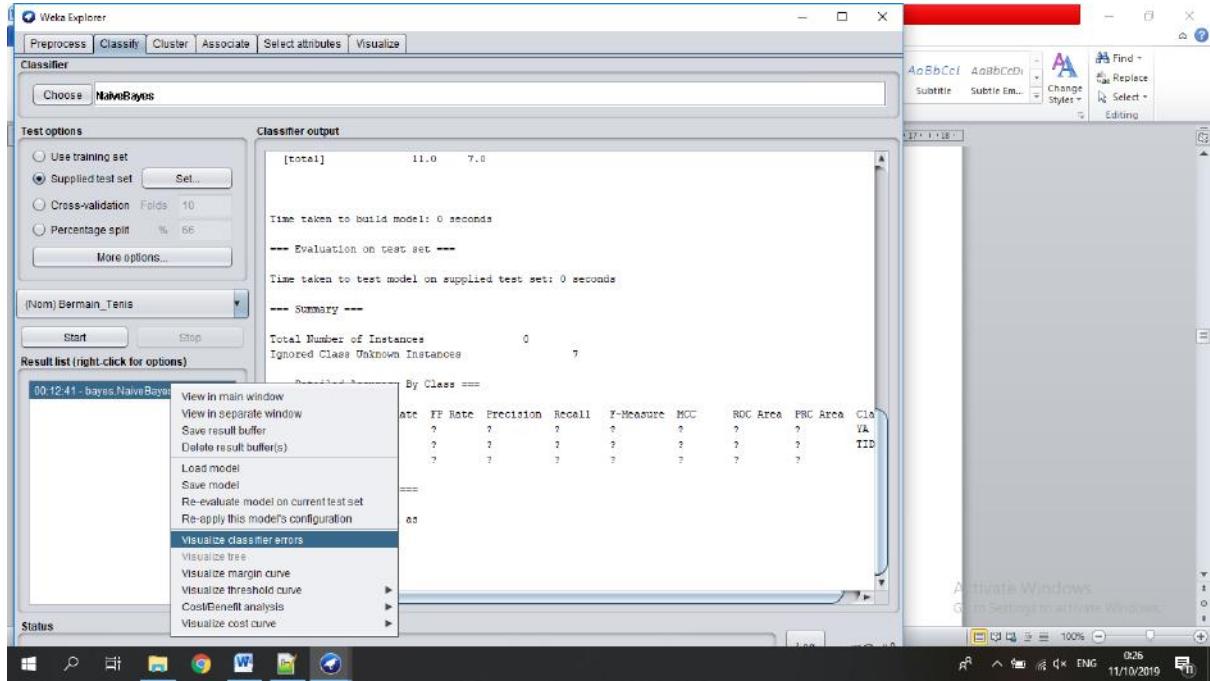
15. Jika muncul jendela pesan **Classifier Panel**, kita abaikan dengan mengklik Yes.

Sehingga algoritma naïve bayes akan diproses

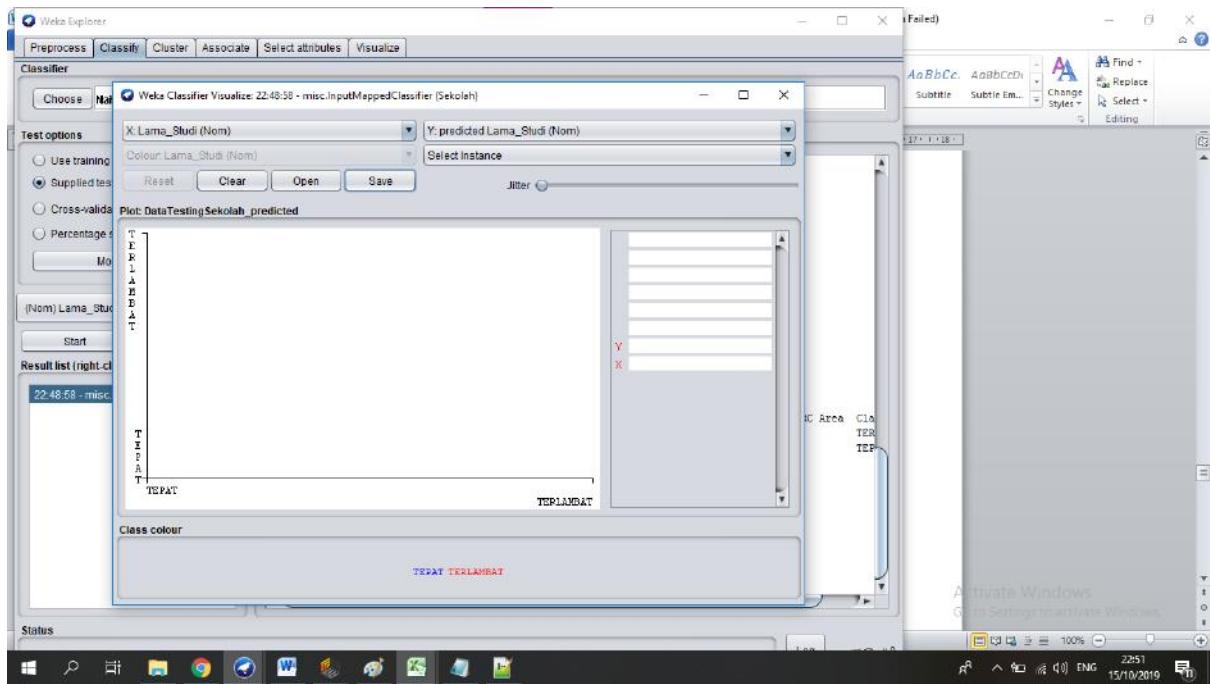
16. Abaikan nilai – nilai yang ditampilkan dalam jendela **Classifier Output**

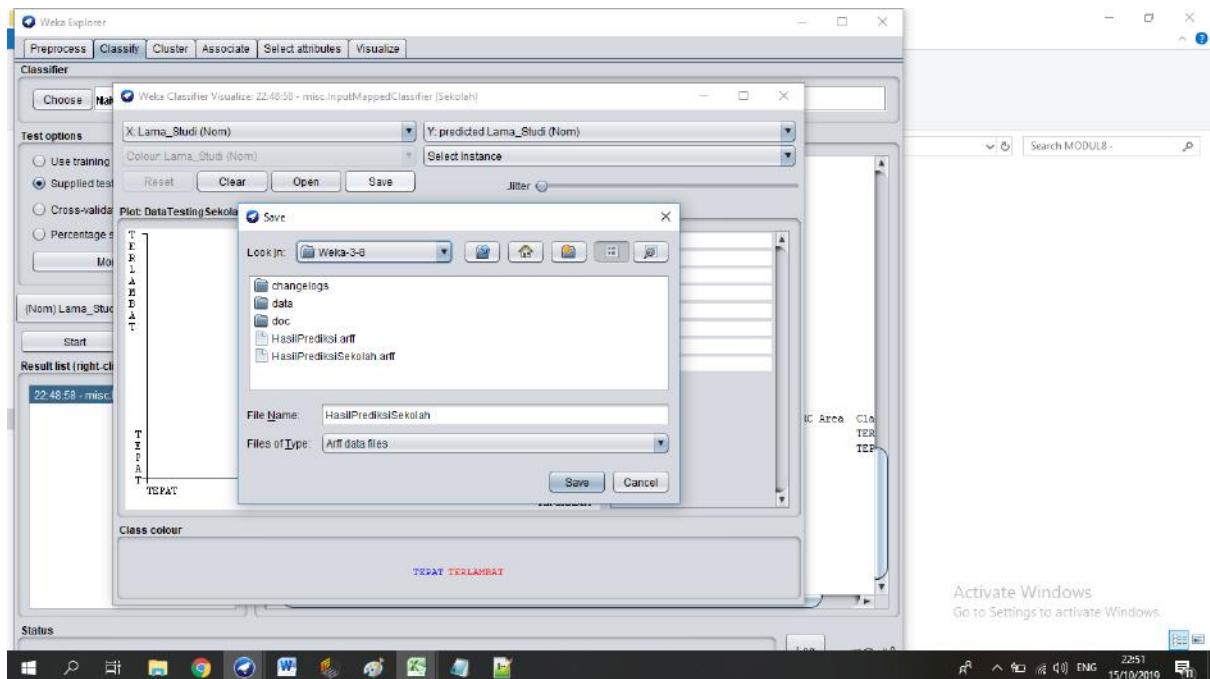


17. Melihat nilai **Classifier Error** dengan cara klik kanan pada hasil proses dalam kotak **result list**. Pilih menu **Visualize classifier errors**

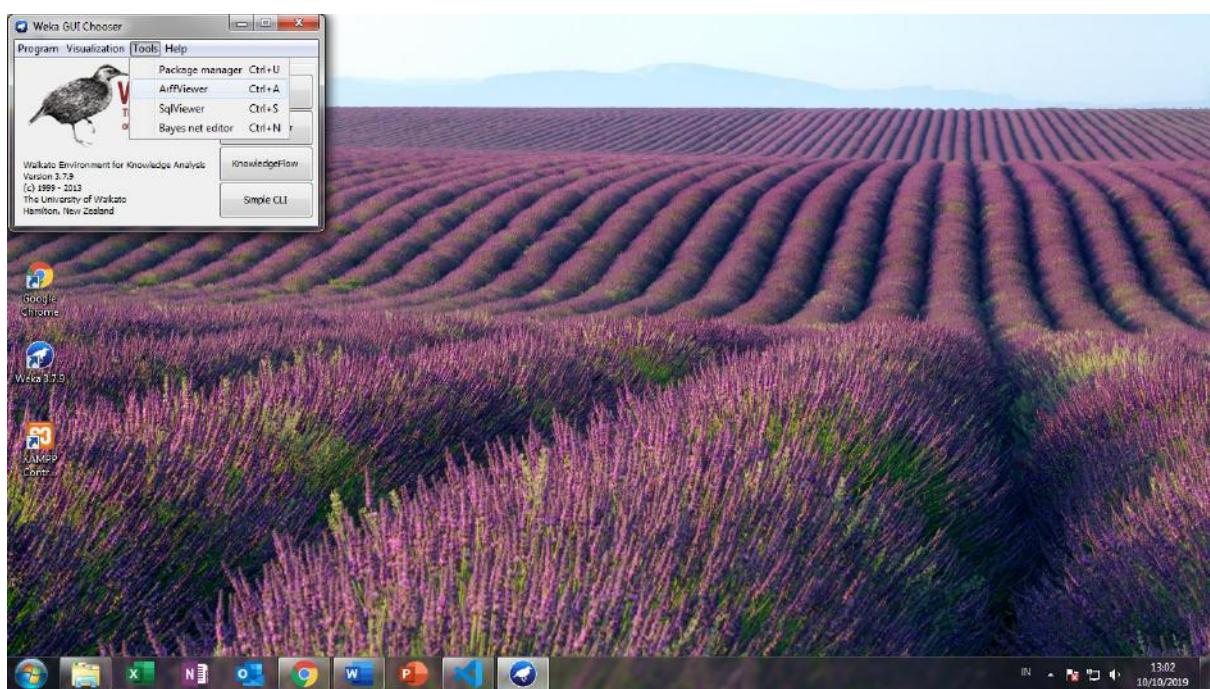


18. Klik save. Simpan dengan nama file **HasilPrediksi.arff**





### 19. Kembali ke Weka GUI Chooser. Pilih menu Tools - ArffViewer



20. Buka menu **File – Open**. Tunjukkan pada file **HasilPrediksi.arff**. Hasil prediksi telah diketahui pada kolom **predicted Bermain\_Tenis Nominal**

The screenshot shows the ARFF-Viewer application window. A 'File' menu is open, and the 'Open' option is selected. A file dialog box titled 'Open' is displayed, showing the path 'Look In: C:\Program Files\Weka-3-8'. Inside the dialog, there is a list of files: 'changeLogs', 'data', 'doc', 'HasilPrediksi.arff', and 'HasilPrediksiSekolah.arff'. The 'HasilPrediksiSekolah.arff' file is highlighted. Below the list, there are fields for 'File Name:' containing 'HasilPrediksiSekolah.arff' and 'Files of Type:' set to 'Arff data files (\*.arff)'. At the bottom of the dialog are 'Open' and 'Cancel' buttons, with 'Open' being the active button.

The screenshot shows the ARFF-Viewer application window with the 'HasilPrediksiSekolah.arff' file loaded. The interface includes a toolbar with 'File', 'Edit', and 'View' options. The main area displays a table with the following data:

No.	1: Jurusan	2: Gender	3: Asal_Sekolah	4: Rerata_SKS	5: Asisten	6: prediction margin	7: predicted_Lama_Studi	8: Lama_Studi	9: Nominal	10: Nominal
1	IPS	WANITA	SURAKARTA	18.0	TIDAK	0.375862	TEPAT			
2	IPA	PRIA	SURAKARTA	19.0	YA	-0.835469	TERLAMBAT			
3	IPS	PRIA	SURAKARTA	19.0	TIDAK	0.175169	TEPAT			
4	LAIN	PRIA	LUAR	17.0	TIDAK	0.713206	TEPAT			
5	IPS	WANITA	SURAKARTA	17.0	TIDAK	0.545946	TEPAT			
6	IPA	WANITA	LUAR	18.0	YA	-0.757815	TERLAMBAT			
7	IPA	PRIA	SURAKARTA	18.0	TIDAK	0.125076	TEPAT			
8	IPA	PRIA	SURAKARTA	19.0	TIDAK	-0.356012	TERLAMBAT			
9	LAIN	PRIA	LUAR	18.0	TIDAK	0.588286	TEPAT			
10	IPS	WANITA	SURAKARTA	18.0	TIDAK	0.375862	TEPAT			

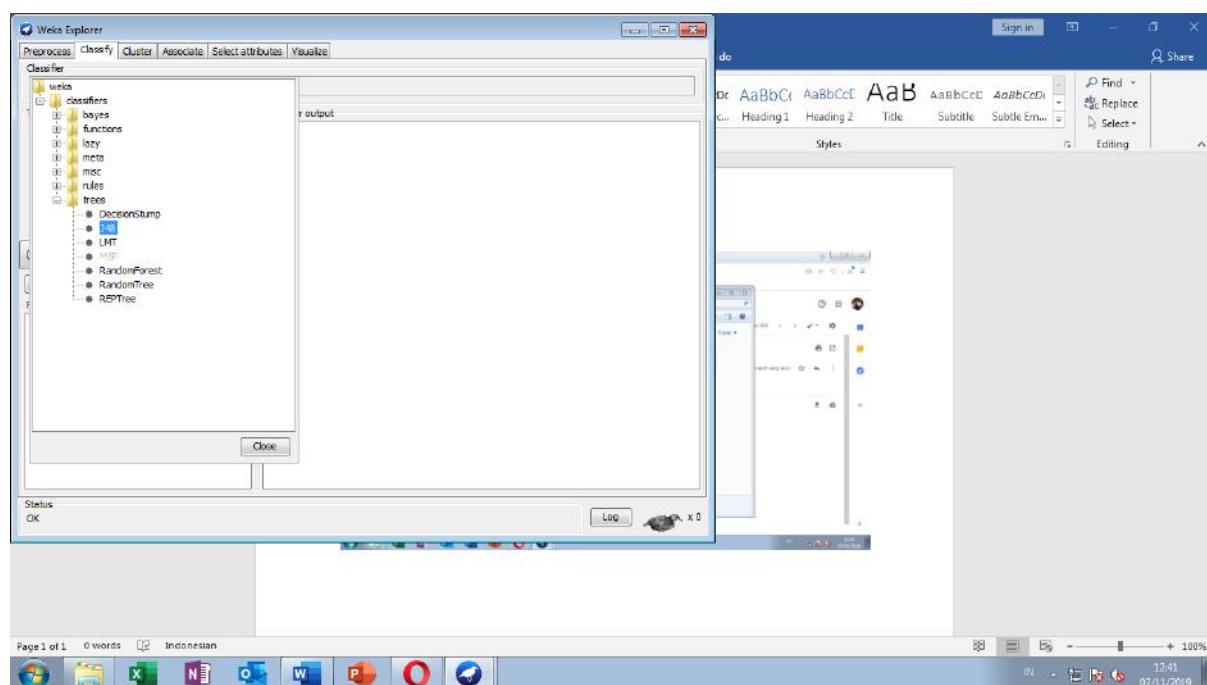
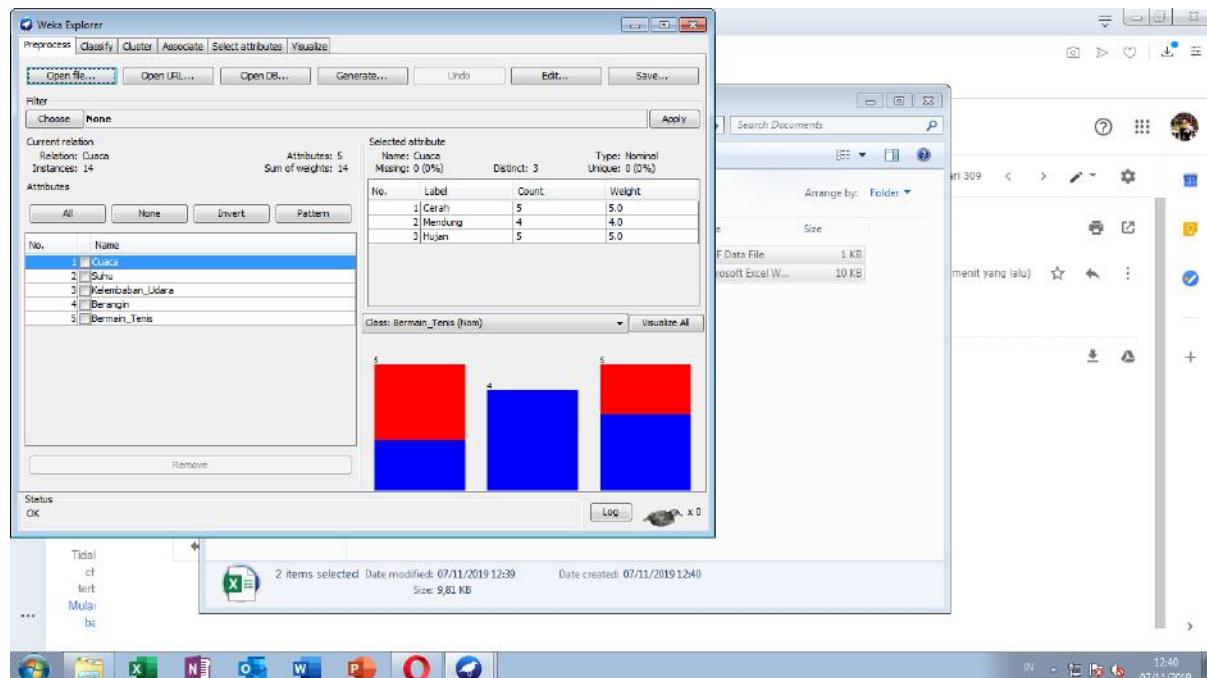
Nama : Titis Ulfa Mustikawati

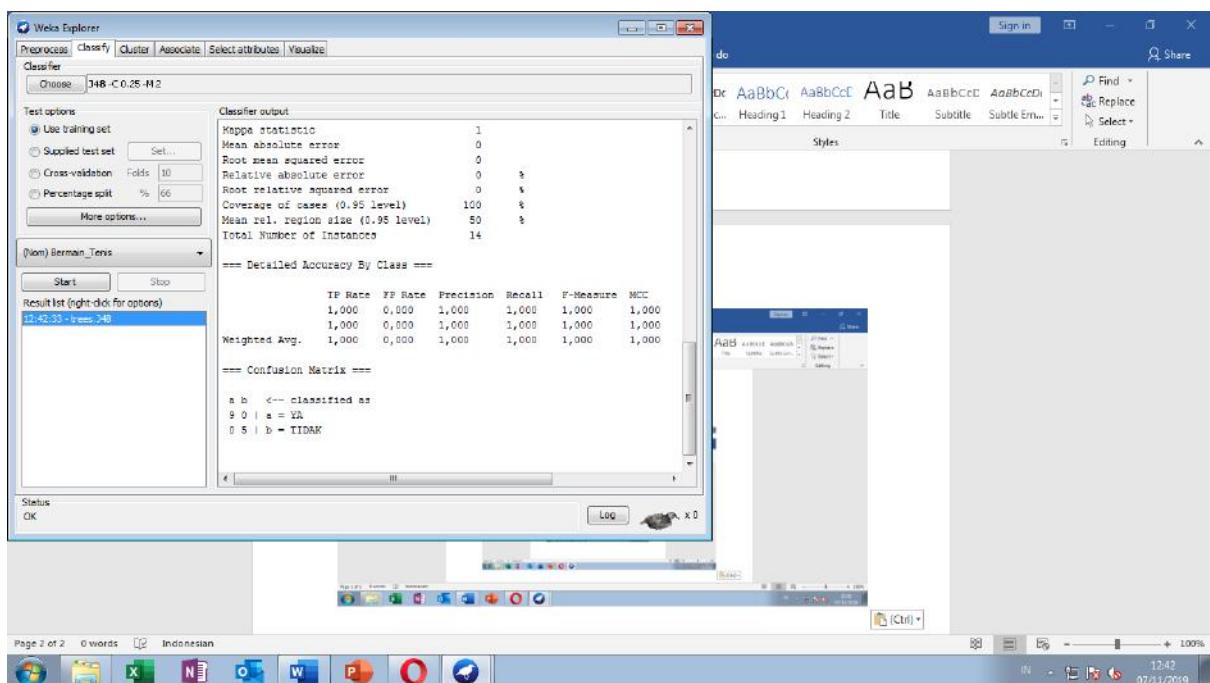
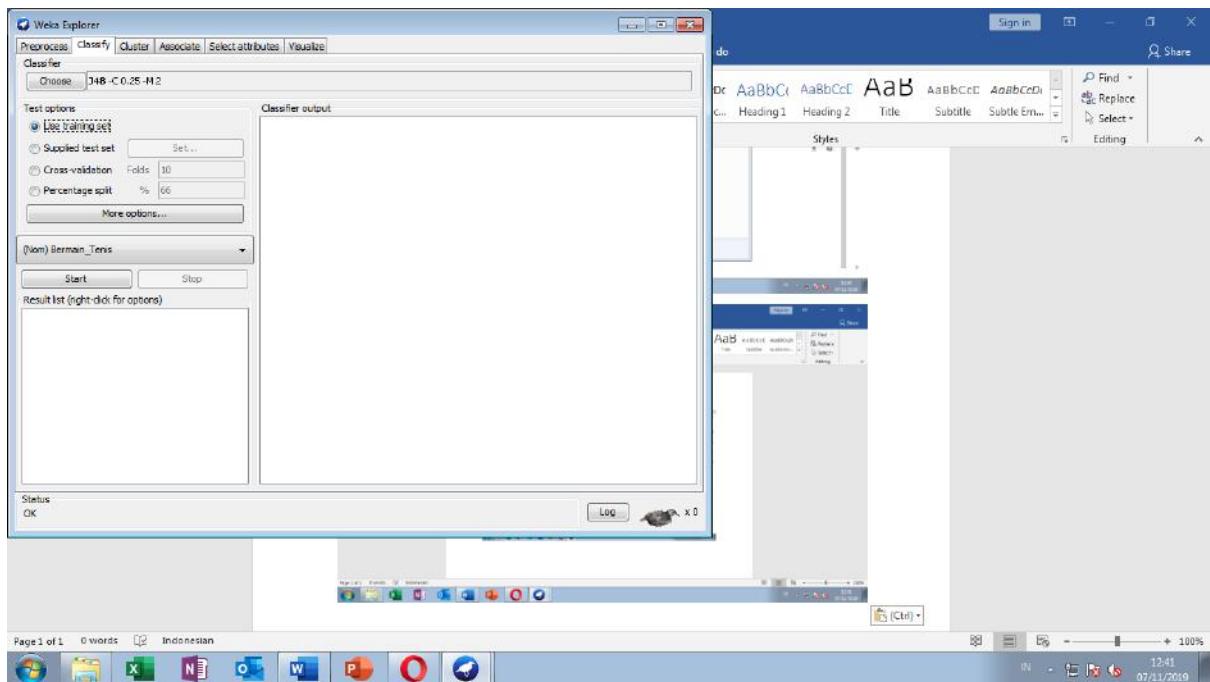
NIM : L200170057

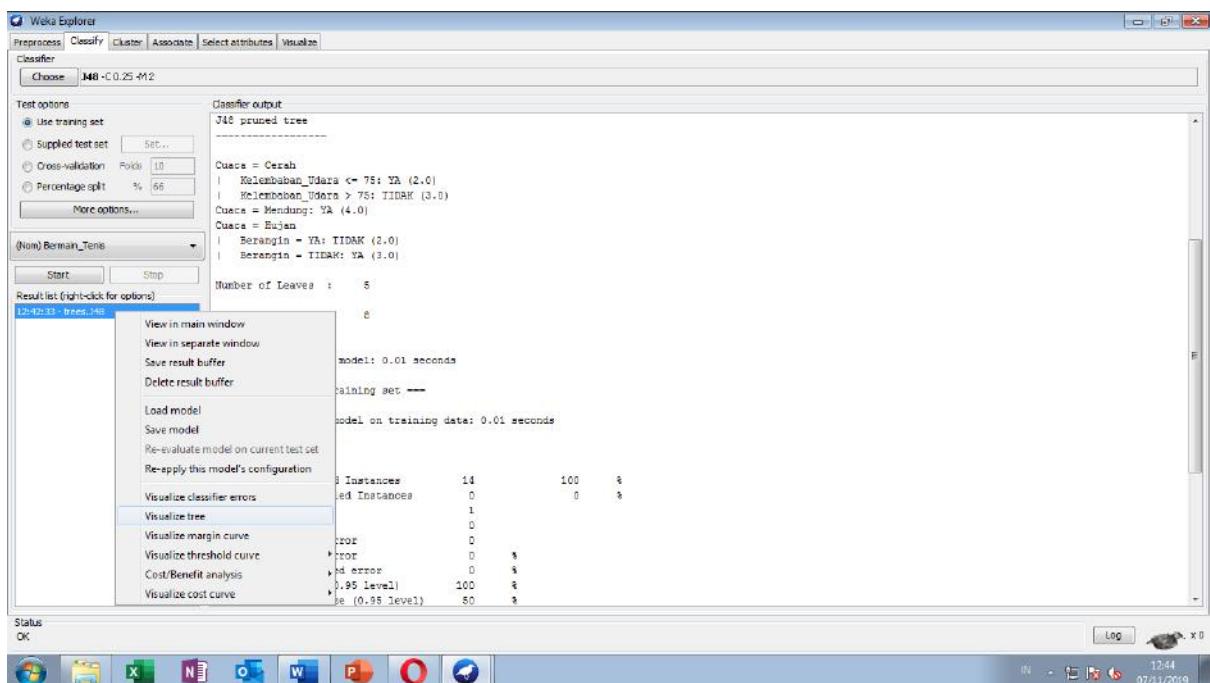
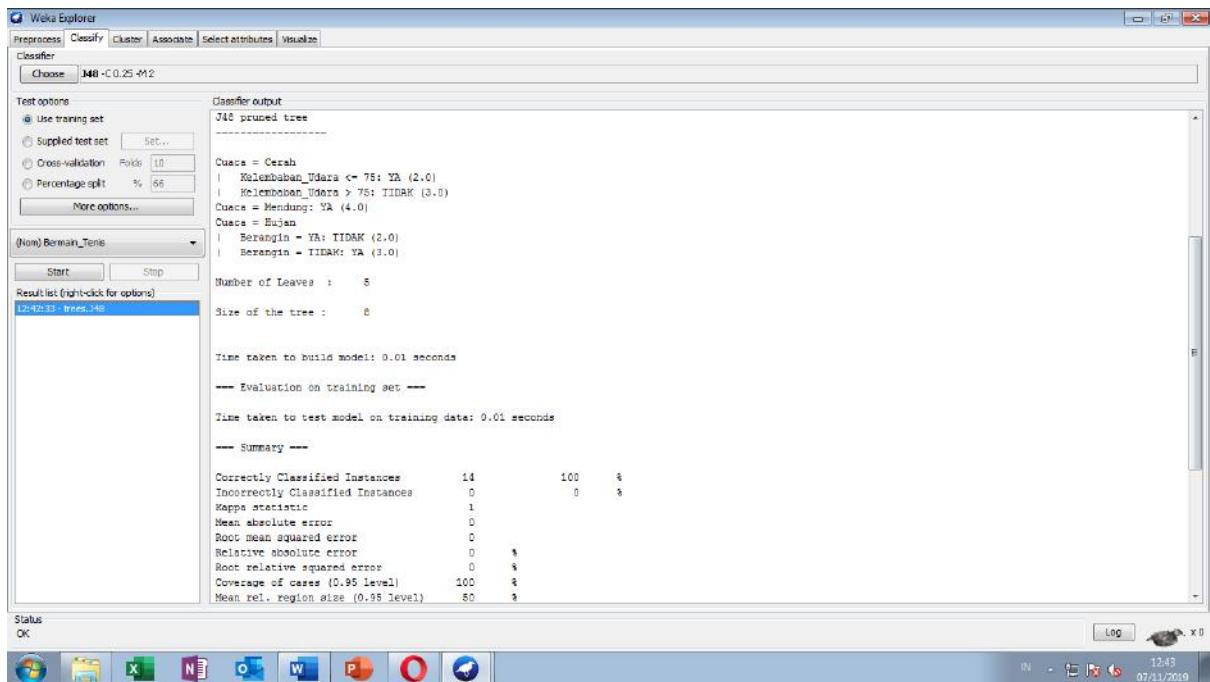
Kelas : C

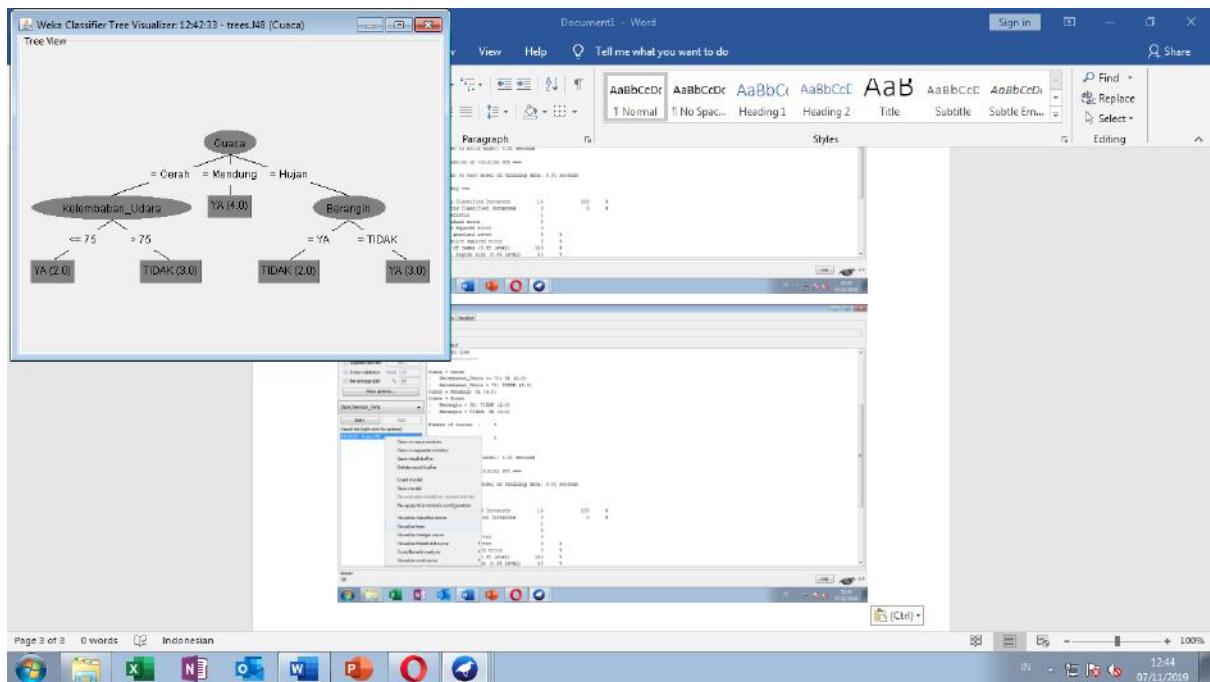
## MODUL 9

### LANGKAH – LANGKAH PRAKTIKUM POHON KEPUTUSAN MENGGUNAKAN WEKA

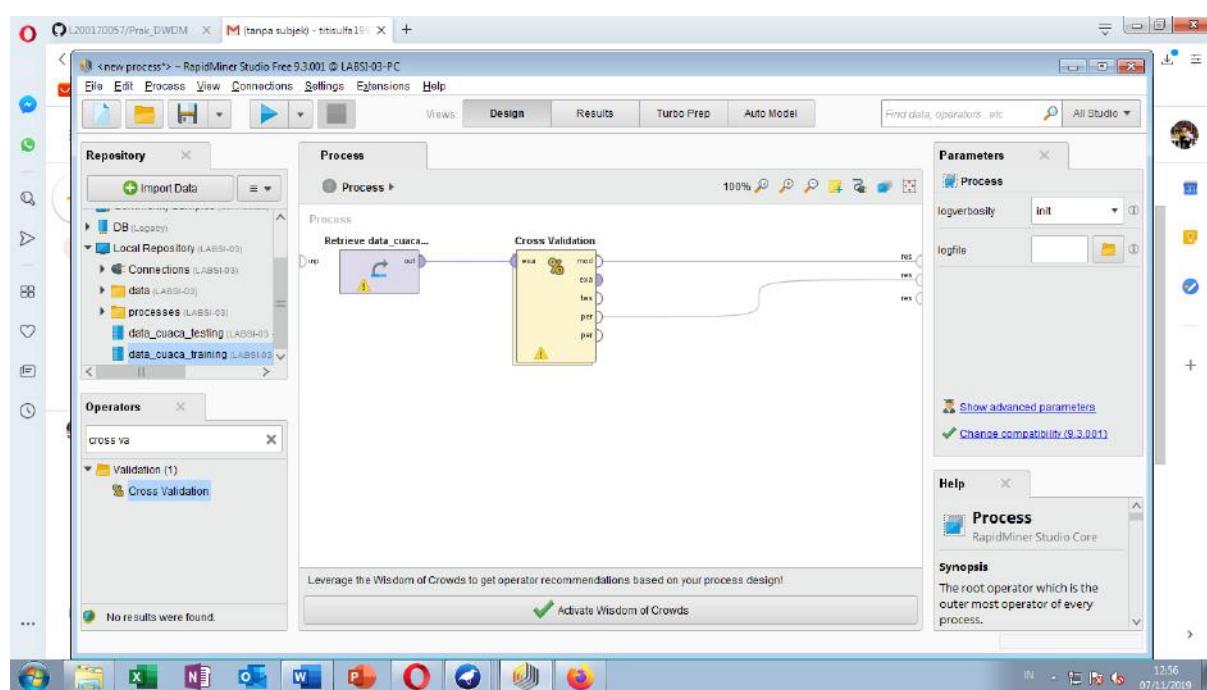
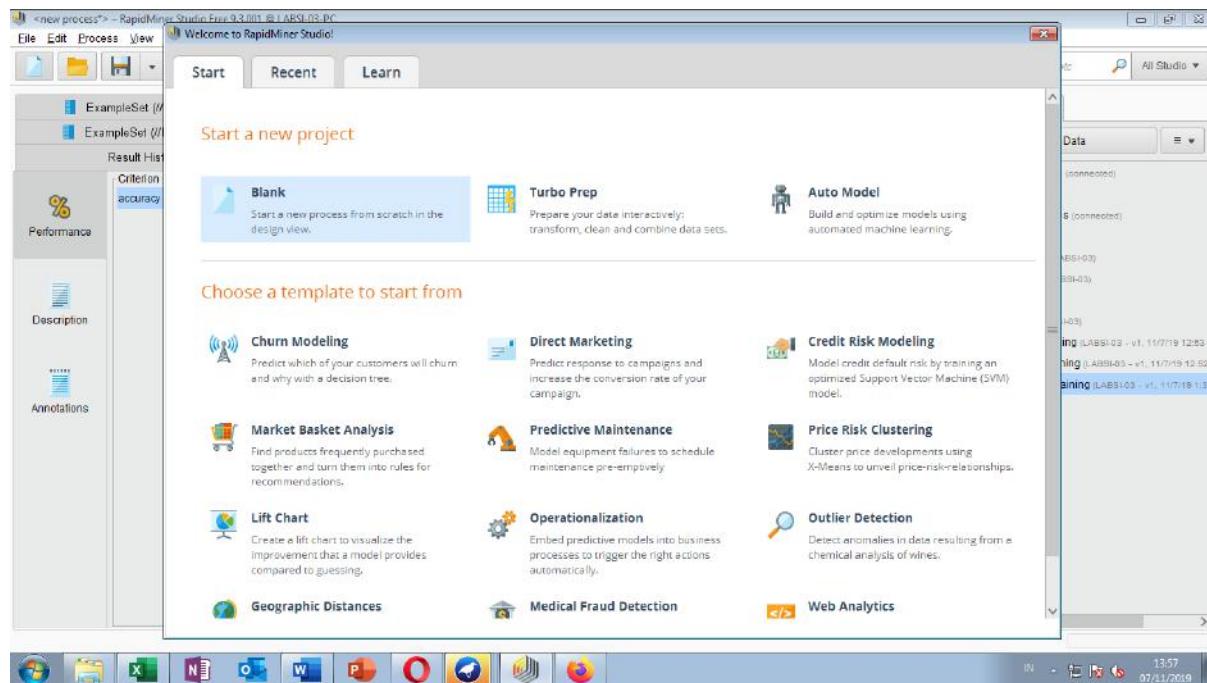


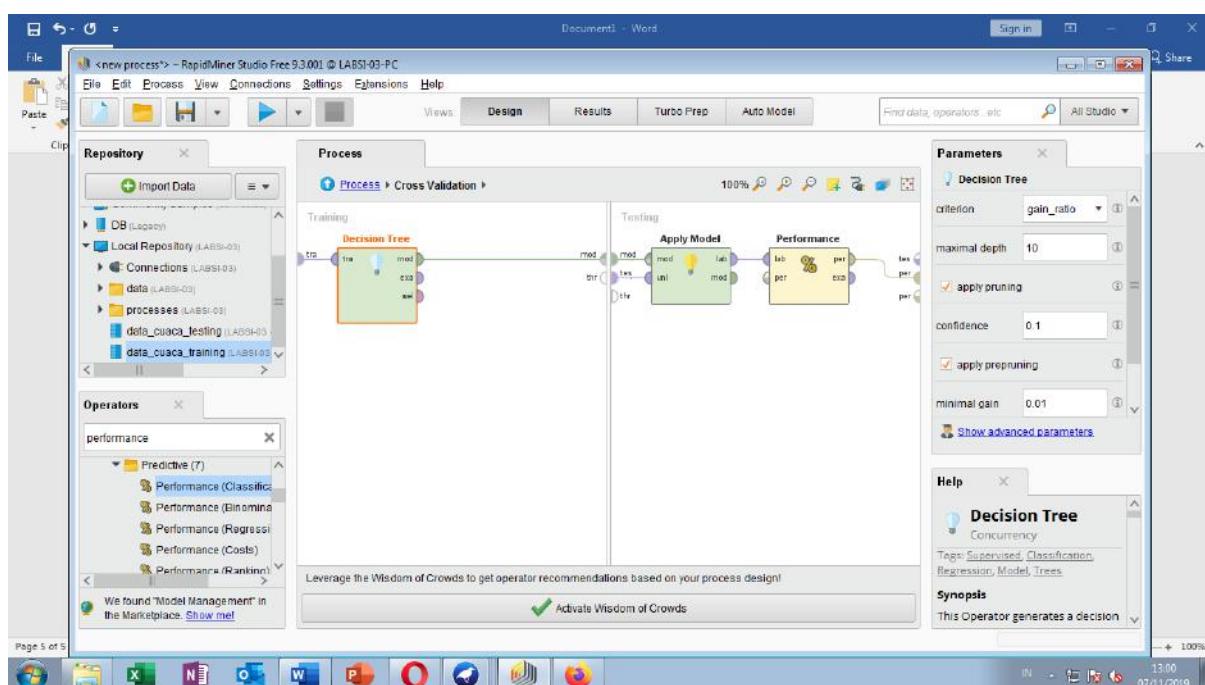
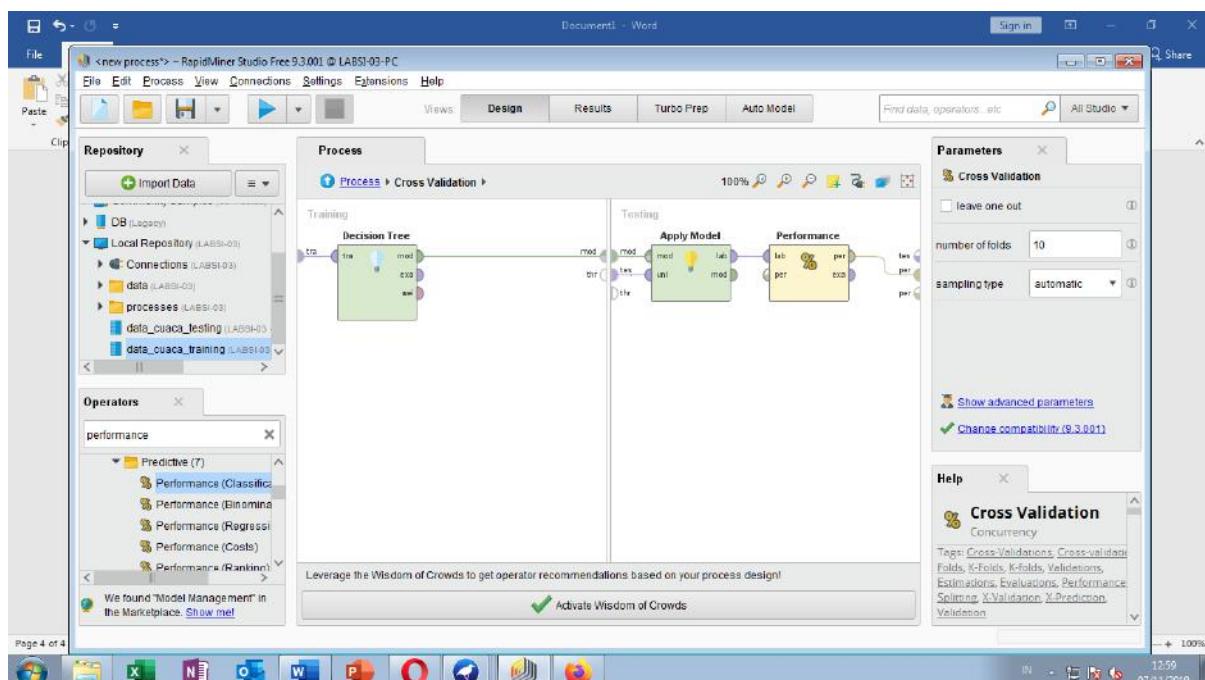


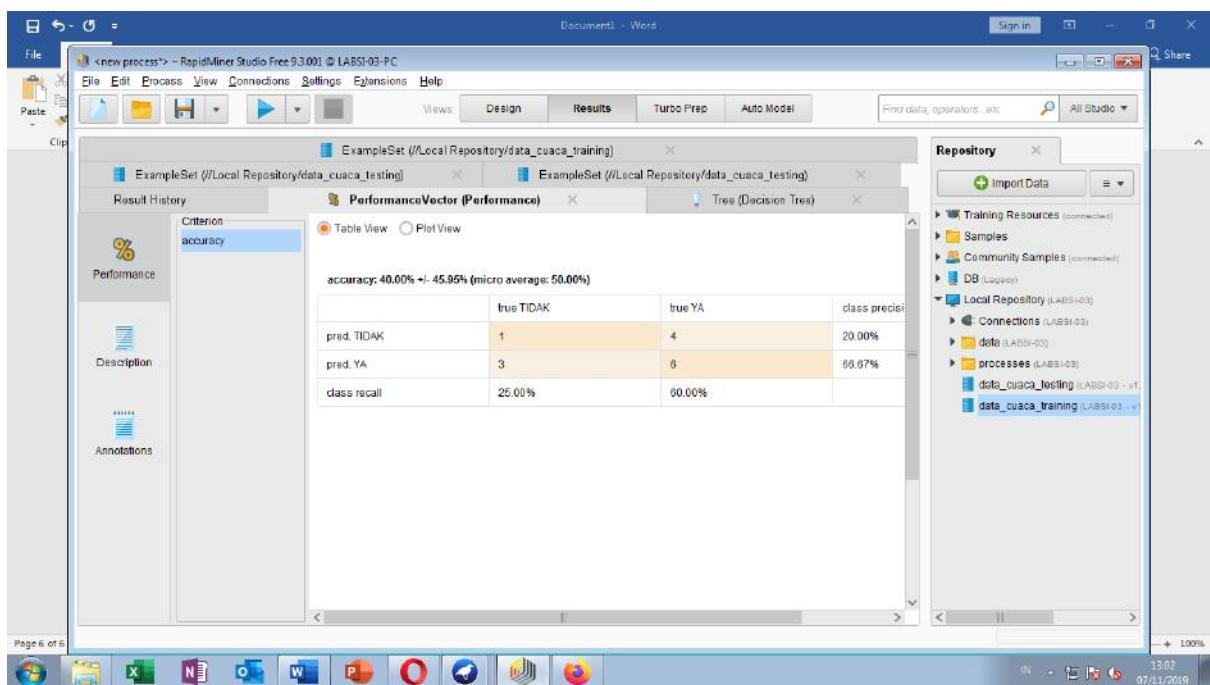
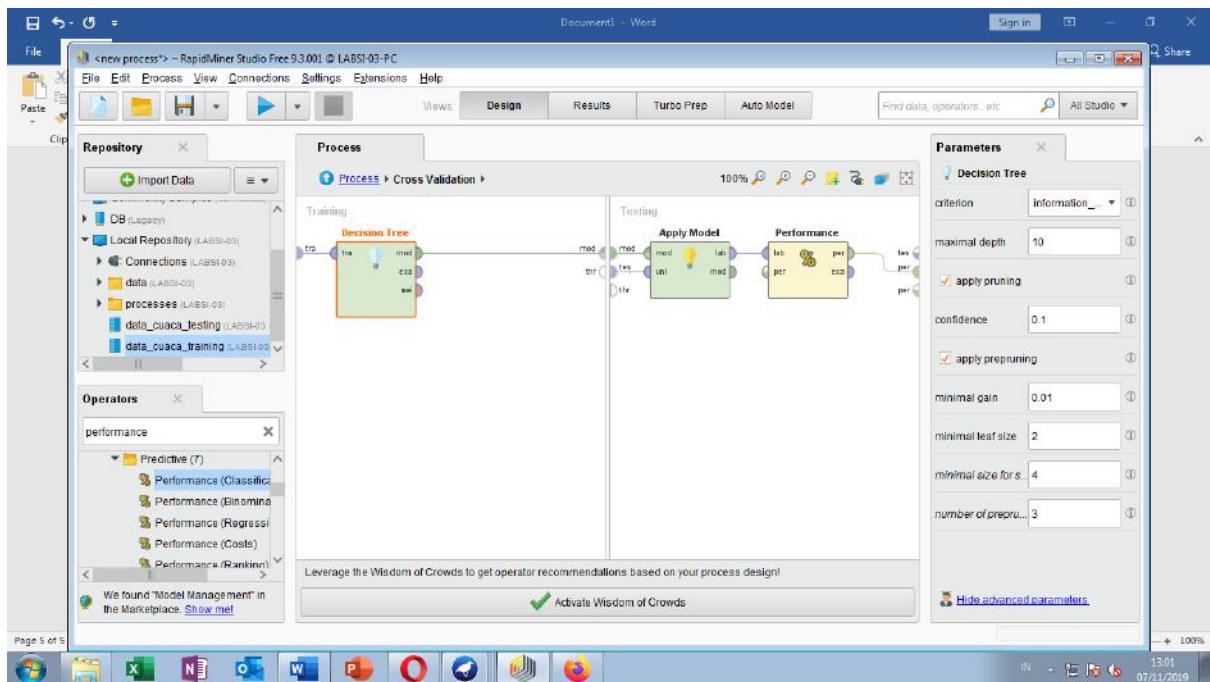


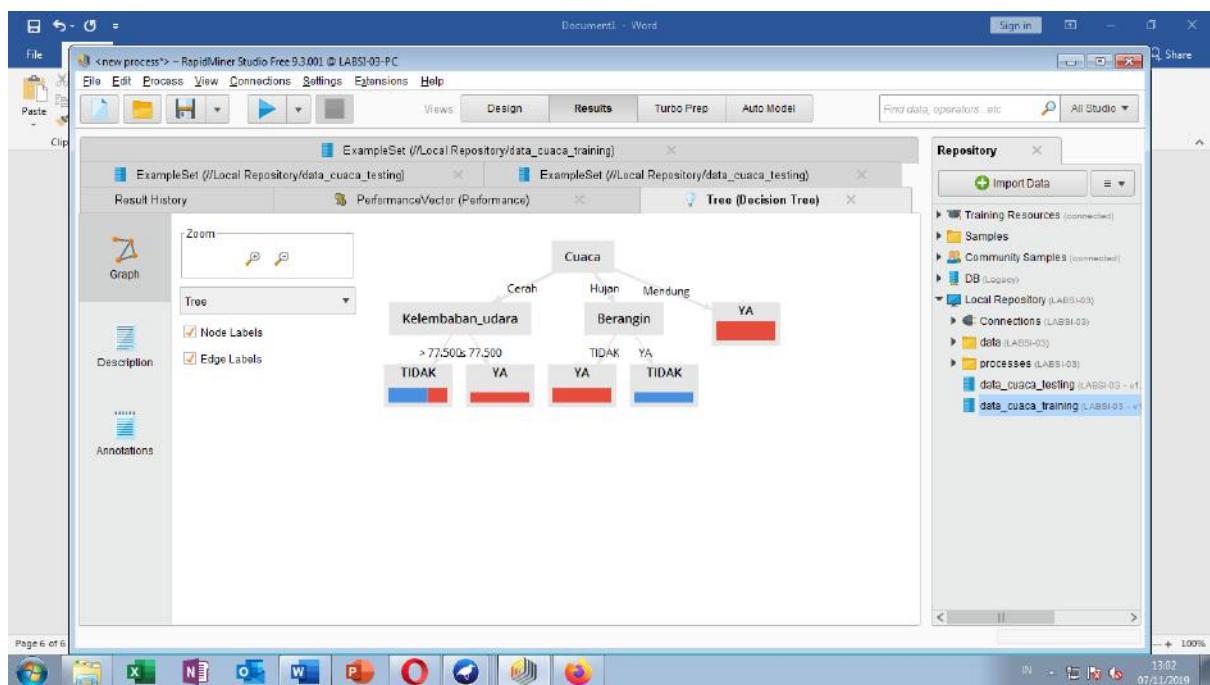


## POHON KEPUTUSAN MENGGUNAKAN RAPIDMINER









Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 9

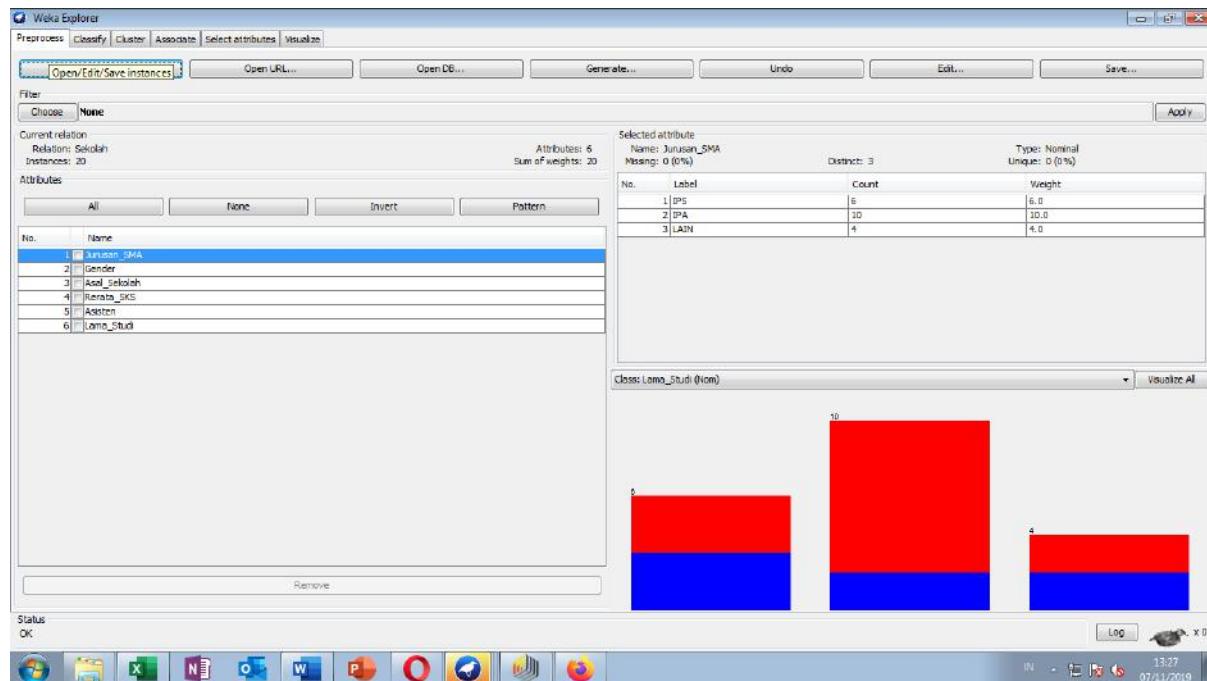
### TUGAS

1. Pohon keputusan menggunakan RapidMiner

Cuaca	Suhu	Kelembaban udara	Berangin	Bermain_Tenis
Cerah	75	65	TIDAK	YA
Cerah	80	68	YA	YA
Cerah	83	87	YA	TIDAK
Mendung	70	96	TIDAK	YA
Mendung	68	81	TIDAK	YA
Hujan	65	75	TIDAK	YA
Hujan	64	85	YA	TIDAK

2. Pohon keputusan menggunakan Weka (Sekolah.arff)

- Buat dan cetak pohon keputusan



**Weka Explorer**

Preprocess Classify Cluster Associate Select attributes Visualize

**Classifier**

```

weka
  classifiers
    bayes
    functions
    lazy
    meta
    msc
    rules
    trees
      DecisionStump
      J48
      LMT
      M5P
      RandomForest
      RandomTree
      REPtree

```

```

    sunu
    Kelenbasan_Udara
    Berangin
    Bermain_Tenis
    evaluate on training data

    er model (full training set) ===

    rct
    ----

    h
    en_Udara <= 75: YA (2.0)
    en_Udara > 75: TIDAK (3.0)
    unj: YA (4.0)
    n
    = YA: TIDAK (2.0)
    = TIDAK: YA (3.0)

    leaves : 5
    tree : 8
  
```

**Time taken to build model: 0.01 seconds**

**--- Evaluation on training set ---**

**Time taken to test model on training data: 0.01 seconds**

**--- Summary ---**

Correctly Classified Instances	14	100
--------------------------------	----	-----

**Status**  
OK

**Log** 13:27 07/11/2019

---

**Weka Explorer**

Preprocess Classify Cluster Associate Select attributes Visualize

**Classifier**

Choose: J48 -C 0.25 -M 2

**Test options**

- Use training set
- Supplied test set
- Cross-validation Folds 10
- Percentage split % 66
- More options...

(Name) Lama\_Studi

**Result list (right-click for options)**  
13h-02-33 - trained.J48

**Start Stop**

**Classifier output**

```

    === Run information ===

    Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2
    Relation: Cusca
    Instances: 14
    Attributes: 5
    Cusca
    Subu
    Kelenbasan_Udara
    Berangin
    Bermain_Tenis
    evaluate on training data

    Test mode: evaluate on training data

    === Classifier model (full training set) ===

    J48 pruned tree

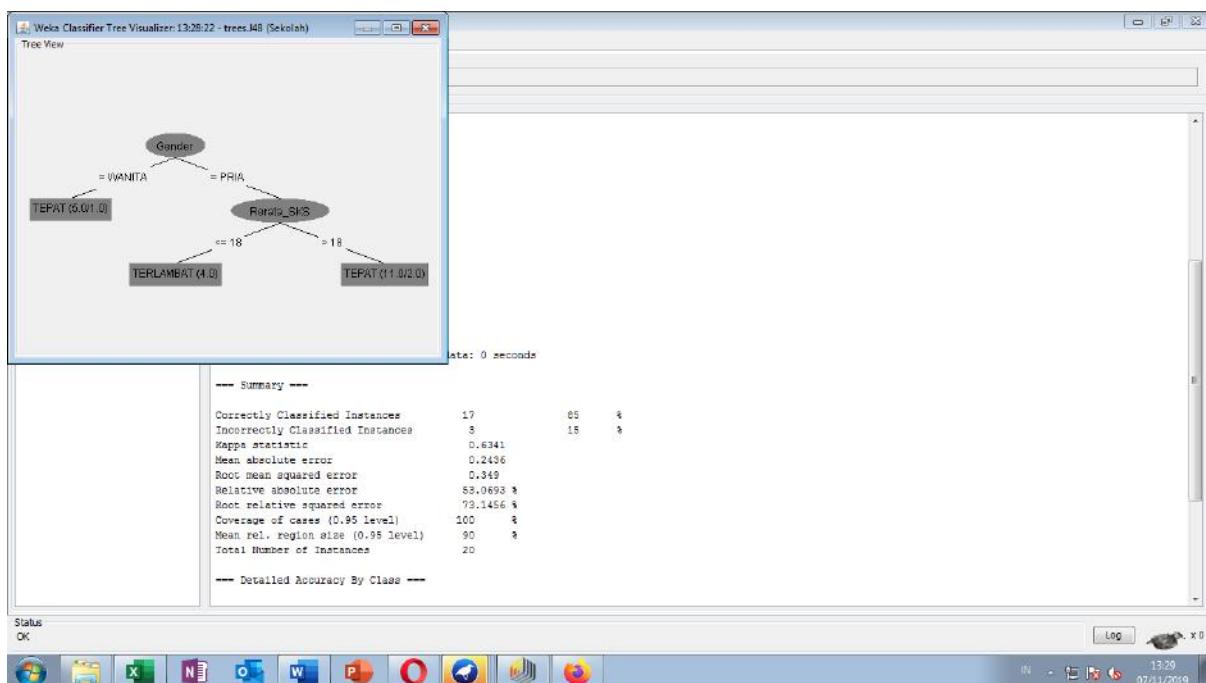
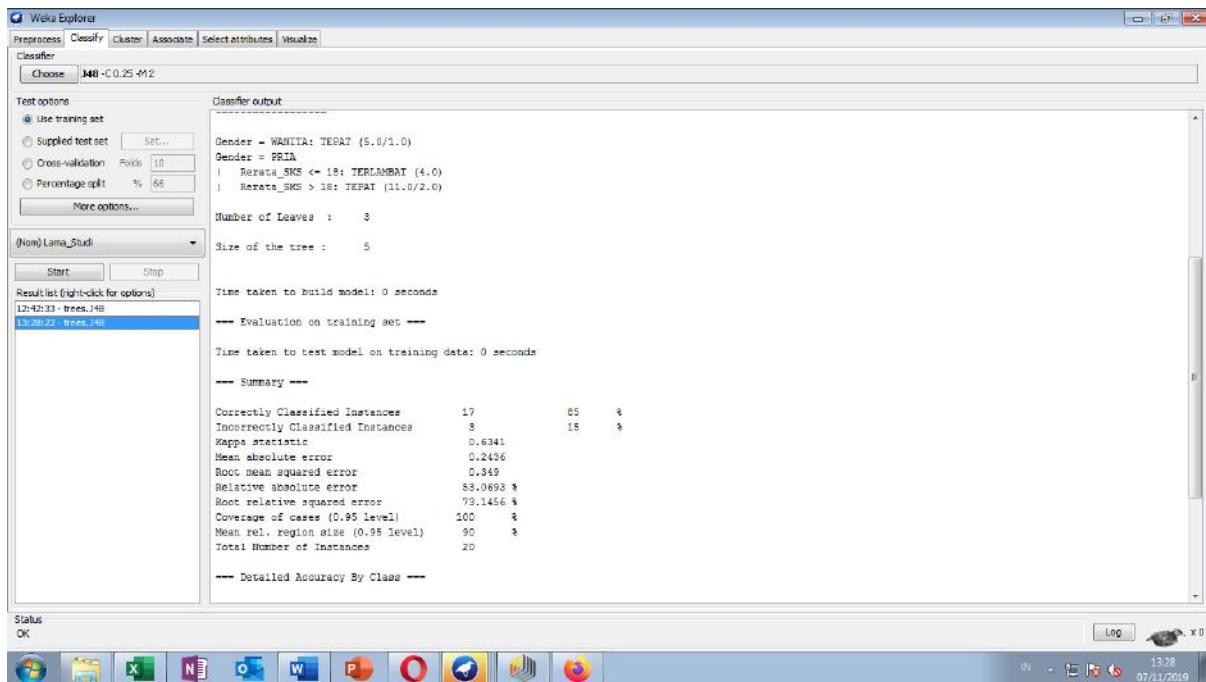
    Cusca = Cerah
    |   Kelenbasan_Udara <= 75: YA (2.0)
    |   Kelenbasan_Udara > 75: TIDAK (3.0)
    Cusca = Mendung: YA (4.0)
    Cusca = Hujan
    |   Berangin = YA: TIDAK (2.0)
    |   Berangin = TIDAK: YA (3.0)

    Number of Leaves : 5
    Size of the tree : 8

    Time taken to build model: 0.01 seconds
  
```

**Status**  
OK

**Log** 13:28 07/11/2019

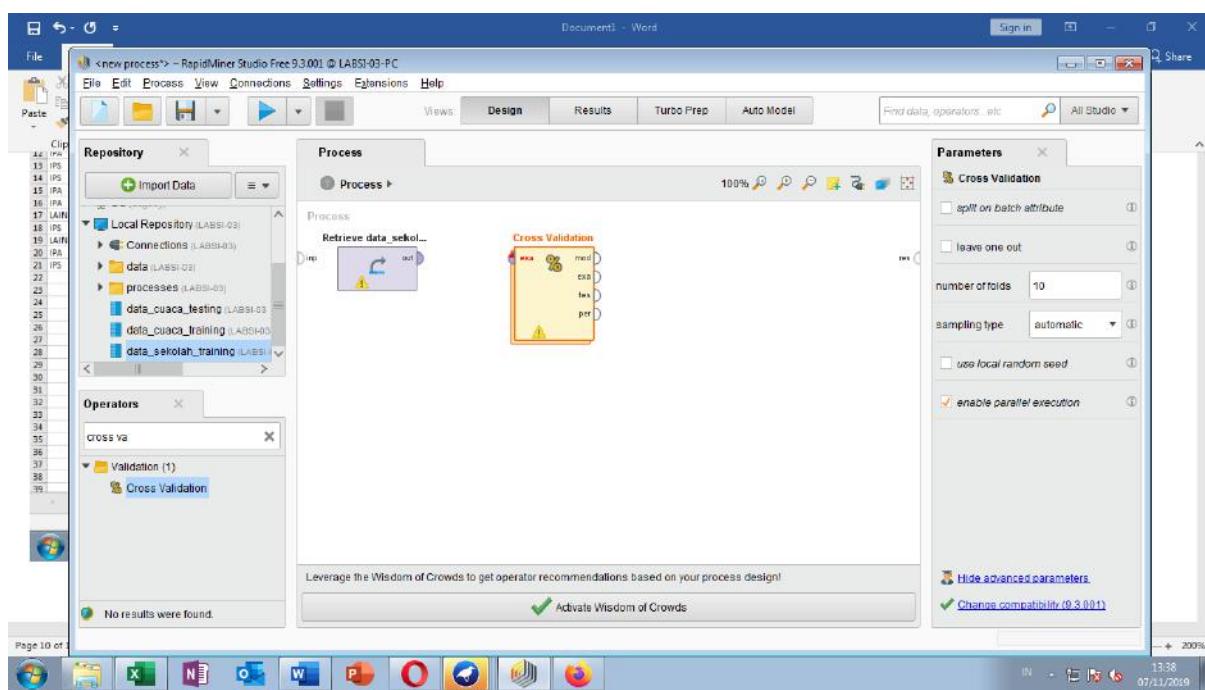
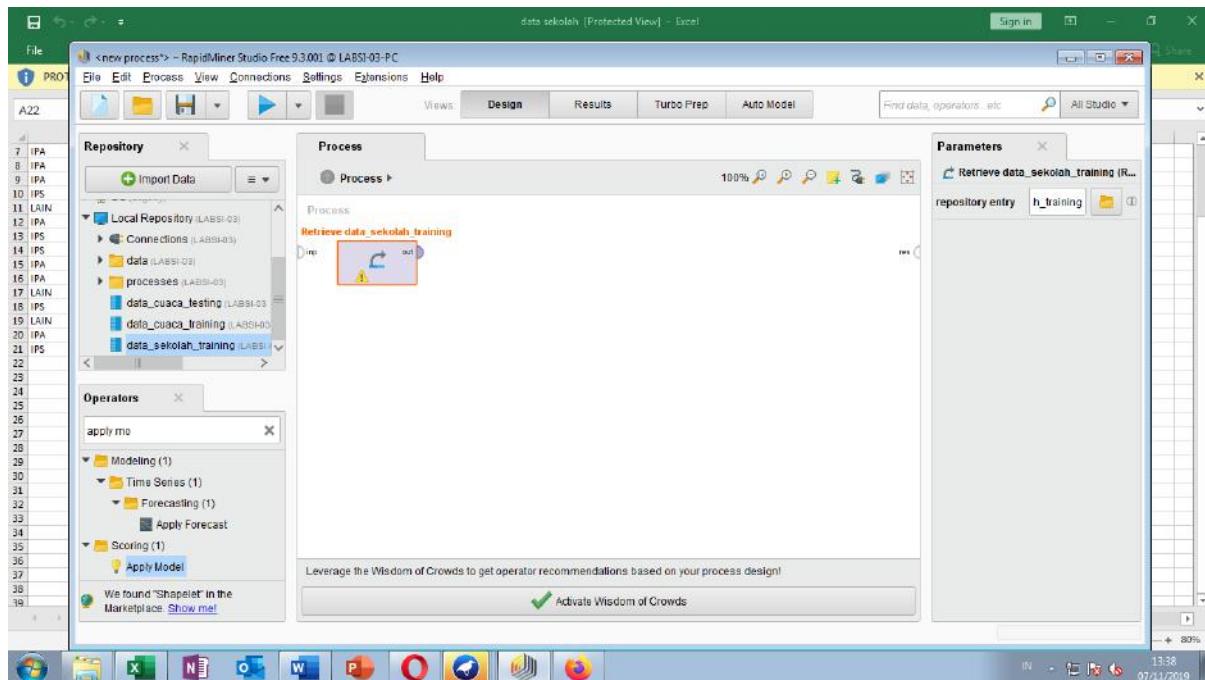


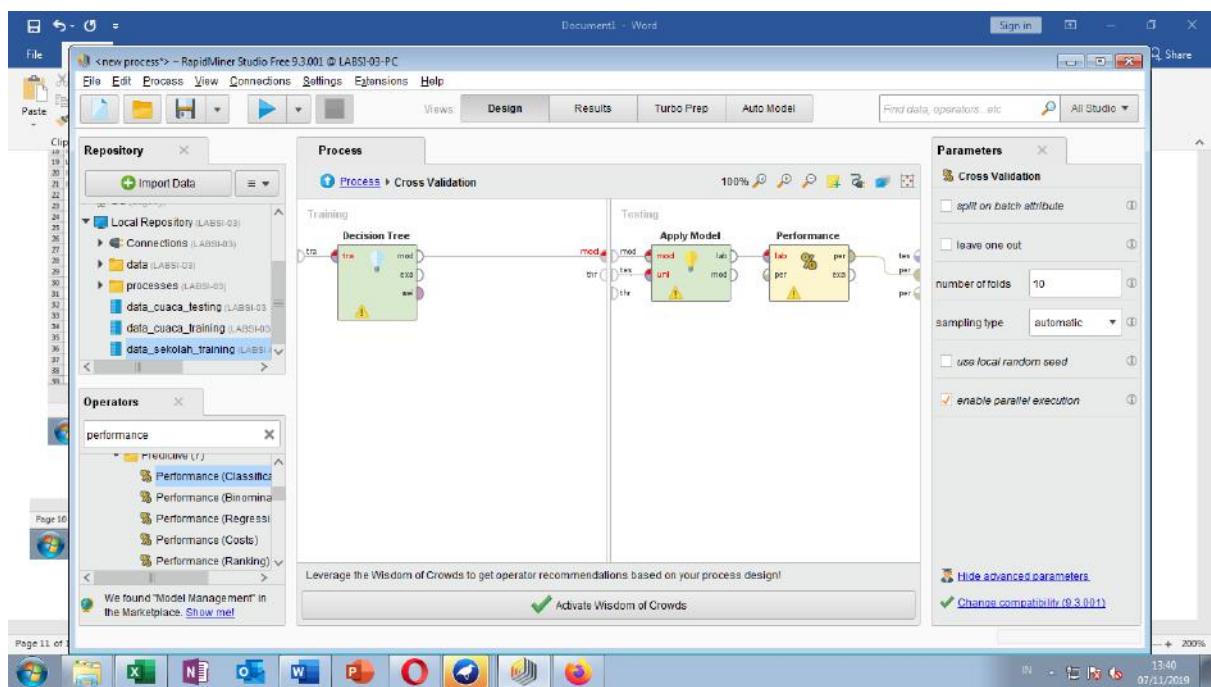
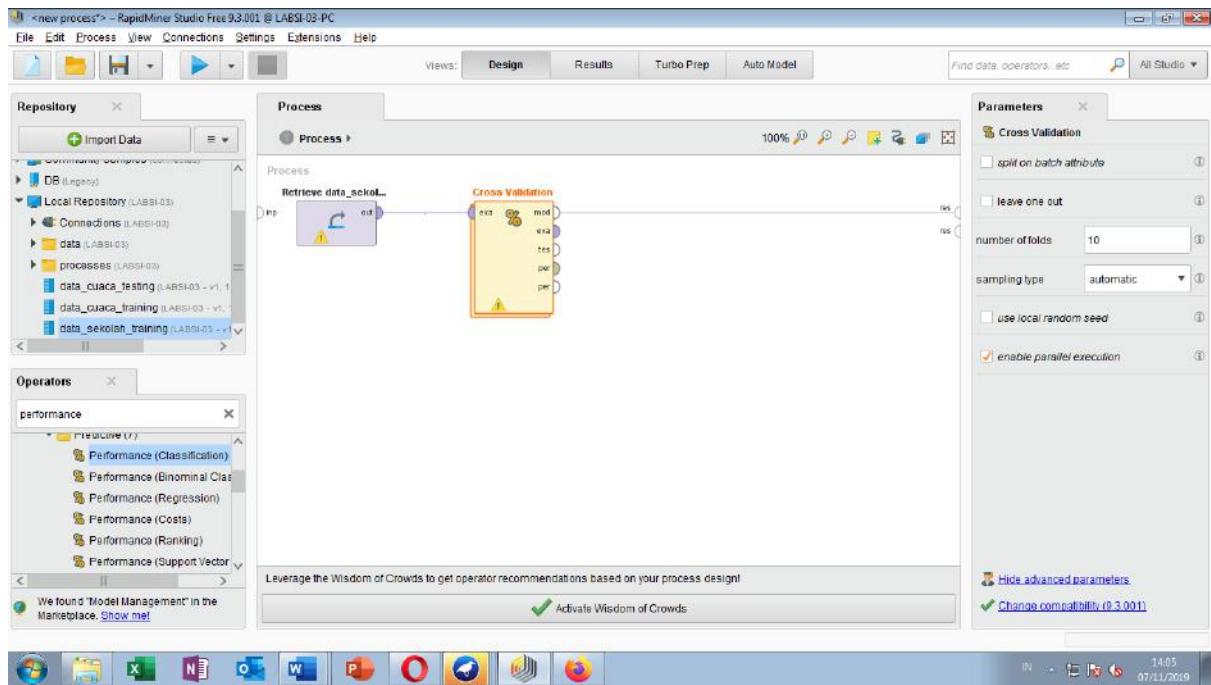
### b. Nilai – nilai parameter

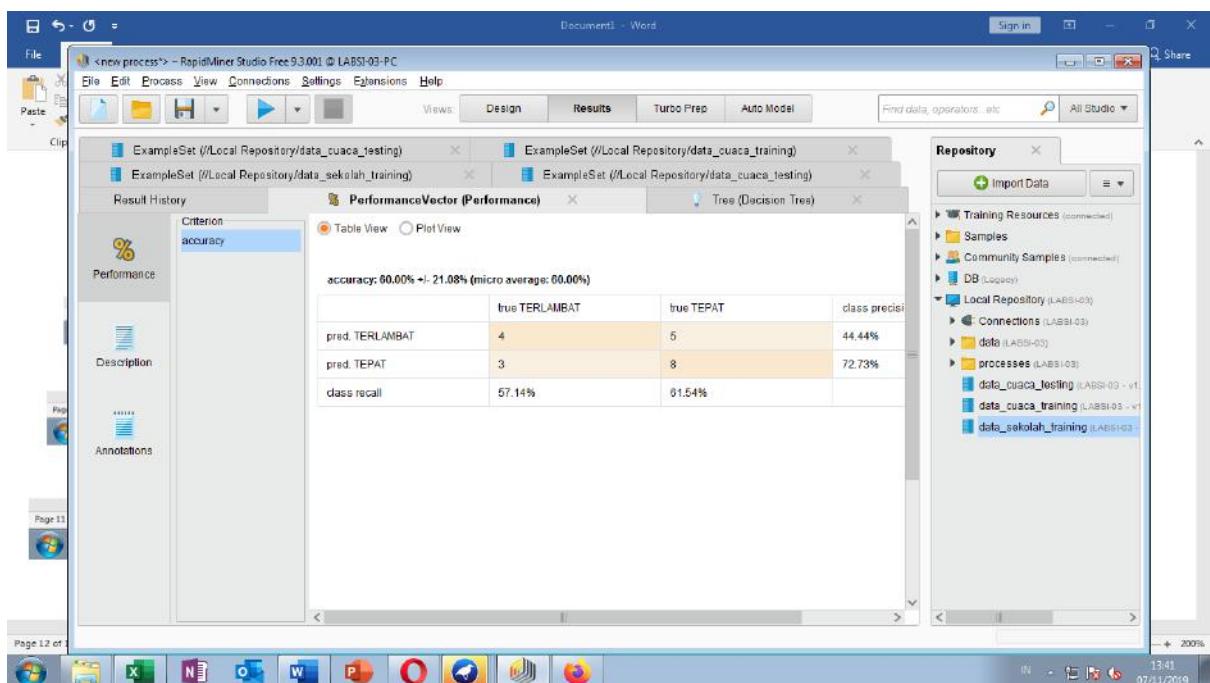
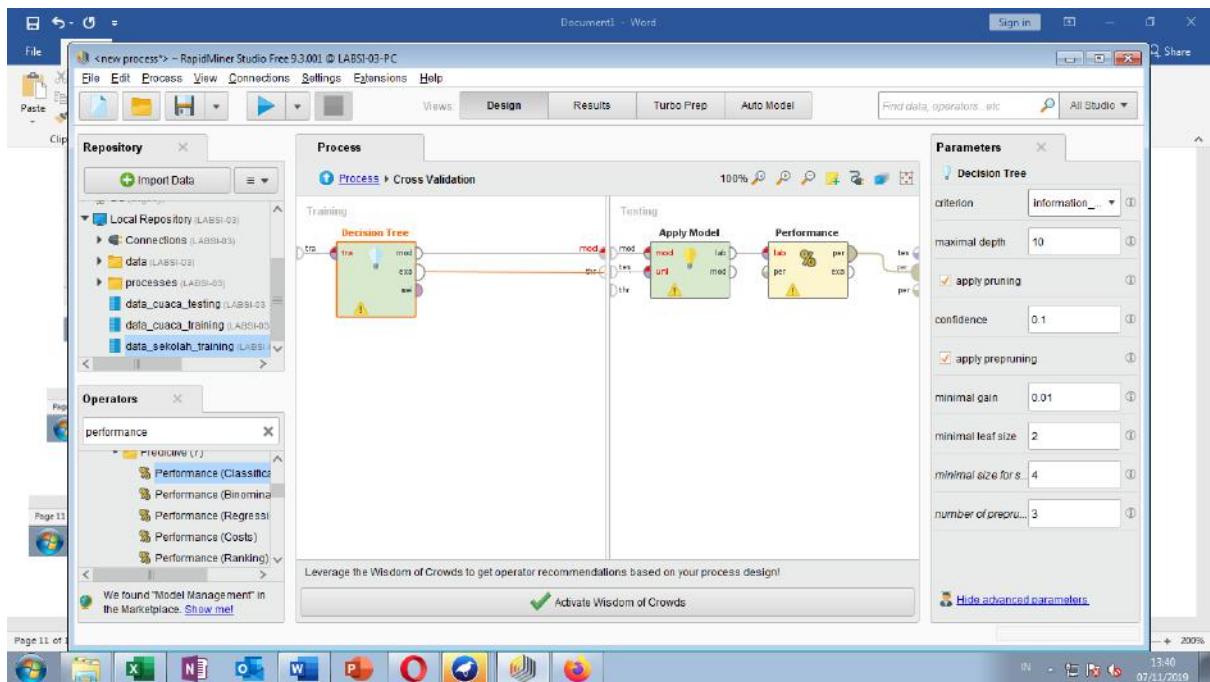
- 1) Jumlah simpul daun pada pohon keputusan = 3
- 2) Jumlah simpul keseluruhan pada pohon keputusan = 5
- 3) Waktu yang dibutuhkan untuk proses pelatihan = 0 detik
- 4) Tingkat ketepatan klasifikasi = 85%
- 5) Tingkat ketidaktepatan klasifikasi = 15%

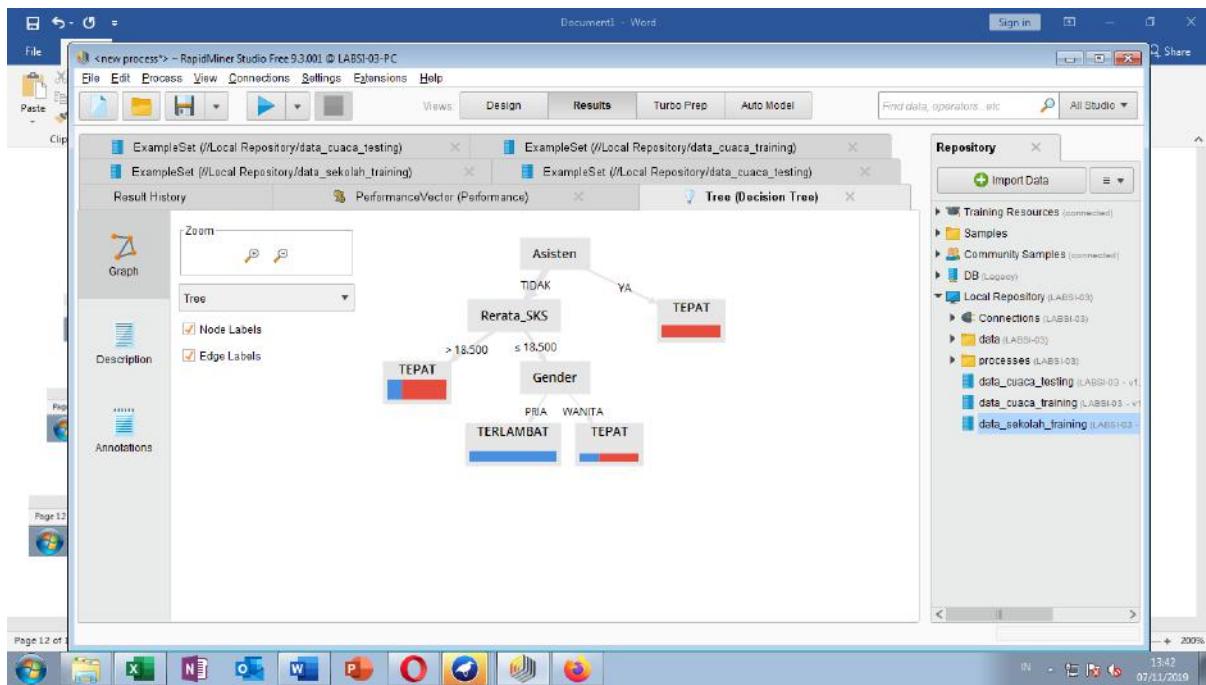
### 3. Pohon keputusan menggunakan RapidMiner (Data Sekolah.xlsx)

#### a. Buat dan cetak pohon keputusan

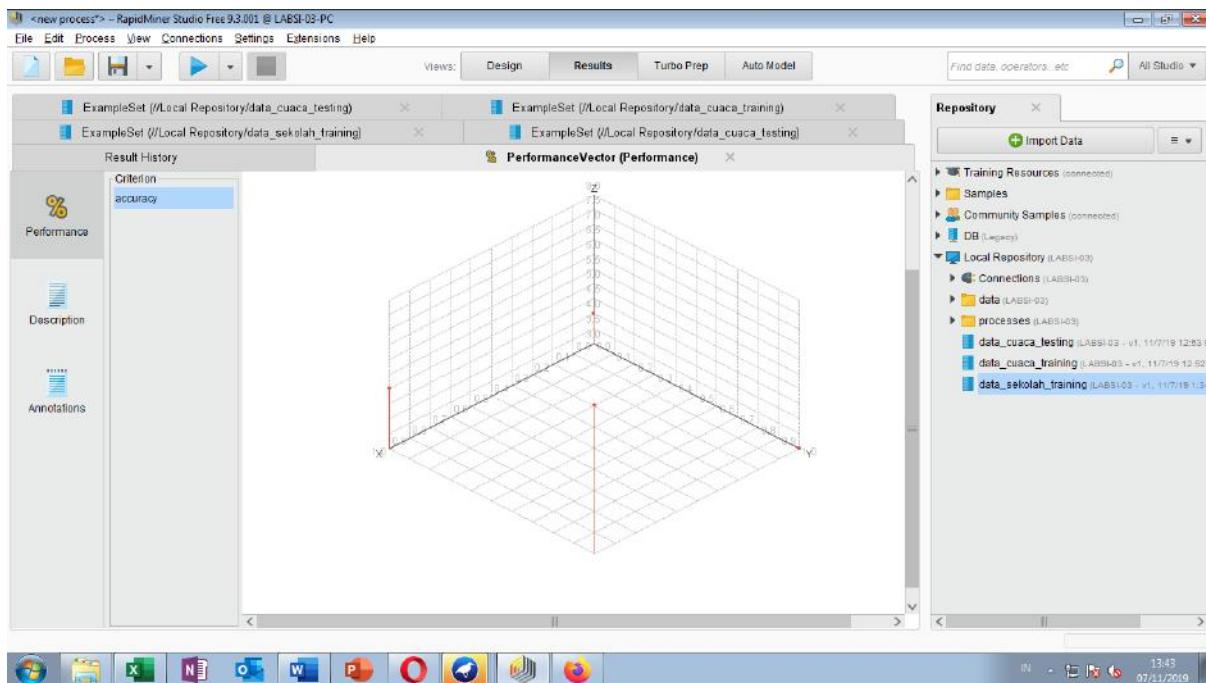








b. Cetak perspektif Plot View dengan model Scatter



4. Klasifikasi yang terbentuk dari pohon keputusan no 2 yaitu:

- Seseorang akan Lama\_Studi (TERLAMBAT) jika kondisi sebagai berikut:
  - Gender = Pria, Rerata\_SKS  $\leq 18$ , (nilai atribut lain diabaikan)
- Seseorang akan Lama\_Studi (TEPAT) jika kondisi sebagai berikut:
  - Gender = Wanita
  - Gender = Pria, Rerata\_SKS  $> 18$ , (nilai atribut lain diabaikan)

Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 10

### LANGKAH – LANGKAH PRAKTIKUM

	A	B	C	D
1	NO_SISWA	NAMA	B.IIND	B.IING
2	S-101	JOKO	8.54	8.4
3	S-102	AGUS	9.99	9.01
4	S-103	SUSI	6.2	9.15
5	S-104	DYAH	5.24	7.26
6	S-105	WATI	5.7	5.71
7	S-106	IKA	8.57	5.87
8	S-107	EKO	7.7	7.71
9	S-108	YANTO	6.6	5.7
10	S-109	WAWAN	9.000	8.12
11	S-110	MAHMUD	9.81	9.58

Where to store the data?

- Local Repository (LABSI-03)
  - Connections (LABSI-03)
  - data (LABSI-03)
  - processes (LABSI-03)

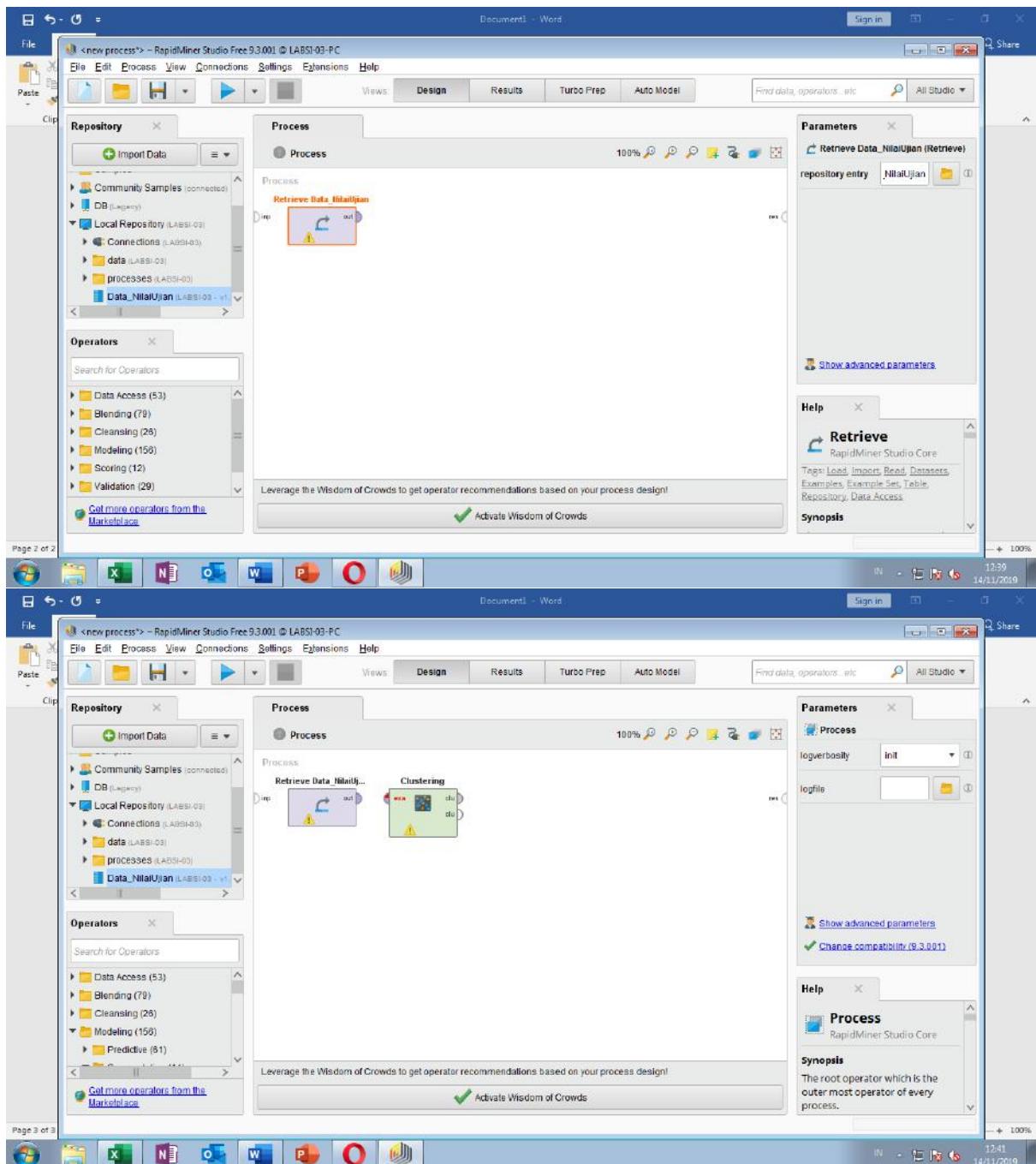
Name: Data\_NilaiUjian

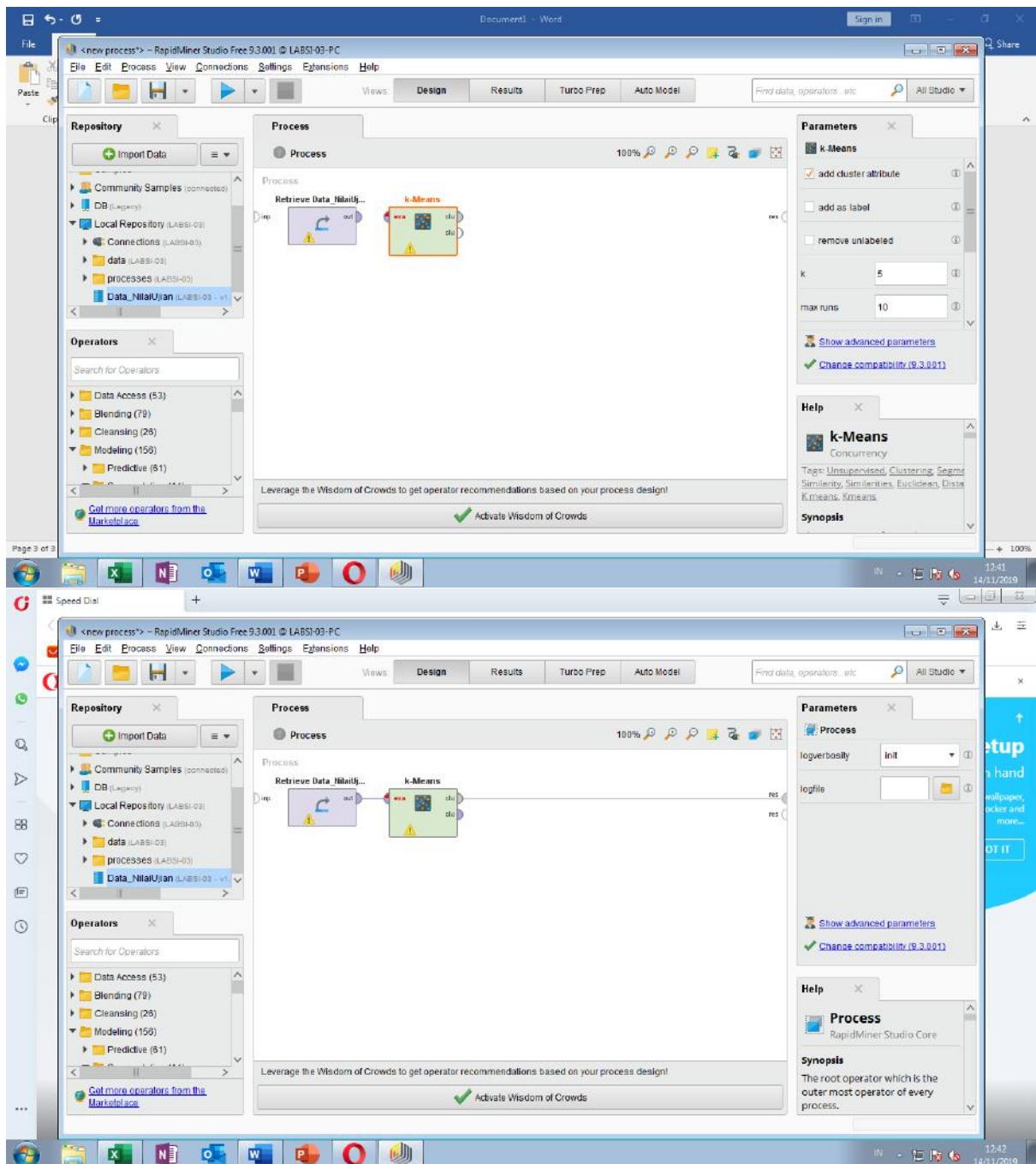
Location: //Local Repository/Data\_NilaiUjian

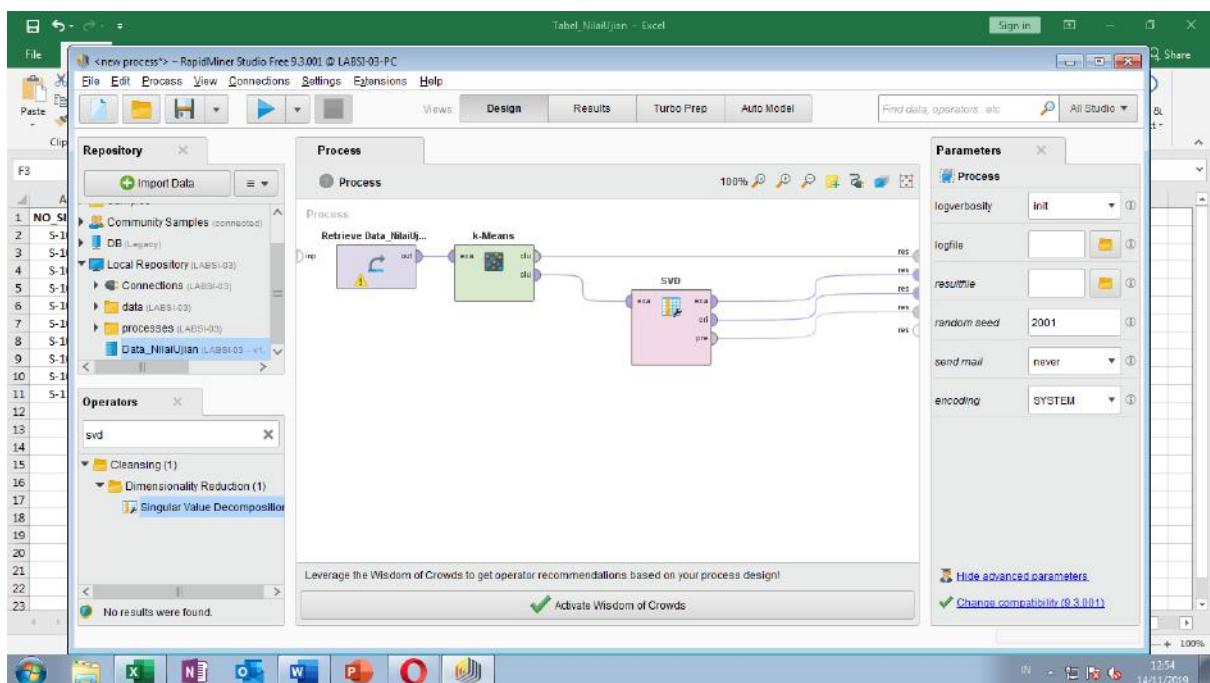
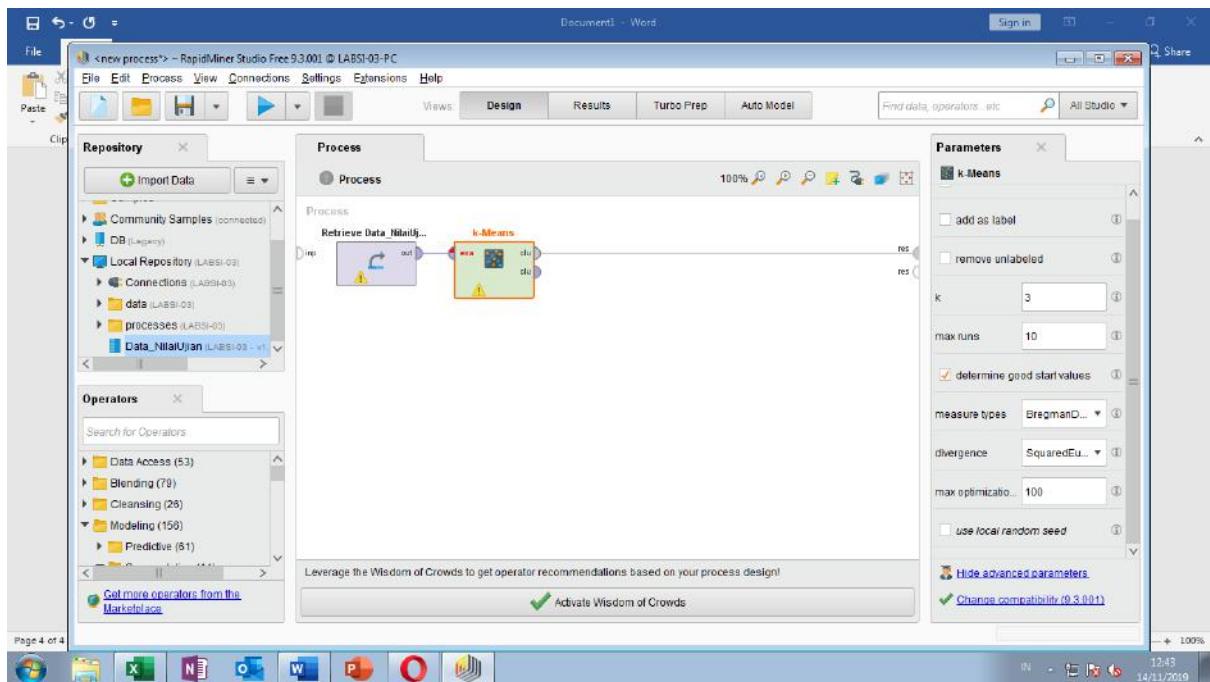
Process:

RapidMiner Studio Core

Root operator which is the most important operator of every process.







## a) SVD

### i. Eigenvalue

The screenshot shows the RapidMiner Studio interface with the following details:

- File menu:** File, Edit, Process, View, Connections, Settings, Extensions, Help.
- Toolbar:** Standard icons for Open, Save, Print, etc.
- Views:** Design, Results, Turbo Prep, Auto Model.
- Result History:** Shows three tabs: ExampleSet (k-Means), ExampleSet (SVD), and Cluster Model (k-Means). The SVD tab is active.
- Table:** Displays the results of the SVD process. The columns are Component, Singular Value, Proportion of Singular V., Cumulative Singular Val., and Cumulative Proportion o...  
The data is:

Component	Singular Value	Proportion of Singular V.	Cumulative Singular Val.	Cumulative Proportion o...
SVD 1	34.340	0.898	34.340	0.898
SVD 2	3.906	0.102	38.246	1.000
- Repository:** Shows the local repository structure, including Training Resources, Samples, Community Samples, DB (Loggy), Local Repository (LABSI-03), Connections (LABSI-03), data (LABSI-03), processes (LABSI-03), and Data\_NilaUjan (LABSI-03 - v1.11).
- System:** Shows the date (14/11/2019) and time (12:55).

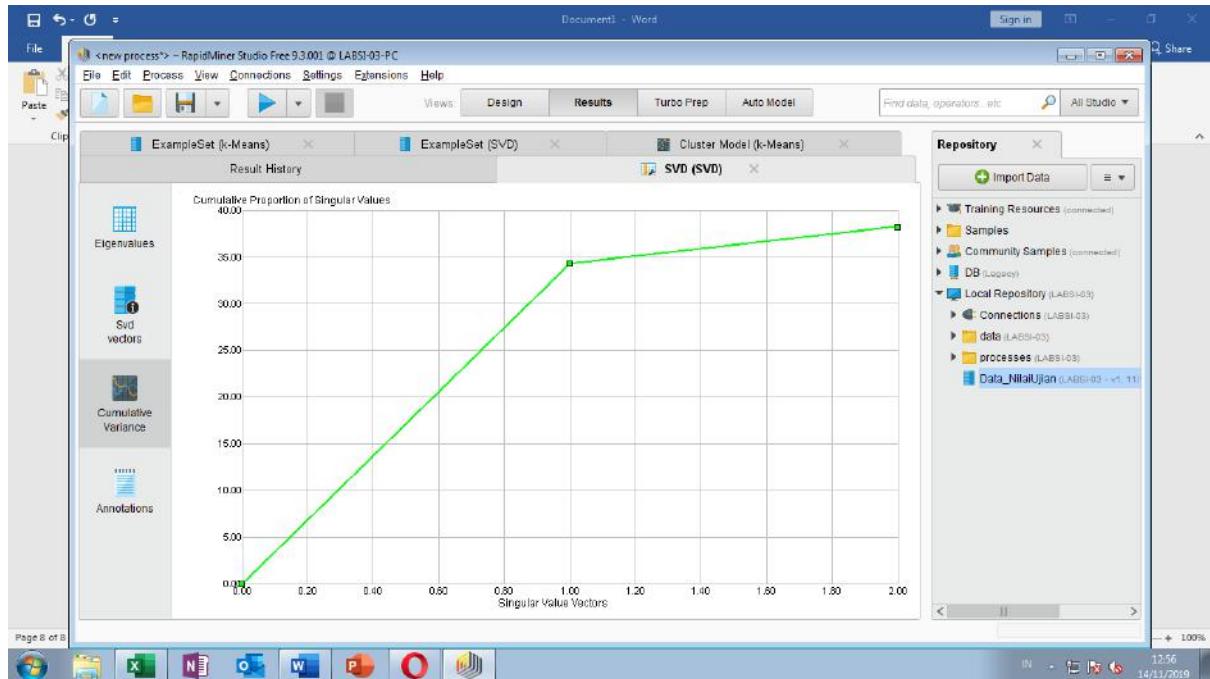
### ii. SVD vectors

The screenshot shows the RapidMiner Studio interface with the following details:

- File menu:** File, Edit, Process, View, Connections, Settings, Extensions, Help.
- Toolbar:** Standard icons for Open, Save, Print, etc.
- Views:** Design, Results, Turbo Prep, Auto Model.
- Result History:** Shows three tabs: ExampleSet (k-Means), ExampleSet (SVD), and Cluster Model (k-Means). The SVD tab is active.
- Table:** Displays the results of the SVD process. The columns are Attribute and SVD Vector 1.  
The data is:

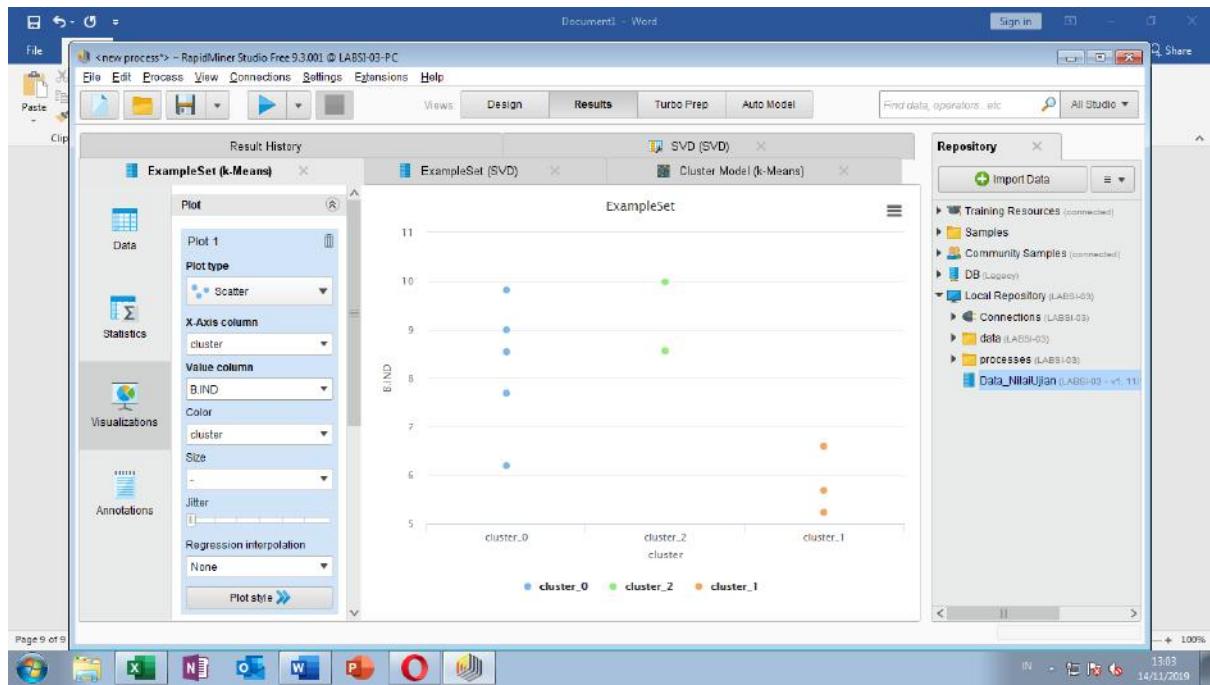
Attribute	SVD Vector 1
B.IND	0.723
B.ING	0.690
- Repository:** Shows the local repository structure, including Training Resources, Samples, Community Samples, DB (Loggy), Local Repository (LABSI-03), Connections (LABSI-03), data (LABSI-03), processes (LABSI-03), and Data\_NilaUjan (LABSI-03 - v1.11).
- System:** Shows the date (14/11/2019) and time (12:56).

### iii. Cumulative variance

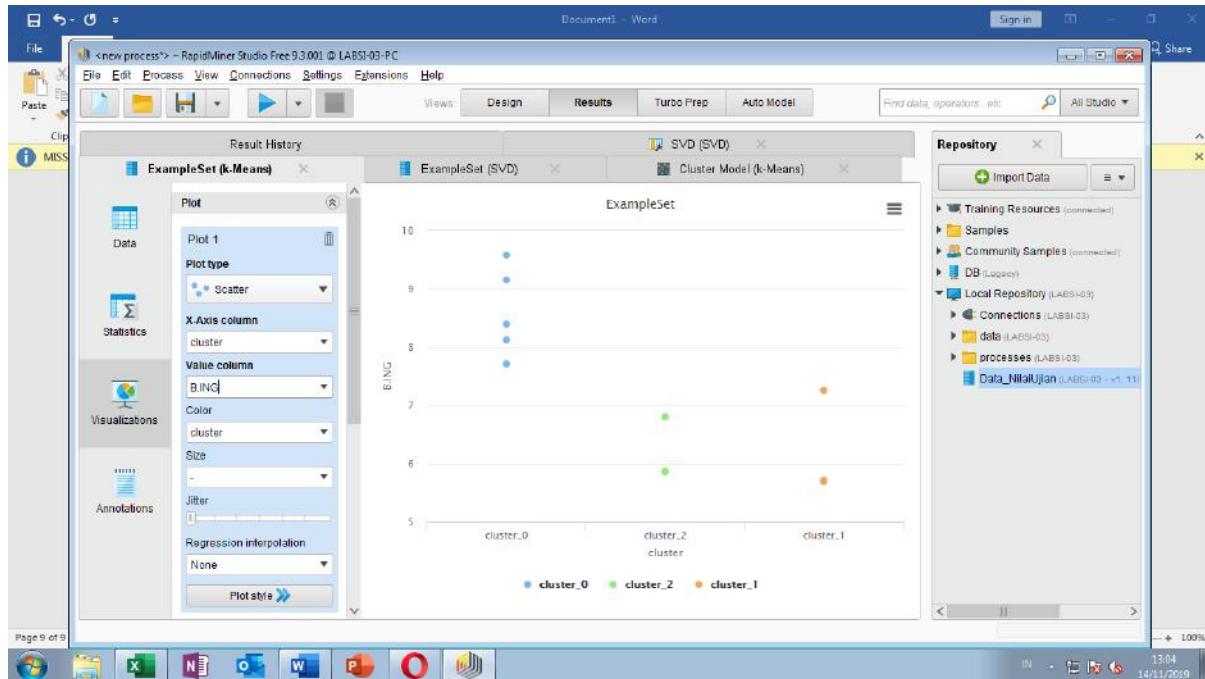


#### b) ExampleSet (k-Means)

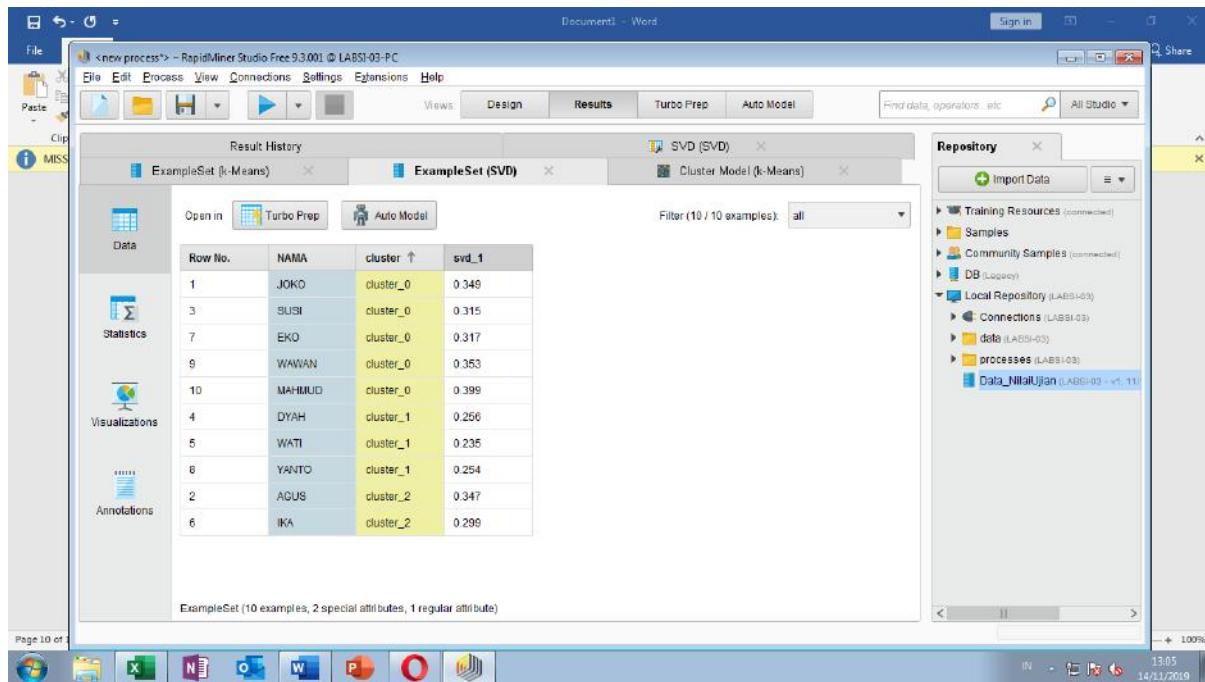
##### i. B.ind



ii. B.ing

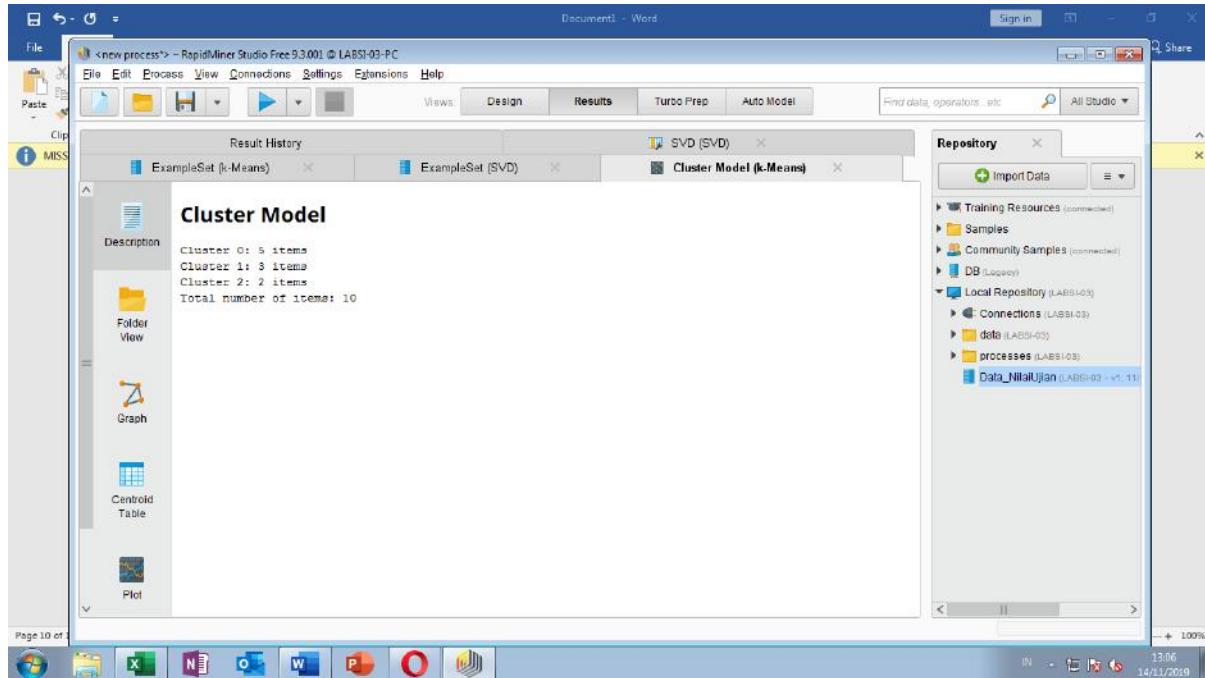


c) Example (SVD)

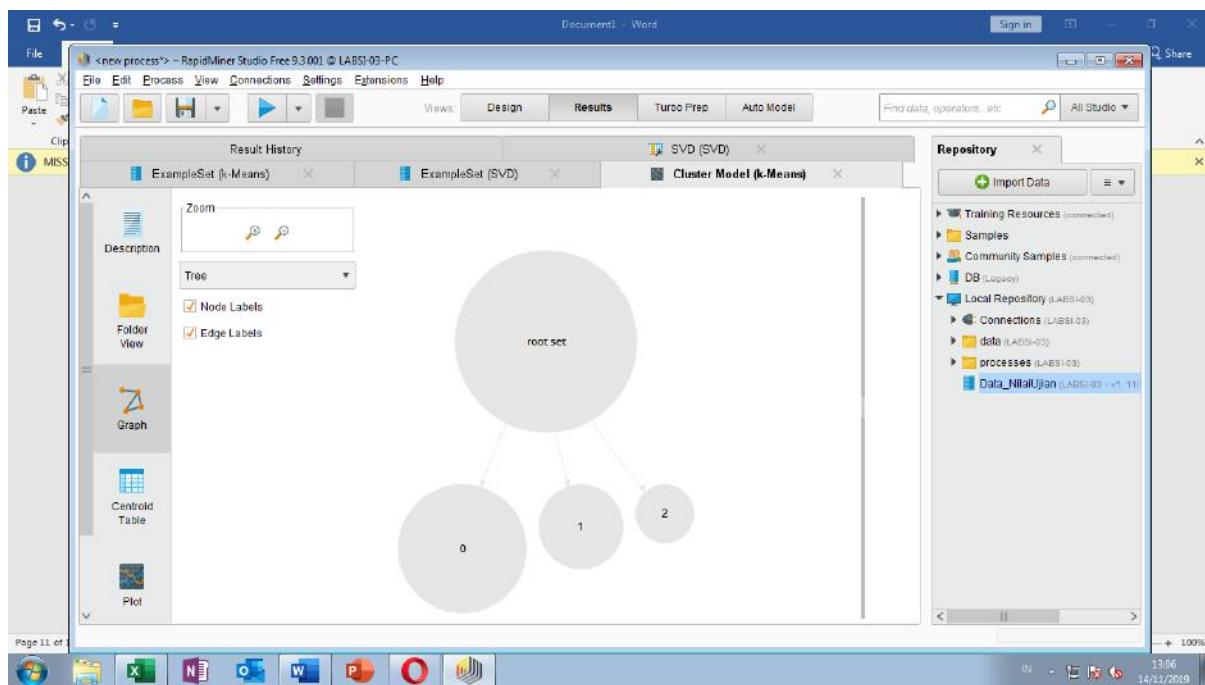


d) Clustering

i. Desc



ii. Graph



Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 10

### TUGAS

The screenshot shows the RapidMiner Studio interface with two main windows open.

**Top Window:** A "Select the cells to import" dialog is displayed over the main workspace. The dialog shows a preview of a table with columns A through F. The header row is selected, and the "Define header row" checkbox is checked. The table data includes student names and their scores across various subjects.

NO_SISWA	NAMA	B.IIND	B.ING	MTK	IPA
S-101	JOKO	6.631	9.315	6.214	7.285
S-102	AGUS	6.841	9.901	6.503	9.369
S-103	SUSI	6.744	6.674	6.431	8.466
S-104	DYAH	9.088	9.903	6.991	9.216
S-105	WATI	5.402	7.055	5.697	9.520
S-106	IKA	5.889	6.232	8.661	8.145
S-107	EKO	8.479	8.914	7.164	7.576
S-108	YANTO	7.392	5.987	8.712	8.420
S-109	WAWAN	7.885	5.687	7.434	8.206
S-110	MAHMUD	9.476	9.356	6.762	9.365
S-111	BUDI	5.884	5.931	8.023	8.998
S-112	SANTI	7.201	6.566	6.821	8.070
S-113	DIAN	6.427	6.865	9.109	8.558
S-114	YANU	6.821	6.075	8.245	8.011

**Bottom Window:** A "Format your columns" dialog is displayed. It shows a list of columns with dropdown menus for data types. A modal dialog titled "Change role" is open, prompting the user to enter a new role for the selected column.

**Data Types (Column Headers):**

- NAMA: polynomial
- B.IIND: real
- B.ING: real
- MTK: real
- IPA: real

**Role Change Dialog:**

Please enter the new role:  
id

Buttons: OK, Cancel

Document1 - Word

**Format your columns.**

Replace errors with missing values

NAMA	B.IND	B.ING	MTH	IPA
JOKO	6.531	9.315	6.214	7.285
AGUS	6.841	9.901	6.503	9.369
SUSI	6.744	6.674	6.431	8.455
DYAH	9.088	9.903	6.991	9.216
WATI	5.402	7.065	5.097	9.520
IKA	5.889	6.232	6.661	8.145
EKO	8.478	9.914	7.184	7.575
YANTO	7.392	5.987	8.712	6.420
WAWAN	7.866	5.667	7.434	6.286
MAHMUD	9.476	9.356	6.762	9.385
BUDI	5.884	5.931	8.023	8.898
SANTI	7.201	6.566	6.821	8.070
DIAN	6.427	8.865	9.109	8.558

no problems.

Previous Next Cancel

Document1 - Word

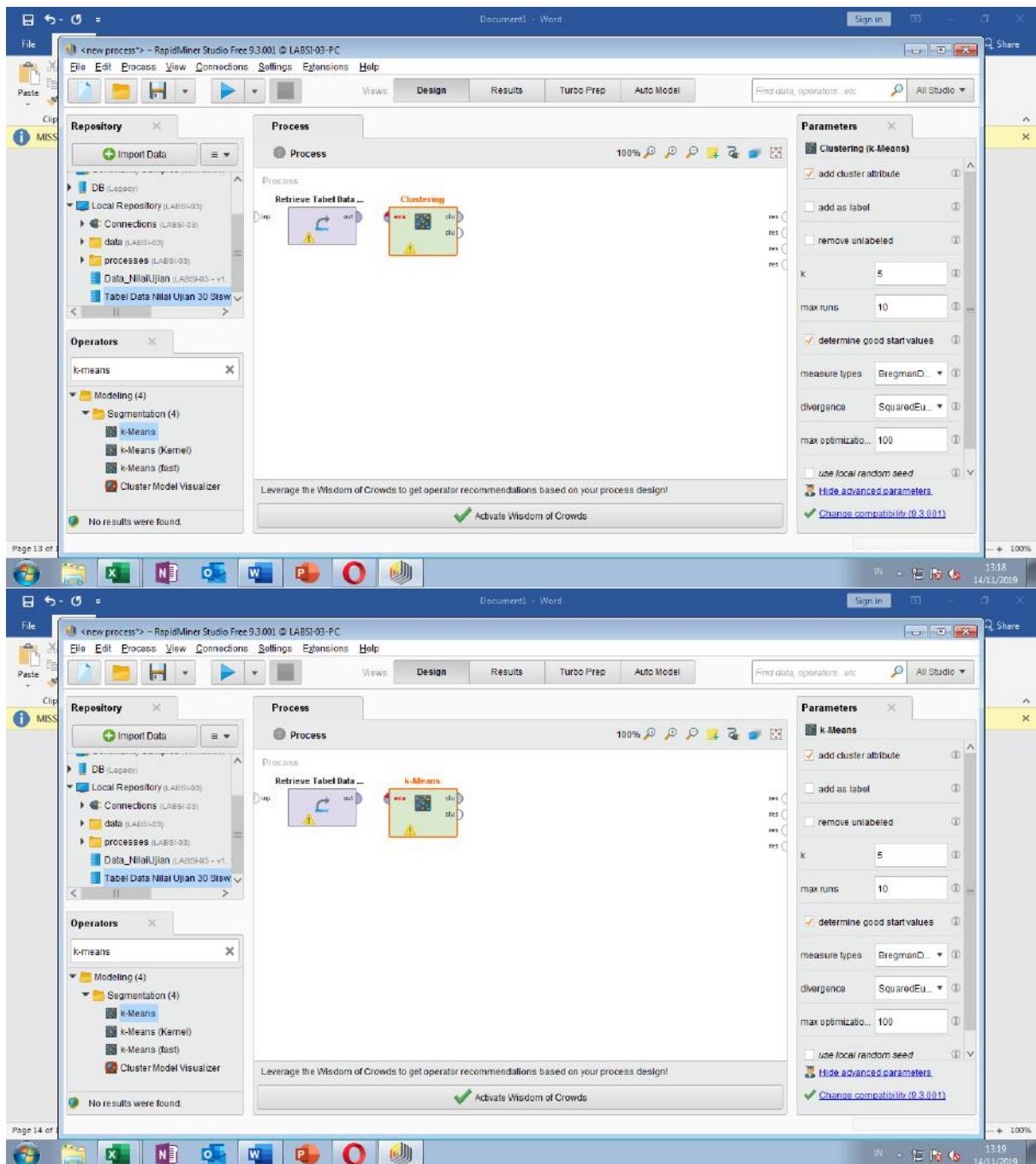
**Process**

Process

retrieve: Tabel Data Nilai Ujian 30 Siswa

Activate Wisdom of Crowds

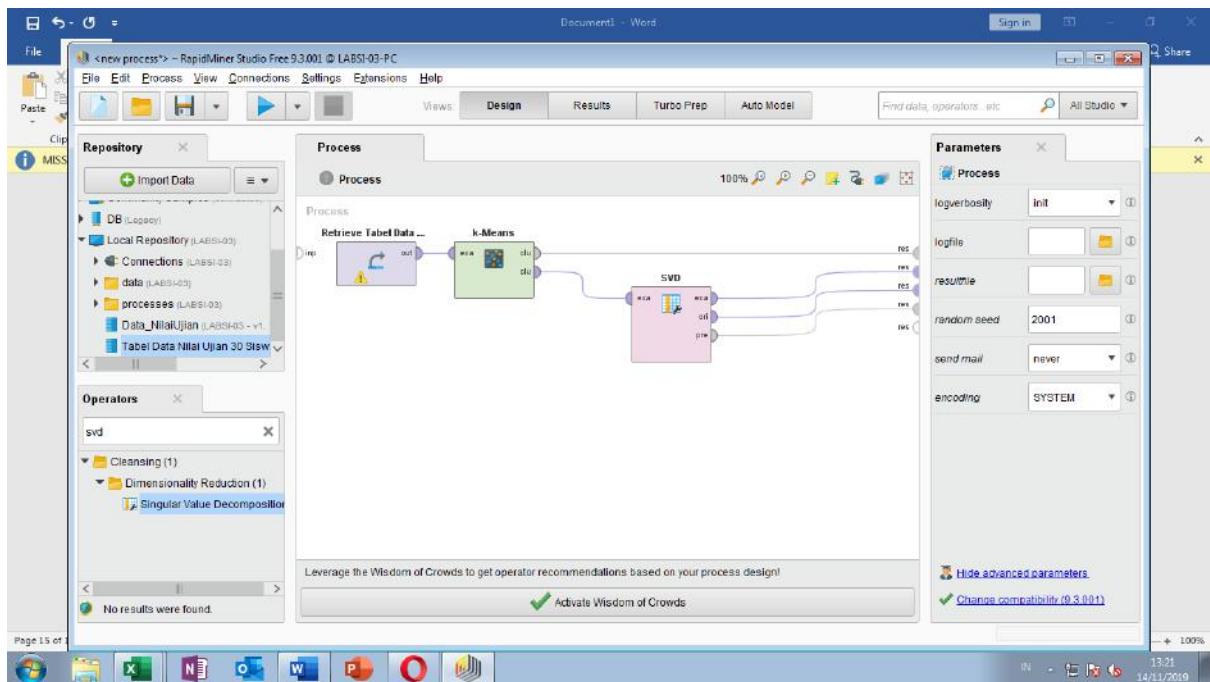
repository entry: 30 Siswa



**Top Window (Screenshot 1):**

The screenshot shows the RapidMiner Studio interface with the following details:

- Repository:** Shows a tree view with "DB (Legacy)" and "Local Repository (LABSI-03)" expanded. Under "Local Repository", there are "Connections (LABSI-03)", "data (LABSI-03)", and "processes (LABSI-03)". Inside "processes", there is a folder named "Data\_NilaiUjian (LABSI-03 - v1)" which contains a file named "Tabel Data Nilai Ujian 30 Siswa.xlsx".
- Process Tab:** Set to "Process".
- Process View:** A flow diagram showing a "Retrieve Table Data ..." operator connected to a "k-Means" operator.
- Parameters View (K-Means Operator):**
  - General:** "add cluster attribute" is checked.
  - Advanced:** "determine good start values" is checked.
  - Measure Types:** "Numerical" is selected.
  - Advanced Parameters:** "use local random seed" is checked.
  - Checkmarks:** "Activate Wisdom of Crowds" and "Change compatibility (9.3.001)" are checked.
- Bottom Window (Screenshot 2):**
- Repository:** Same as the top window.
- Process Tab:** Set to "Process".
- Process View:** The same flow diagram as the top window.
- Parameters View (Process Operator):**
  - General:** "logverbosity" is set to "init".
  - Advanced:** "encoding" is set to "SYSTEM".
  - Checkmarks:** "Hide advanced parameters" and "Change compatibility (9.3.001)" are checked.



a) SVD

i. Nilai Eigenvalue

The screenshot shows the RapidMiner Studio interface with the title bar "Document1 - Word". The main workspace displays the "SVD (SVD)" result table under the "Result History" tab. The table has columns: Component, Singular Value, Proportion of Singular V..., Cumulative Singular Val..., and Cumulative Proportion o... . The data is as follows:

Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion o...
SVD 1	83.438	0.785	83.438	0.785
SVD 2	8.366	0.079	91.804	0.864
SVD 3	8.028	0.076	99.832	0.940
SVD 4	6.393	0.060	106.225	1.000

The left sidebar shows icons for "Eigenvalues", "Svd vectors", "Cumulative Variance", and "Annotations". The right sidebar shows the "Repository" with a tree view of training resources, samples, and local repository contents.

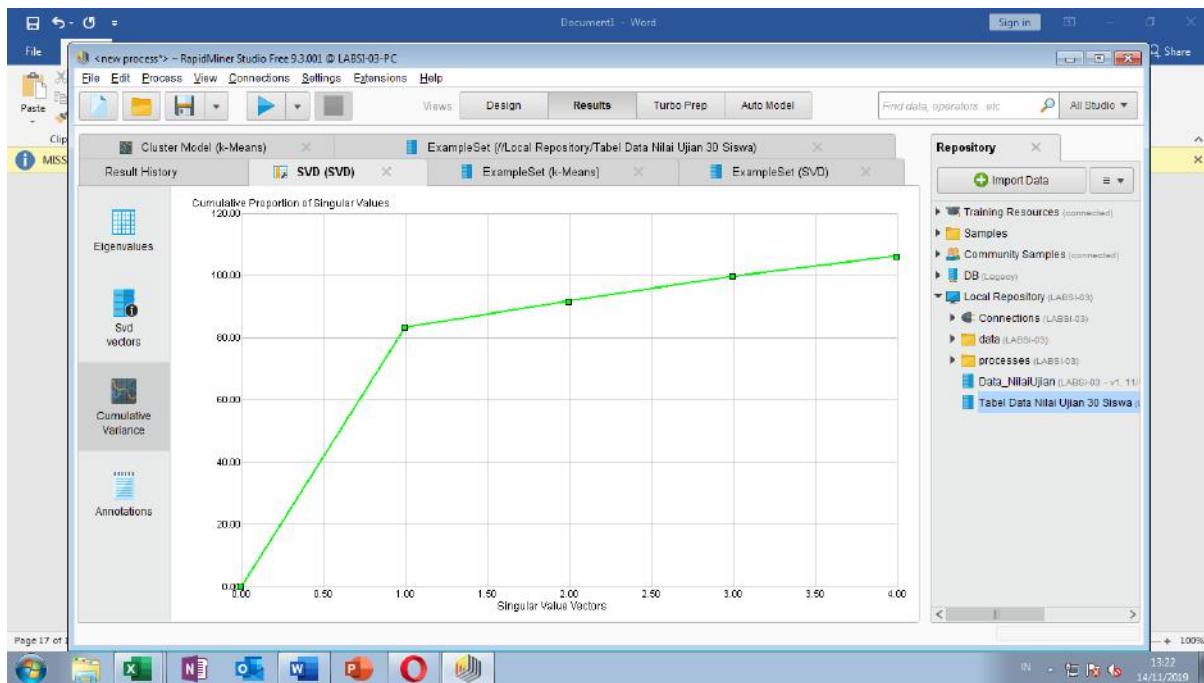
ii. Nilai SVD vectors

The screenshot shows the RapidMiner Studio interface with the title bar "Document1 - Word". The main workspace displays the "SVD vectors" result table under the "Result History" tab. The table has columns: Attribute, SVD Vector 1, SVD Vector 2, and SVD Vector 3. The data is as follows:

Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.IND	0.496	0.471	0.417
B.ING	0.496	-0.365	0.580
MTK	0.496	0.521	-0.521
IFA	0.508	-0.612	-0.468

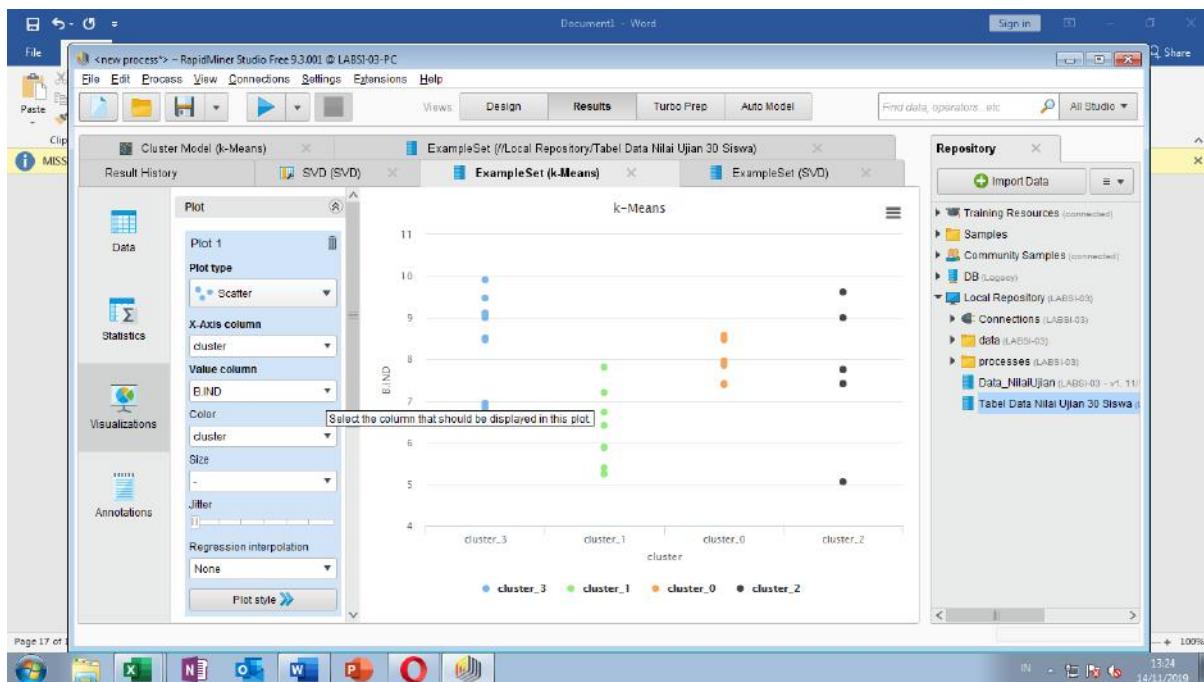
The left sidebar shows icons for "Eigenvalues", "Svd vectors", "Cumulative Variance", and "Annotations". The right sidebar shows the "Repository" with a tree view of training resources, samples, and local repository contents.

### iii. Nilai Cumulative variance

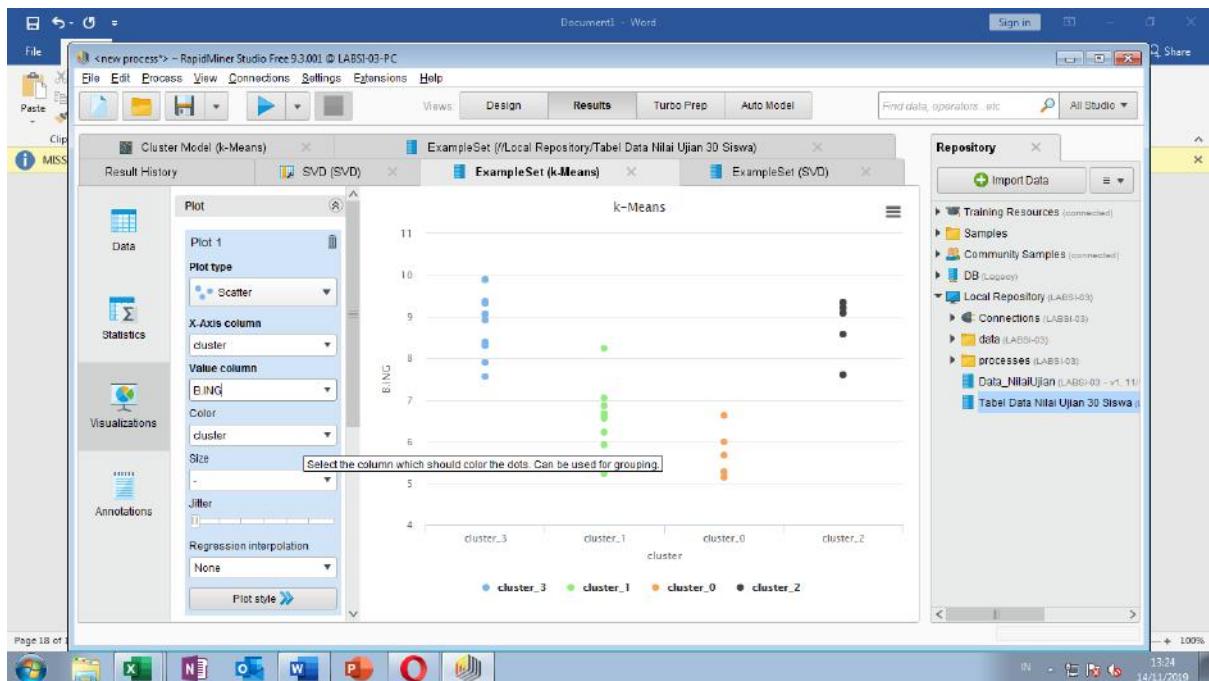


#### b) ExampleSet (k-Means)

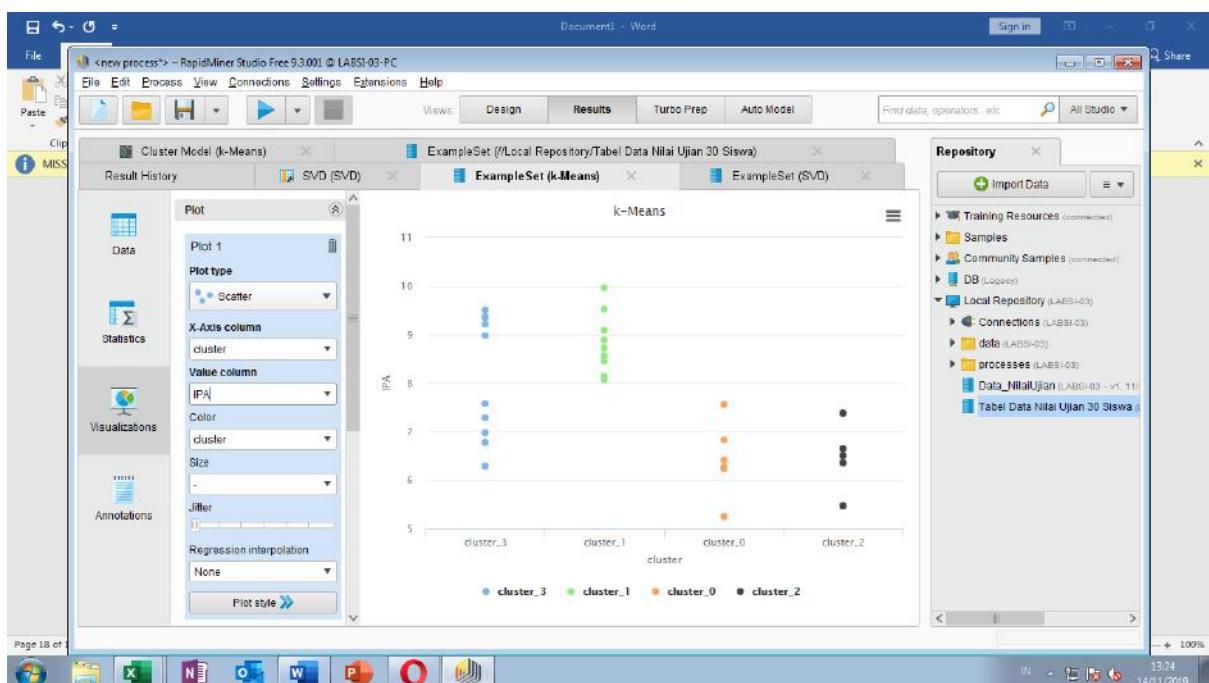
##### i. B. Ind



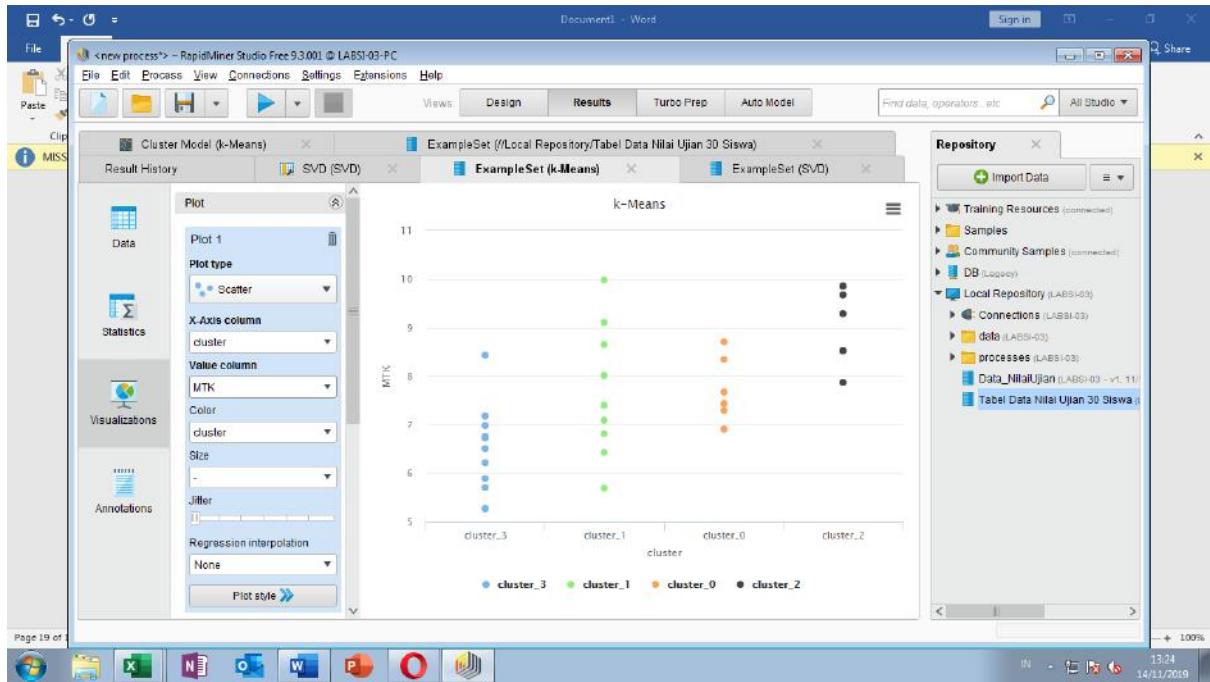
## ii. B. Ing



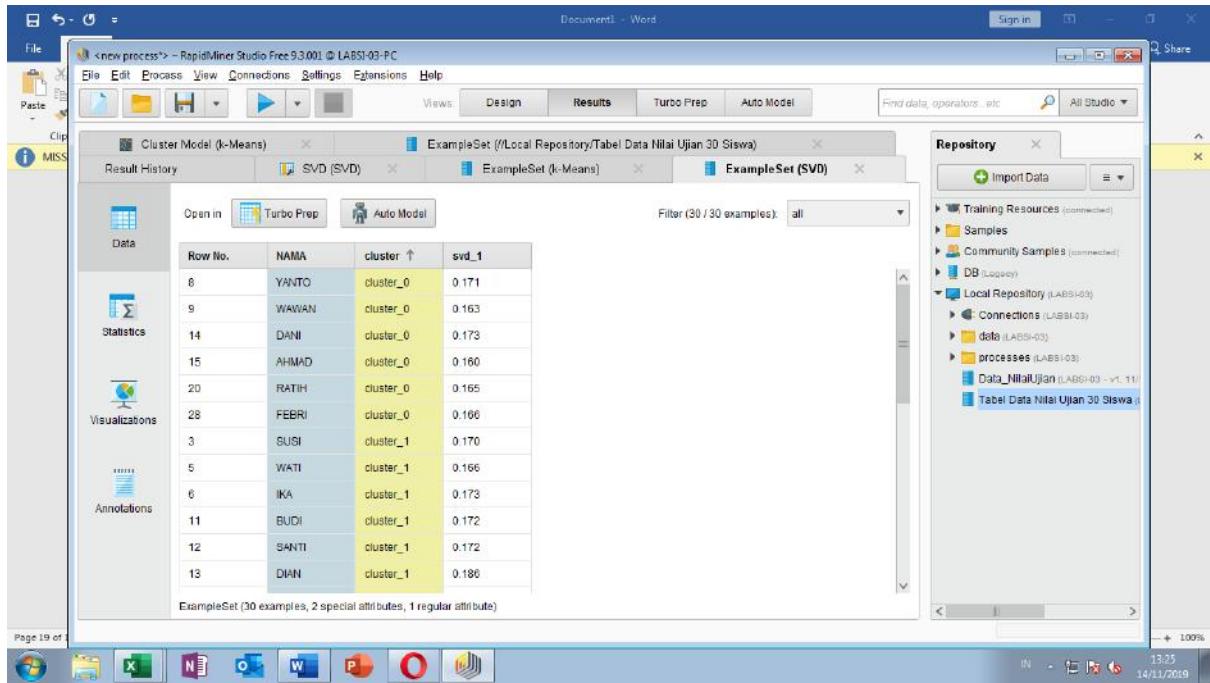
## iii. IPA



iv. Mtk



c) Examples (SVD)



Document1 - Word

File Edit Process View Connections Settings Help

Views Design Results Turbo Prep Auto Model Find data, operators, etc. All Studio

Cluster Model (k-Means) ExampleSet (Local Repository/Tabel Data Nilai Ujian 30 Siswa) ExampleSet (k-Means) ExampleSet (SVD)

Result History SVD (SVD) ExampleSet (k-Means) ExampleSet (SVD)

Data Open in Turbo Prep Auto Model Filter (30 / 30 examples): all

Statistics Visualizations Annotations

Row No.	NAMA	cluster ↑	svd_1
13	DIAN	cluster_1	0.186
16	BAYU	cluster_1	0.160
22	JONO	cluster_1	0.206
27	NANA	cluster_1	0.178
17	RISA	cluster_2	0.171
24	RAMA	cluster_2	0.201
25	BAMBANG	cluster_2	0.202
26	HADI	cluster_2	0.199
30	TONI	cluster_2	0.186
1	JOKO	cluster_3	0.176
2	AGUS	cluster_3	0.196
4	DYAH	cluster_3	0.211

ExampleSet (30 examples, 2 special attributes, 1 regular attribute)

Repository Import Data

- Training Resources (connected)
- Samples
- Community Samples (connected)
- DB (Legacy)
- Local Repository (LABSI-03)
  - Connections (LABSI-03)
  - data (LABSI-03)
  - processes (LABSI-03)
    - Data\_NilaiUjian (LABSI-03 - v1.11)
    - Tabel Data Nilai Ujian 30 Siswa

Page 20 of 13:25 14/11/2019

Document1 - Word

File Edit Process View Connections Settings Help

Views Design Results Turbo Prep Auto Model Find data, operators, etc. All Studio

Cluster Model (k-Means) ExampleSet (Local Repository/Tabel Data Nilai Ujian 30 Siswa) ExampleSet (k-Means) ExampleSet (SVD)

Result History SVD (SVD) ExampleSet (k-Means) ExampleSet (SVD)

Data Open in Turbo Prep Auto Model Filter (30 / 30 examples): all

Statistics Visualizations Annotations

Row No.	NAMA	cluster ↑	svd_1
26	HADI	cluster_2	0.199
30	TONI	cluster_2	0.186
1	JOKO	cluster_3	0.176
2	AGUS	cluster_3	0.196
4	DYAH	cluster_3	0.211
7	EKO	cluster_3	0.193
10	MAHMUD	cluster_3	0.210
18	RANI	cluster_3	0.205
19	YANI	cluster_3	0.192
21	INDAH	cluster_3	0.169
23	SARAH	cluster_3	0.174
29	DENI	cluster_3	0.191

ExampleSet (30 examples, 2 special attributes, 1 regular attribute)

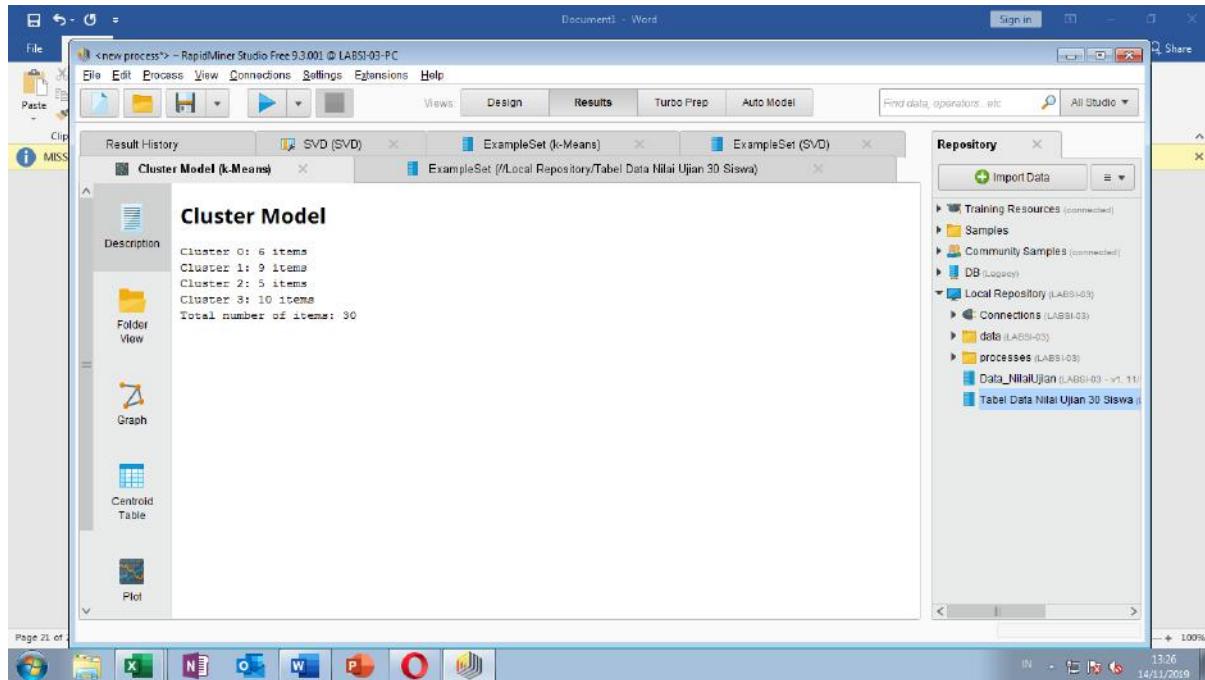
Repository Import Data

- Training Resources (connected)
- Samples
- Community Samples (connected)
- DB (Legacy)
- Local Repository (LABSI-03)
  - Connections (LABSI-03)
  - data (LABSI-03)
  - processes (LABSI-03)
    - Data\_NilaiUjian (LABSI-03 - v1.11)
    - Tabel Data Nilai Ujian 30 Siswa

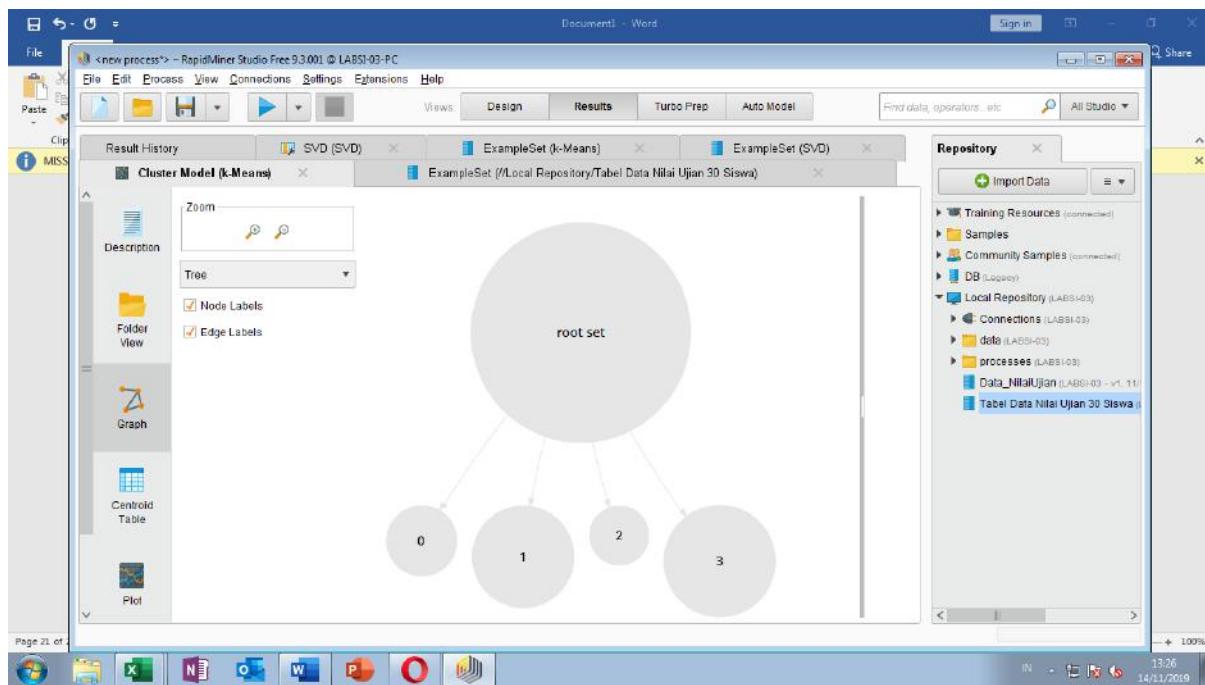
Page 20 of 13:25 14/11/2019

d) Cluster Model(Clustering)

i. Description



ii. Graph



Nama : Titis Ulfa Mustikawati

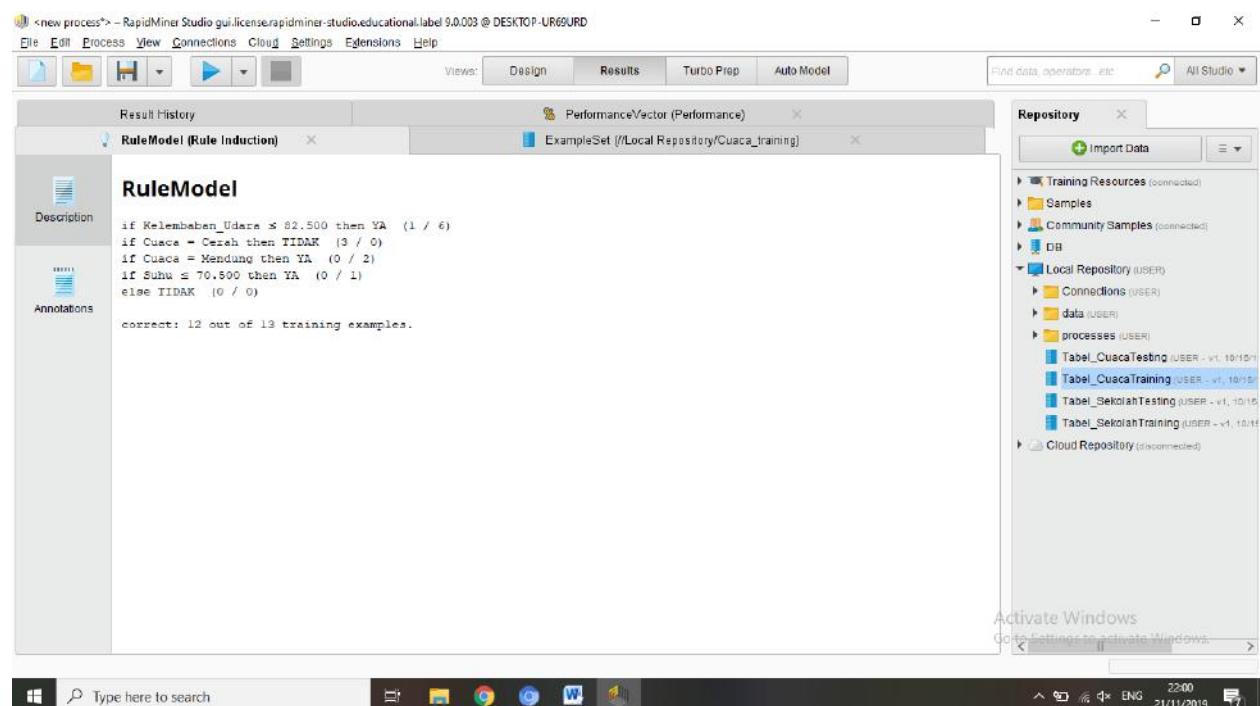
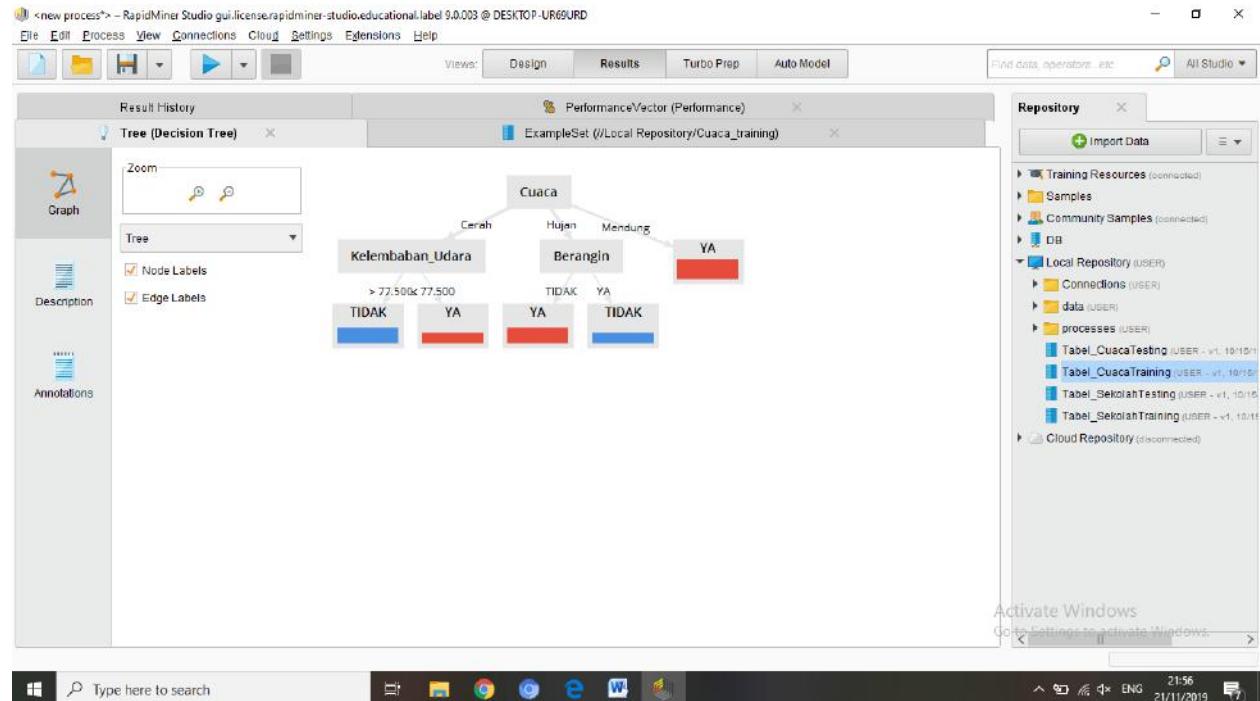
NIM : L200170057

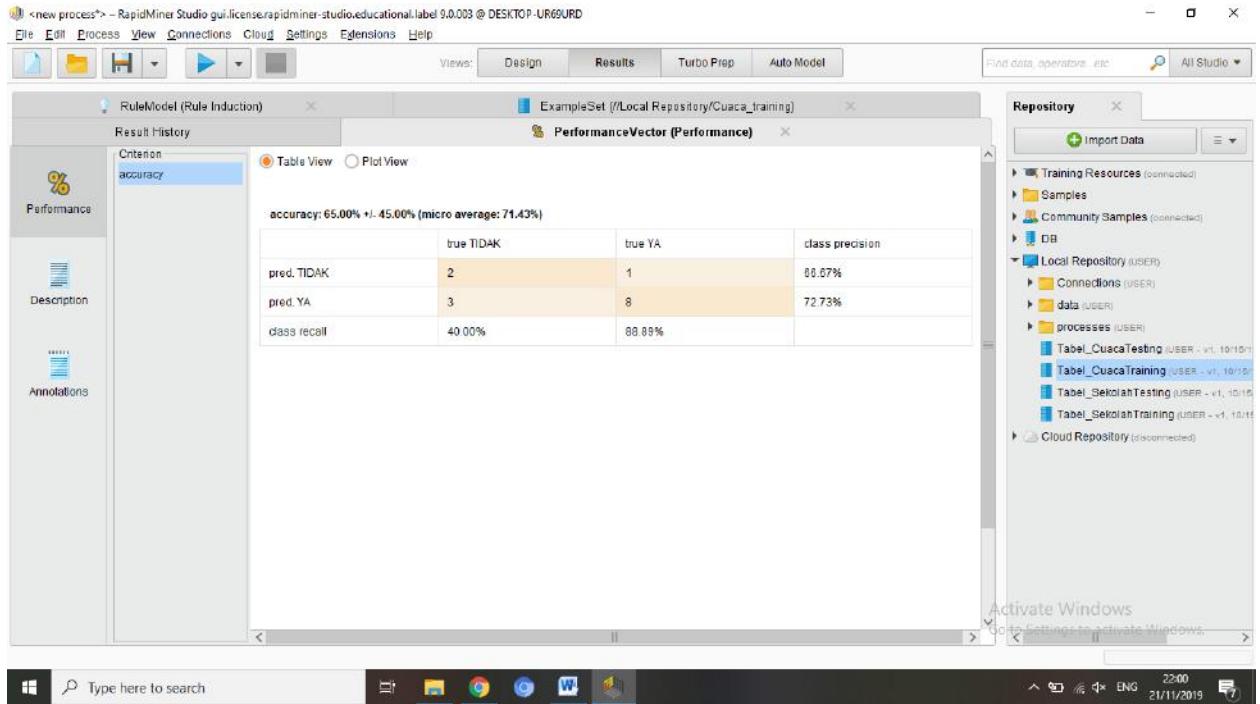
Kelas : C

## MODUL 11

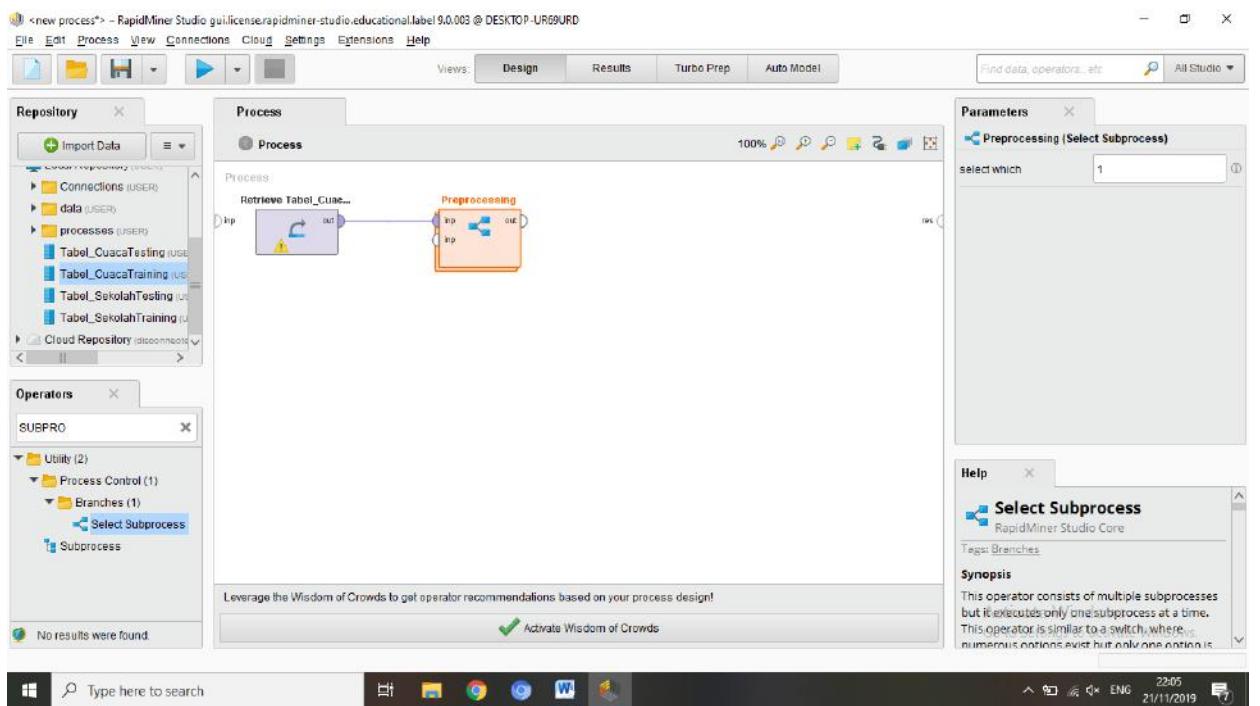
### LANGKAH – LANGKAH PRAKTIKUM

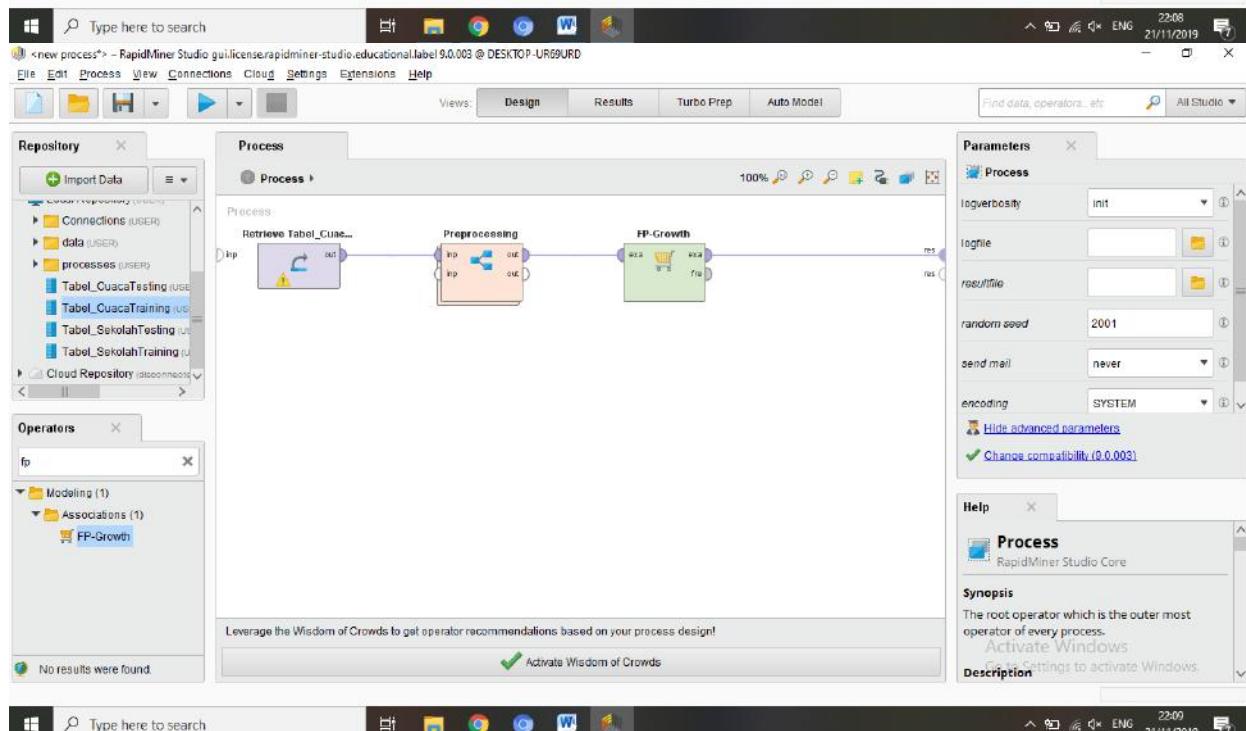
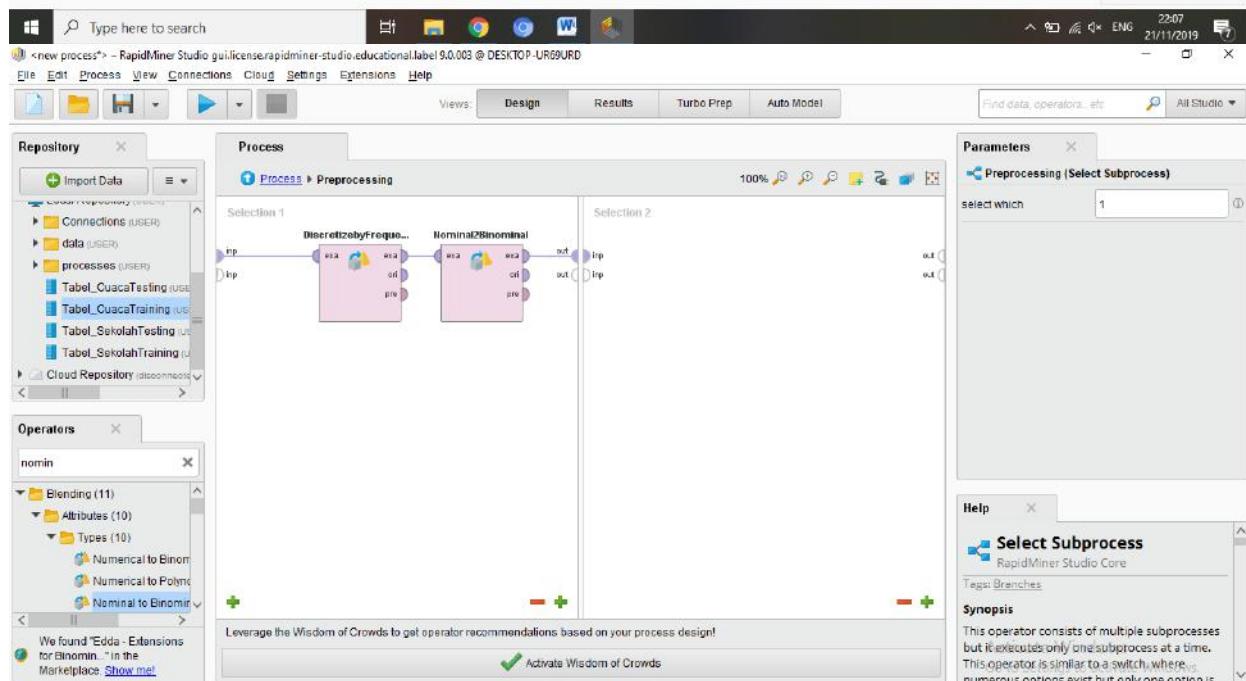
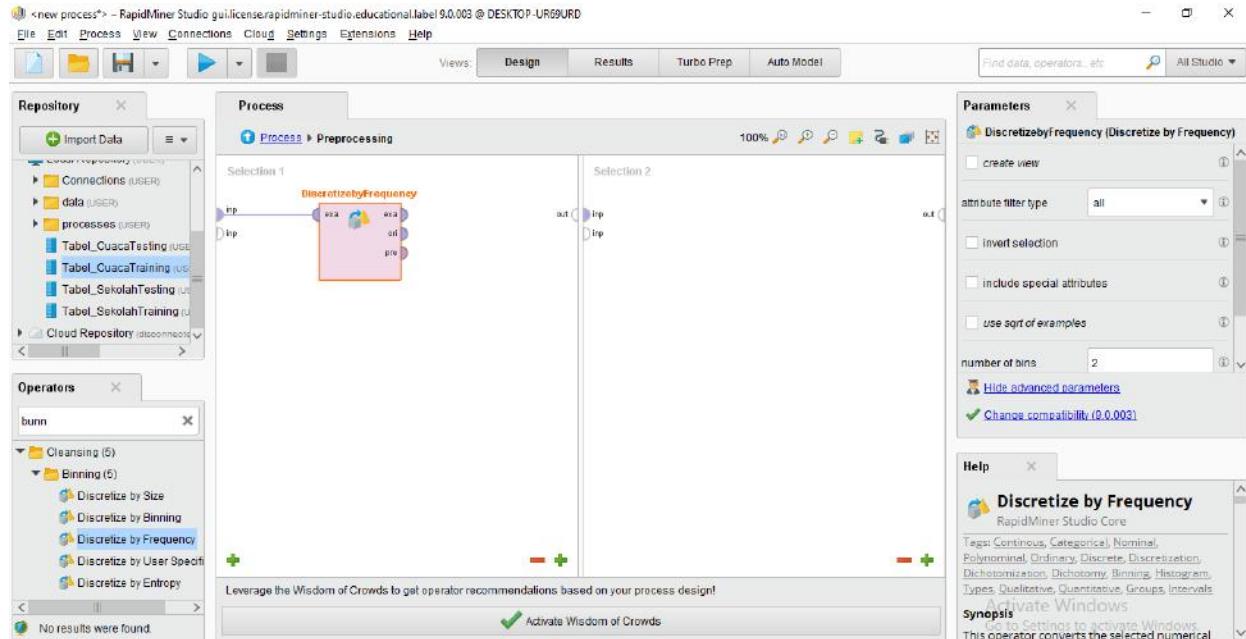
#### INDUKSI ATURAN DATA CUACA

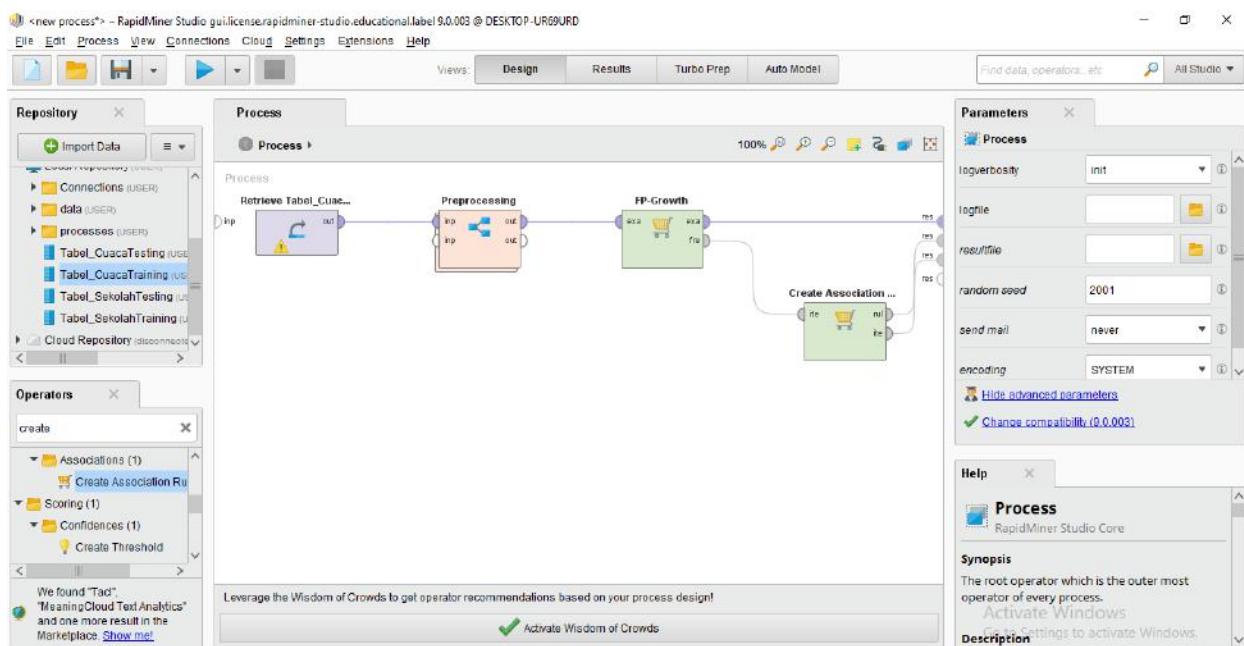




## ATURAN ASOSIASI DATA CUACA







The screenshot shows the RapidMiner Studio interface with the following details:

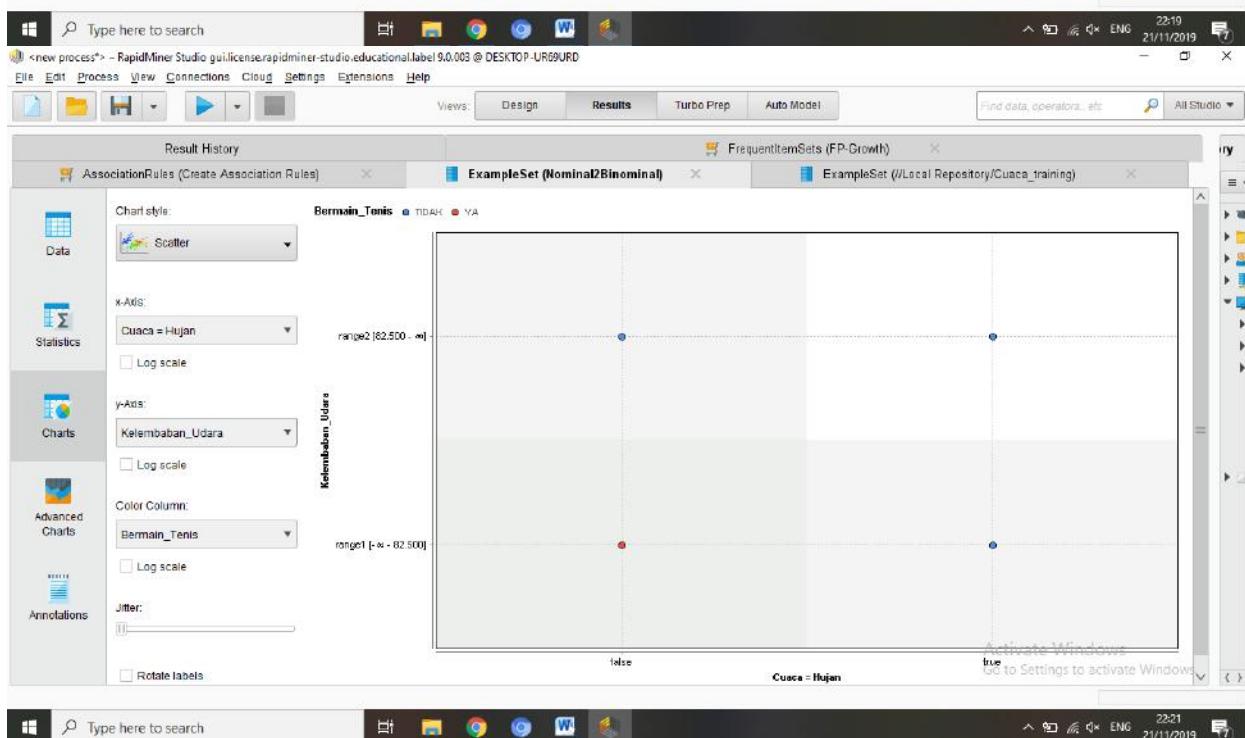
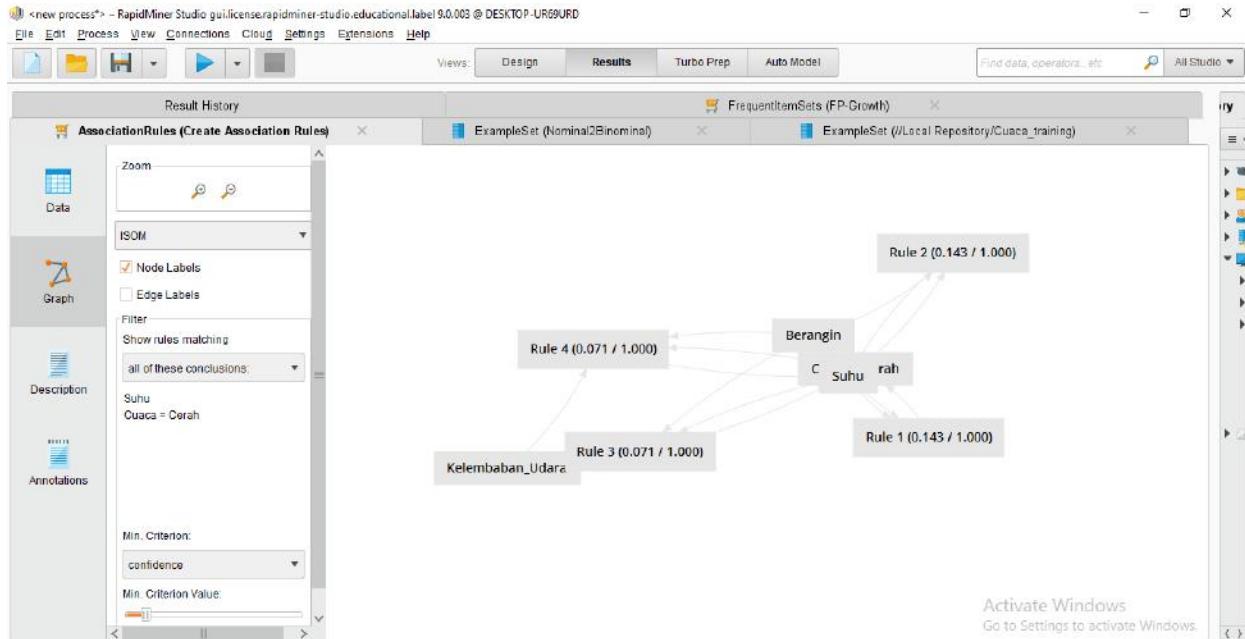
- Title Bar:** <new process> - RapidMiner Studio gui.license.rapidminer-studio.educational.label 9.0.003 @ DESKTOP-URG9URD
- Toolbar:** File, Edit, Process, View, Connections, Cloud, Settings, Extensions, Help.
- Views:** Design, Results, Turbo Prep, Auto Model.
- Search Bar:** Type here to search.
- Repository:** Local Repository (USER) contains Training Resources, Samples, Community Samples, DB, and several Tabel\_...Testing processes.
- Current Process:** ExampleSet (Nominal2Binomial) -> FrequentItemSets (FP-Growth) -> AssociationRules (Create Association Rules).
- Data View:** Shows the results of the FrequentItemSets operator. The table has columns: Size, Support, Item 1, Item 2, Item 3, and Item 4. The data includes:

Size	Support	Item 1	Item 2	Item 3	Item 4
1	0.500	Kelembaban_Udara			
1	0.429	Berangin			
1	0.429	Suhu			
1	0.357	Cuaca = Cerah			
1	0.357	Cuaca = Hujan			
1	0.266	Cuaca = Mendung			
2	0.214	Kelembaban_Udara	Berangin		
2	0.214	Kelembaban_Udara	Suhu		
2	0.214	Kelembaban_Udara	Cuaca = Cerah		
2	0.143	Kelembaban_Udara	Cuaca = Hujan		
2	0.143	Kelembaban_Udara	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		

The screenshot shows the RapidMiner Studio interface with the 'Results' tab selected. The main area displays a table of association rules generated from the 'ExampleSet (Nominal2Binominal)' dataset. The table has columns: Premises, Conclusion, Support, Confidence, LaPlace, Gain, and p-s.

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

On the left, there is a sidebar with four tabs: Data, Graph, Description, and Annotations. The 'Data' tab is currently active. Below the sidebar, there are two dropdown menus for setting minimum criteria: 'Min. Criterion' set to 'confidence' and 'Min. Criterion Value' set to 0.05. The top right corner of the window shows the system status: '22:15 21/11/2019 ENG'. A watermark for 'Activate Windows' is visible at the bottom right.



Nama : Titis Ulfa Mustikawati

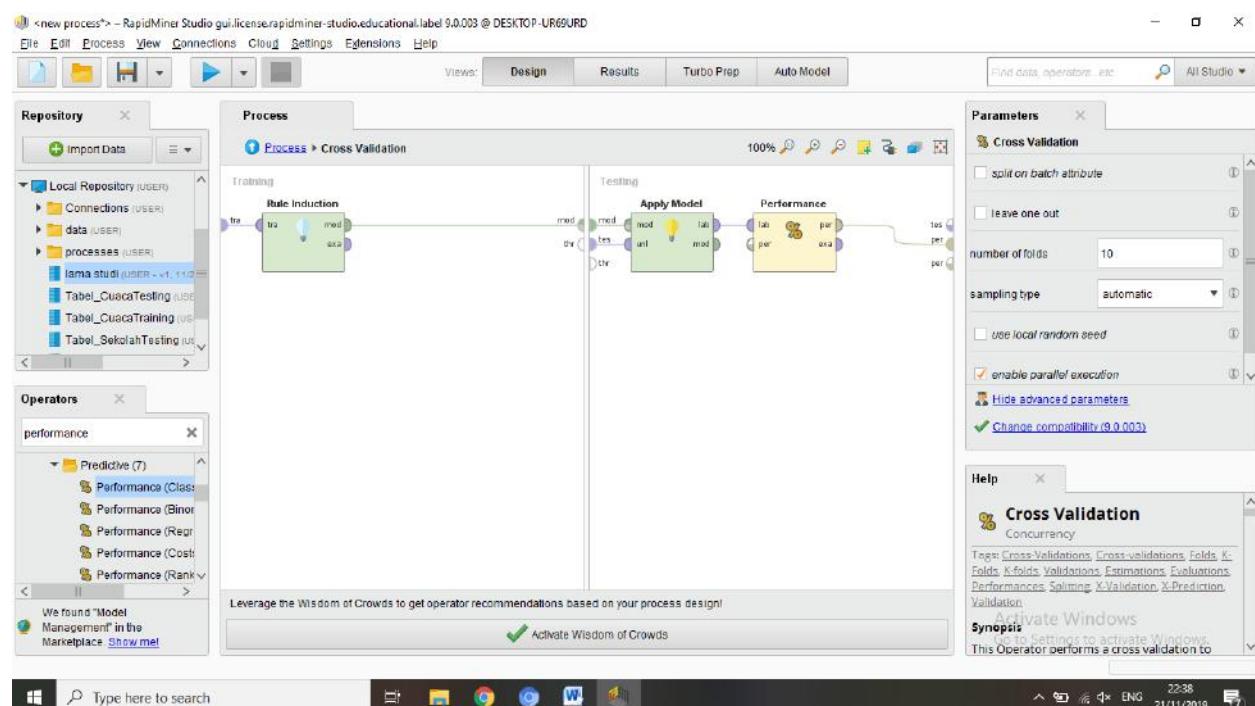
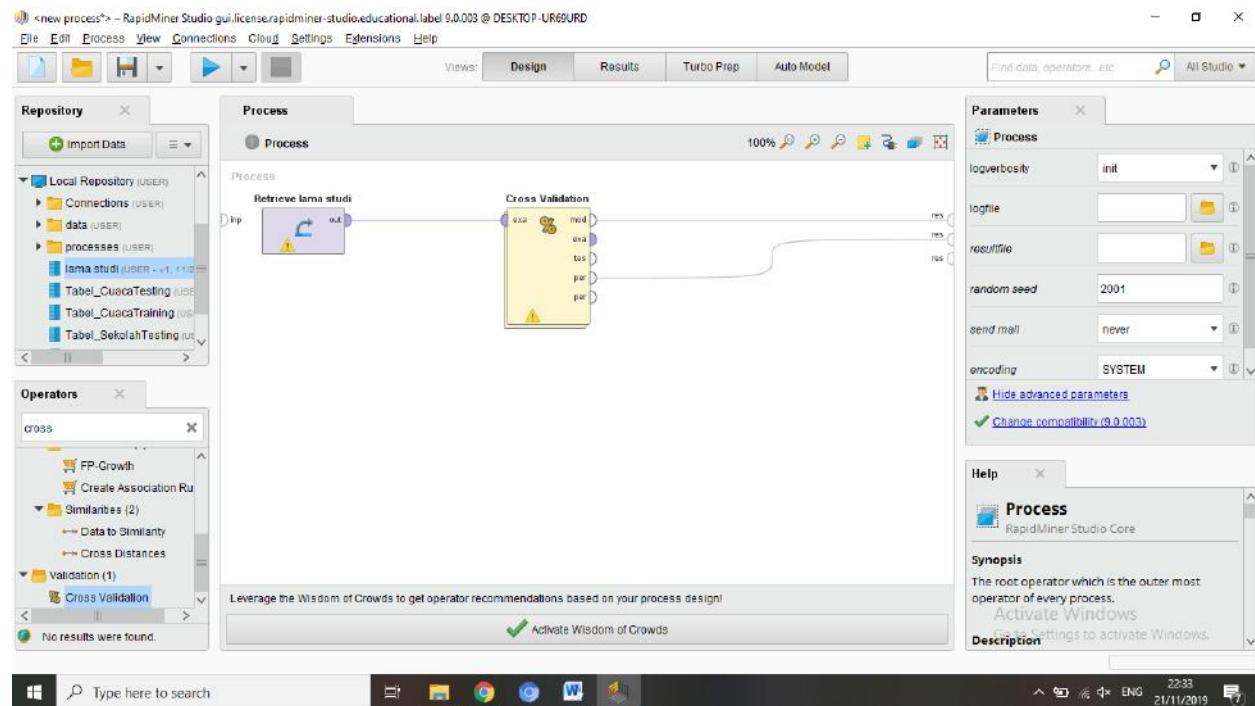
NIM : L200170057

Kelas : C

## MODUL 11

### TUGAS

#### 1. INDUKSI ATURAN LAMA STUDI



<new process\*> - RapidMiner Studio gui.license:rapidminer-studio.educational.label 9.0.003 @ DESKTOP-UR69URD

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/lama\_studi) ExampleSet (/Local Repository/Cuaca\_training) RuleModel (Rule induction)

Result History PerformanceVector (Performance)

**RuleModel**

Description

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

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

Annotations

Activate Windows  
Go to Settings to activate Windows.

Type here to search

22:41 21/11/2019

<new process\*> - RapidMiner Studio gui.license:rapidminer-studio.educational.label 9.0.003 @ DESKTOP-UR69URD

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/lama\_studi) ExampleSet (/Local Repository/Cuaca\_training) RuleModel (Rule induction)

Result History PerformanceVector (Performance)

Performance

Criterion accuracy

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%	

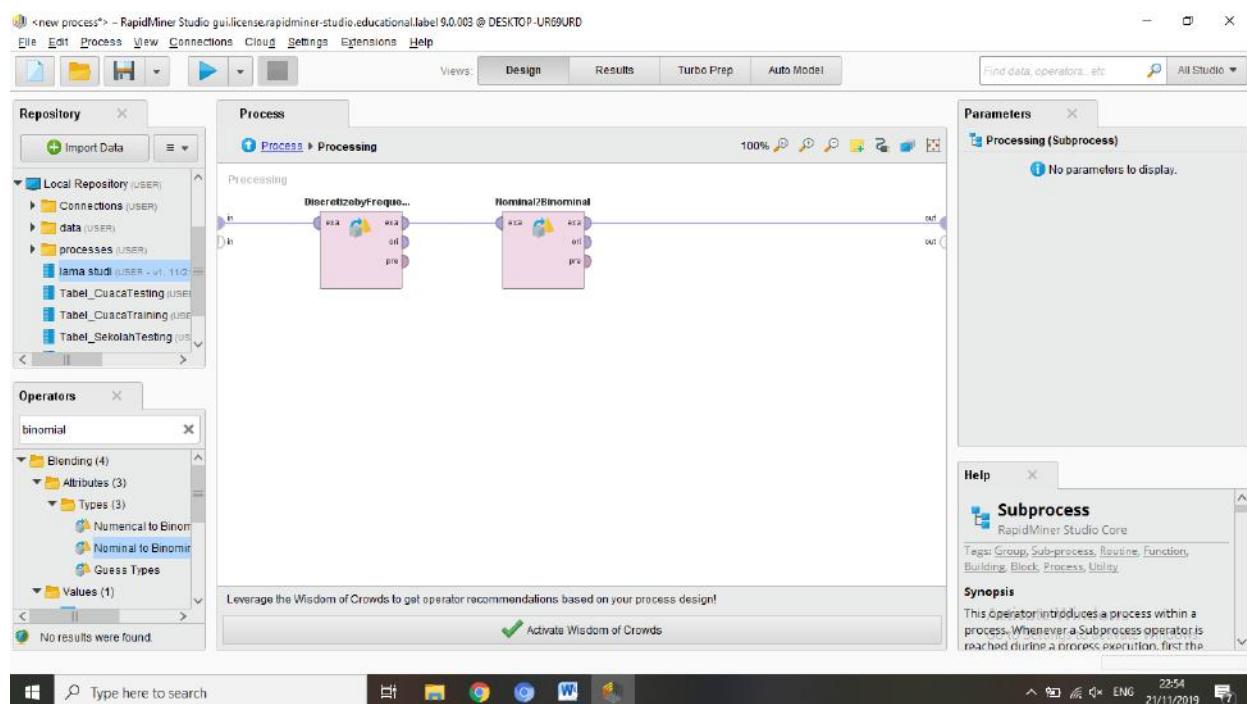
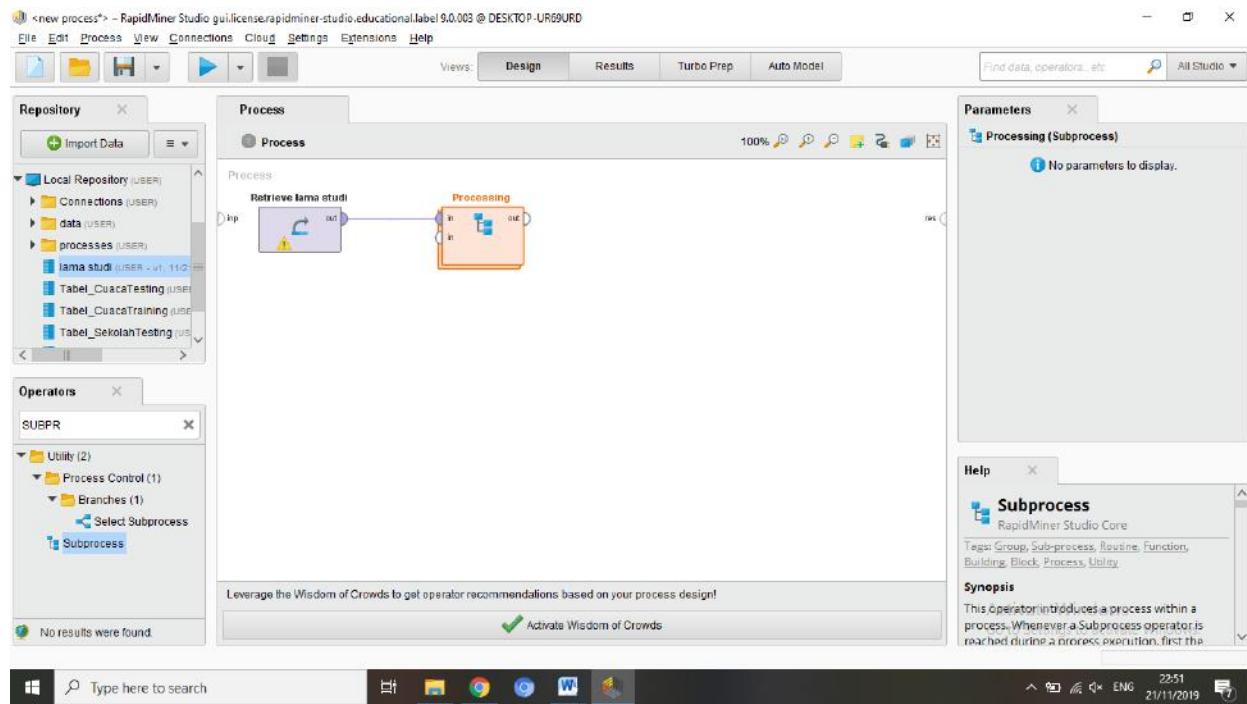
Annotations

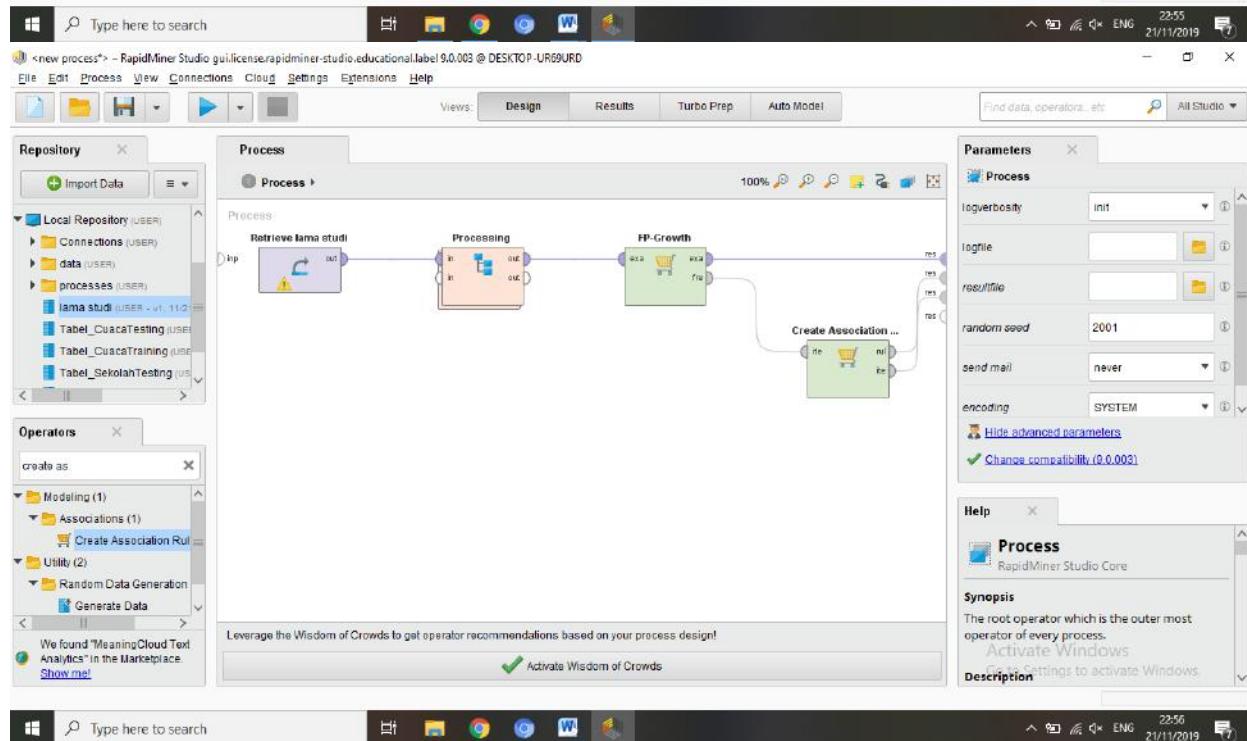
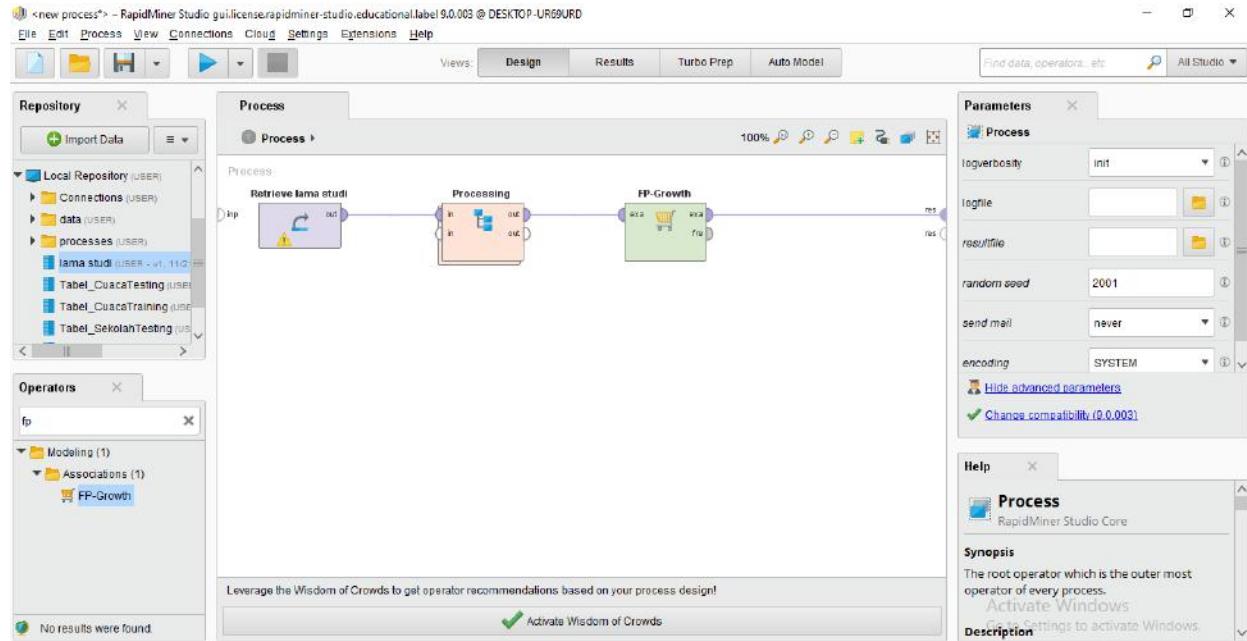
Activate Windows  
Go to Settings to activate Windows.

Type here to search

22:39 21/11/2019

## 2. ATURAN ASOSIASI LAMA STUDI





### a. Number of bins = 2

#### Frequent Item Set (FP-Growth)

The screenshot shows the RapidMiner Studio interface with the 'FrequentItemSets (FP-Growth)' tab selected. The table displays frequent item sets with their support values. The columns are Size, Support, Item 1, Item 2, Item 3, Item 4, and Item 5.

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			

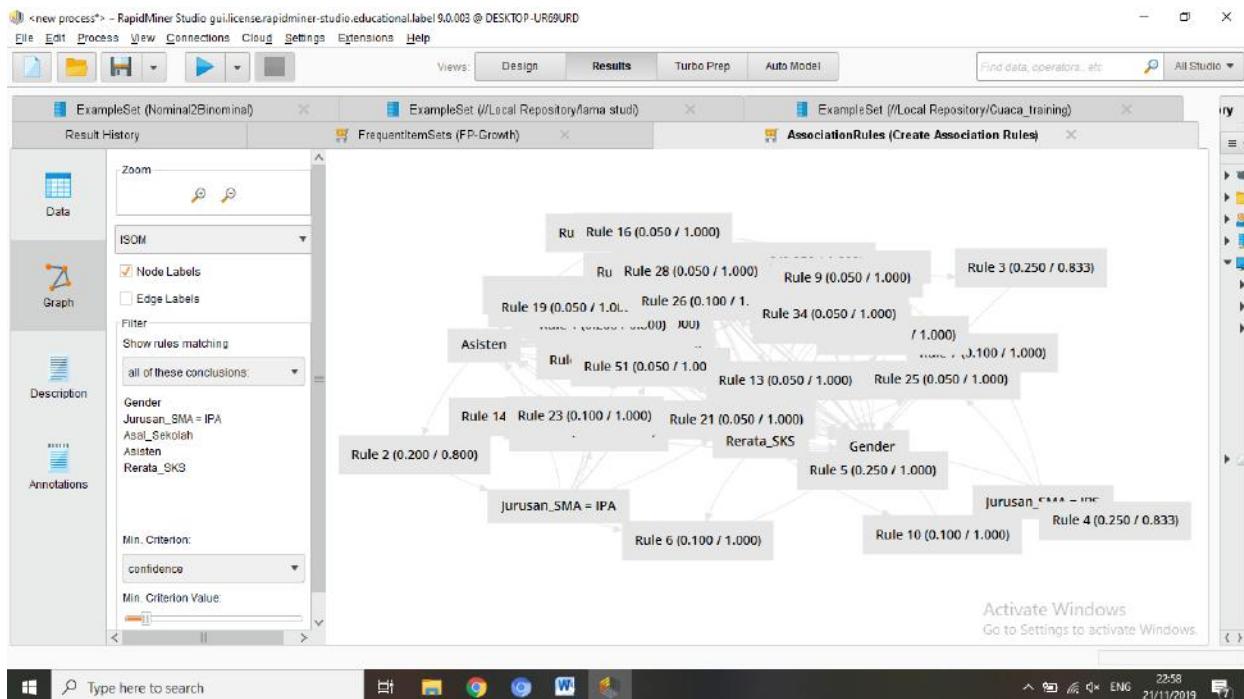
#### Association Rules (Create Association Rules)

##### i. Table View

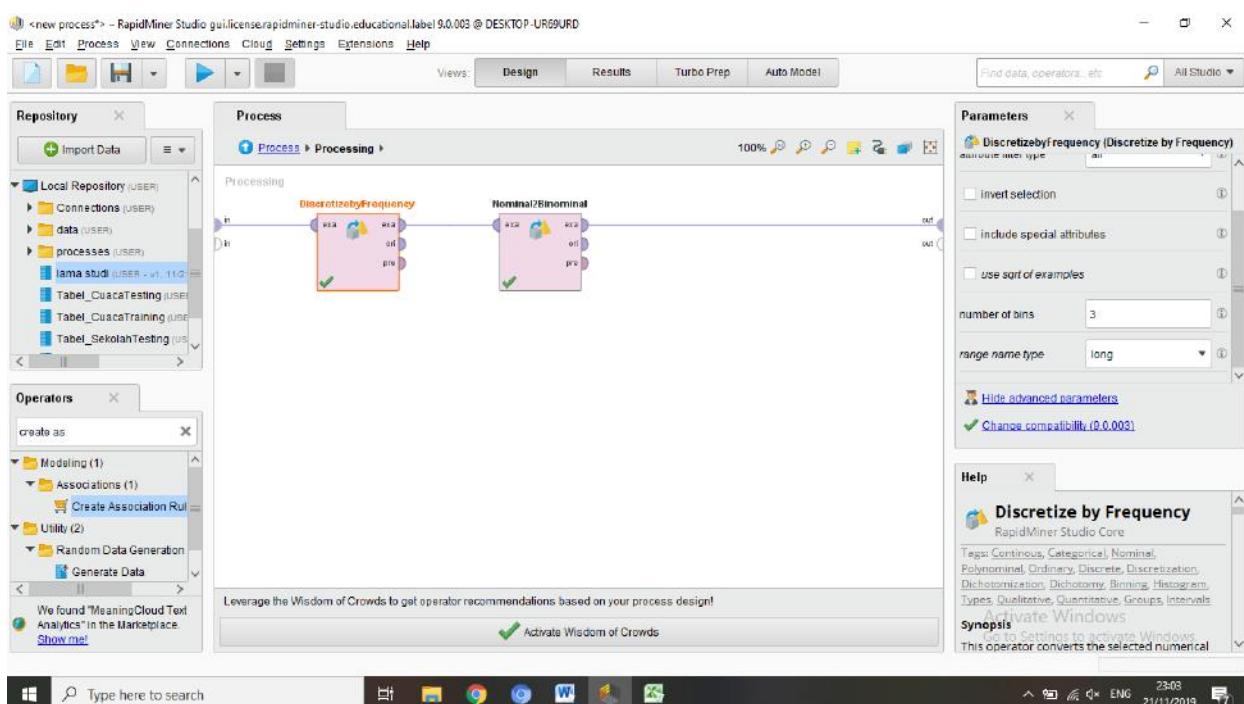
The screenshot shows the RapidMiner Studio interface with the 'AssociationRules (Create Association Rules)' tab selected. The table displays association rules with their support, confidence, and lift values. The columns are No., Premises, Conclusion, Support, Confidence, LaPlace, and Gini.

No.	Premises	Conclusion	Support	Confidence	LaPlace	Gini
3	Asal_Sekolah	Gender	0.250	0.833	0.962	-0.0
4	Gender Jurusan_SMA = IPA	Gender	0.250	0.833	0.962	-0.0
5	Asal_Sekolah	Gender	0.250	1	1	-0.0
6	Asisten	Gender	0.100	1	1	-0.0
7	Rerata_SKS	Gender	0.250	1	1	-0.0
8	Jurusan_SMA = IPS	Gender	0.100	1	1	-0.0
9	Asal_Sekolah, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
10	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
11	Asisten, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
12	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
13	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
14	Asal_Sekolah, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
15	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
16	Asisten, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
17	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
18	Asal_Sekolah, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
19	Asisten, Jurusan_SMA = LAIN	Gender	0.100	1	1	-0.0
20	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
21	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
22	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
23	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
24	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
25	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
26	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
27	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
28	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
29	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
30	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
31	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
32	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
33	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
34	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
35	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
36	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
37	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
38	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
39	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
40	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
41	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
42	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
43	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
44	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
45	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
46	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
47	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
48	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
49	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
50	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
51	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
52	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
53	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
54	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
55	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
56	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
57	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
58	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
59	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
60	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
61	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
62	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
63	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
64	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
65	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
66	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
67	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
68	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
69	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
70	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
71	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
72	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
73	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
74	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
75	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
76	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
77	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
78	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
79	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
80	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
81	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
82	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
83	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
84	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
85	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
86	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
87	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
88	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
89	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
90	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
91	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
92	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
93	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
94	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
95	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
96	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
97	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
98	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
99	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
100	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
101	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
102	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
103	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
104	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
105	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
106	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
107	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
108	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
109	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
110	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
111	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
112	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
113	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
114	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
115	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
116	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
117	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
118	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
119	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
120	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
121	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
122	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
123	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
124	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
125	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
126	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
127	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
128	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
129	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
130	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
131	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
132	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
133	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
134	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
135	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
136	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
137	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
138	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
139	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
140	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
141	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
142	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
143	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
144	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
145	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
146	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
147	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
148	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
149	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
150	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
151	Asal_Sekolah, Asisten	Gender	0.100	1	1	-0.0
152	Asisten, Asal_Sekolah	Gender	0.100	1	1	-0.0
153	Asal_Sekolah, Rerata_SKS	Gender	0.100	1	1	-0.0
154	Asisten, Rerata_SKS	Gender	0.100	1	1	-0.0
155	Asal_Sekolah, Asisten	Gender	0.100</			

## ii. Graph View



## b. Number of bins = 3



## Frequent Item Set (FP-Growth)

The screenshot shows the RapidMiner Studio interface with the 'FrequentItemSets (FP-Growth)' tab selected. The results table displays frequent item sets of size 1 to 2. The columns include Size, Support, and Item 1, Item 2, Item 3, Item 4, and Item 5. The data shows various combinations of attributes like Gender, Jurusan\_SMA, Rerata\_SKS, Asal\_Sekolah, and Asisten.

Size	Support	Item 1	Item 2	Item 3	Item 4	Item 5
1	0.750	Gender				
1	0.500	Jurusan_SMA = IPA				
1	0.400	Rerata_SKS = range1 ...				
1	0.350	Rerata_SKS = range2 ...				
1	0.300	Asal_Sekolah				
1	0.300	Jurusan_SMA = IPS				
1	0.250	Asisten				
1	0.250	Rerata_SKS = range3 ...				
1	0.200	Jurusan_SMA = LAIN				
2	0.350	Gender	Jurusan_SMA = IPA			
2	0.200	Gender	Rerata_SKS = range1 ...			
2	0.300	Gender	Rerata_SKS = range2 ...			
2	0.250	Gender	Asal_Sekolah			
2	0.250	Gender	Jurusan_SMA = IPS			
2	0.200	Gender	Asisten			

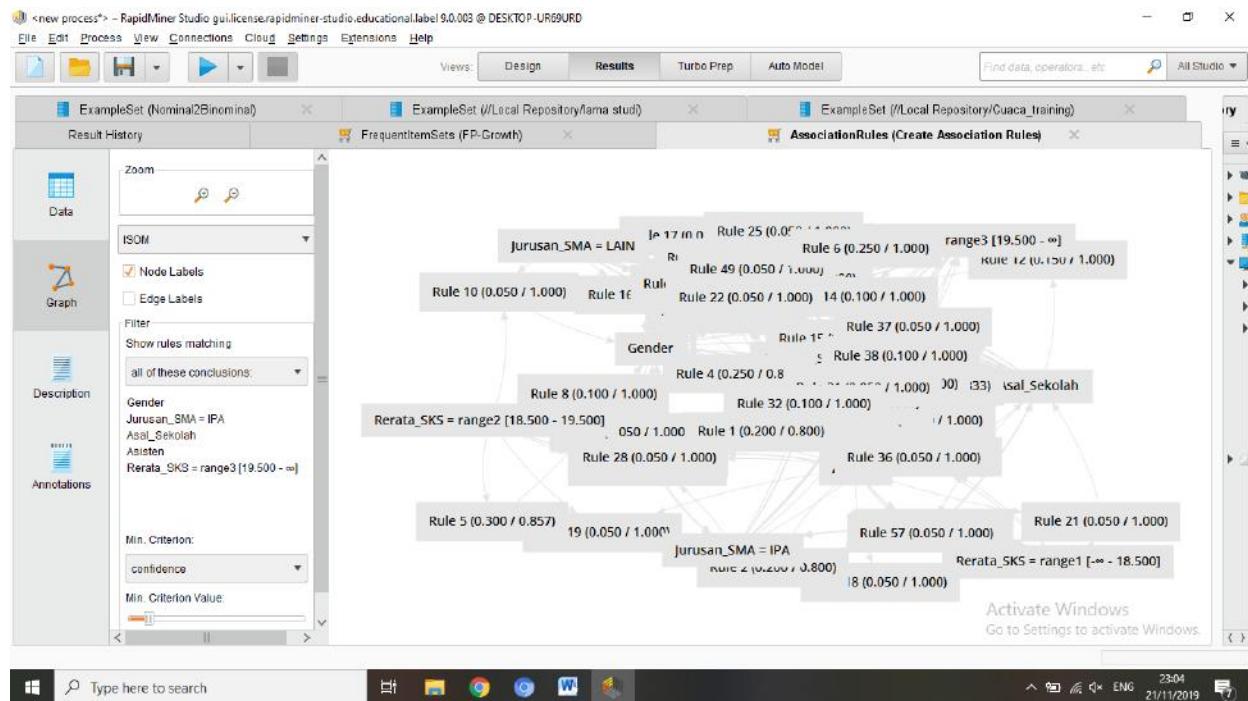
## Association Rules (Create Association Rules)

### i. Table View

The screenshot shows the RapidMiner Studio interface with the 'AssociationRules (Create Association Rules)' tab selected. The results table displays association rules with columns for No., Premises, Conclusion, Support, Confidence, LaPlace, and Gini. The data shows various rules derived from the frequent item sets, such as 'Asal\_Sekolah' leading to 'Gender' or 'Rerata\_SKS = range3 [19.500 - ∞]' leading to 'Gender'.

No.	Premises	Conclusion	Support	Confidence	LaPlace	Gini
3	Asal_Sekolah	Gender	0.250	0.833	0.962	-0
4	Gender					
4	Jurusan_SMA = IPS	Gender	0.250	0.833	0.962	-0
5	Asal_Sekolah					
5	Rerata_SKS = range2 [18.500 - 19.500]	Gender	0.300	0.857	0.963	-0
6	Asisten					
6	Rerata_SKS = range3 [19.500 - ∞]	Gender	0.250	1	1	-0
7	Rerata_SKS = range2 [18.500 - 19.500]	Gender	0.100	1	1	-0
8	Jurusan_SMA = IPA, Rerata_SKS = range3 [19.500 - ∞]	Gender	0.100	1	1	-0
9	Asisten					
9	Rerata_SKS = range2 [18.500 - 19.500], Asisten	Gender	0.050	1	1	-0
10	Asisten					
10	Rerata_SKS = range2 [18.500 - 19.500], Jurusan_SMA = IPS	Gender	0.050	1	1	-0
11	Asal_Sekolah, Rerata_SKS = range3 [19.500 - ∞]	Gender	0.100	1	1	-0
12	Asal_Sekolah, Rerata_SKS = range3 [19.500 - ∞]	Gender	0.150	1	1	-0
13	Asal_Sekolah, Jurusan_SMA = LAIN	Gender	0.050	1	1	-0
14	Jurusan_SMA = IPS, Rerata_SKS = range3 [19.500 - ∞]	Gender	0.100	1	1	-0
15	Asisten, Rerata_SKS = range3 [19.500 - ∞]	Gender	0.150	1	1	-0
16	Asisten, Jurusan_SMA = LAIN	Gender	0.050	1	1	-0
17	Rerata_SKS = range3 [19.500 - ∞], Jurusan_SMA = IPS	Gender	0.050	1	1	-0

## ii. Graph View



Nama : Titis Ulfa Mustikawati

NIM : L200170057

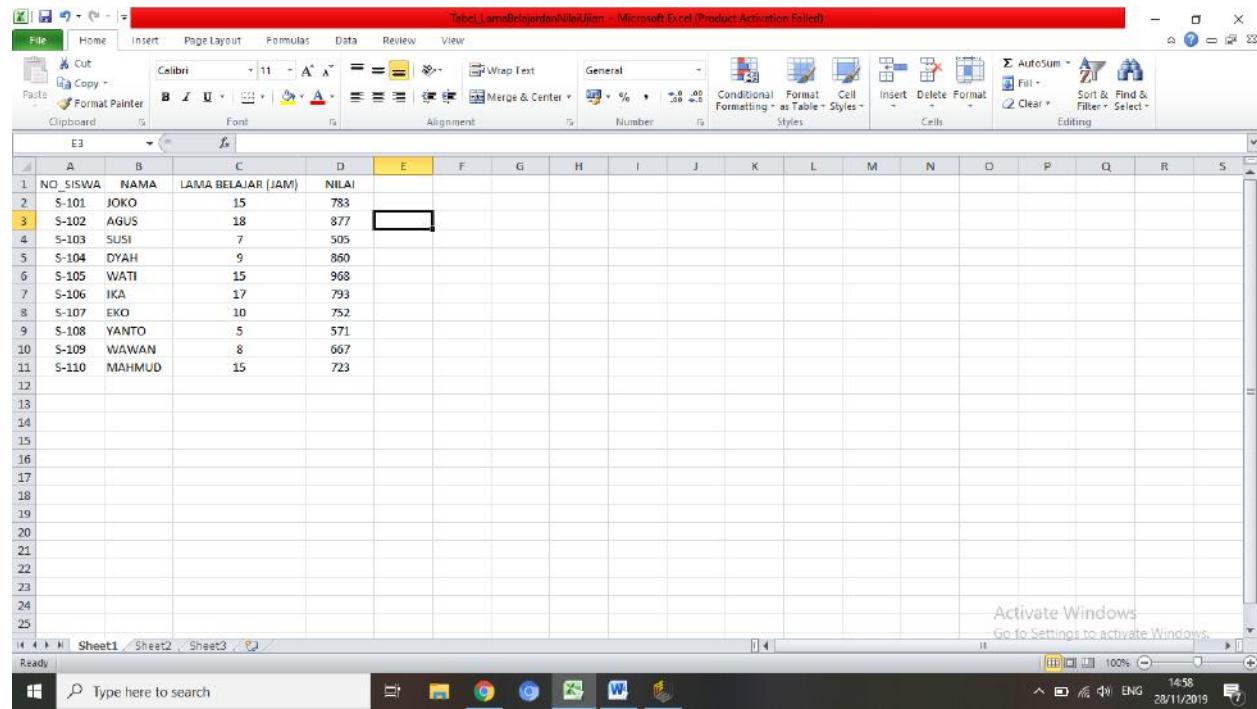
Kelas : C

## MODUL 12

### REGRESI LINIER SEDERHANA

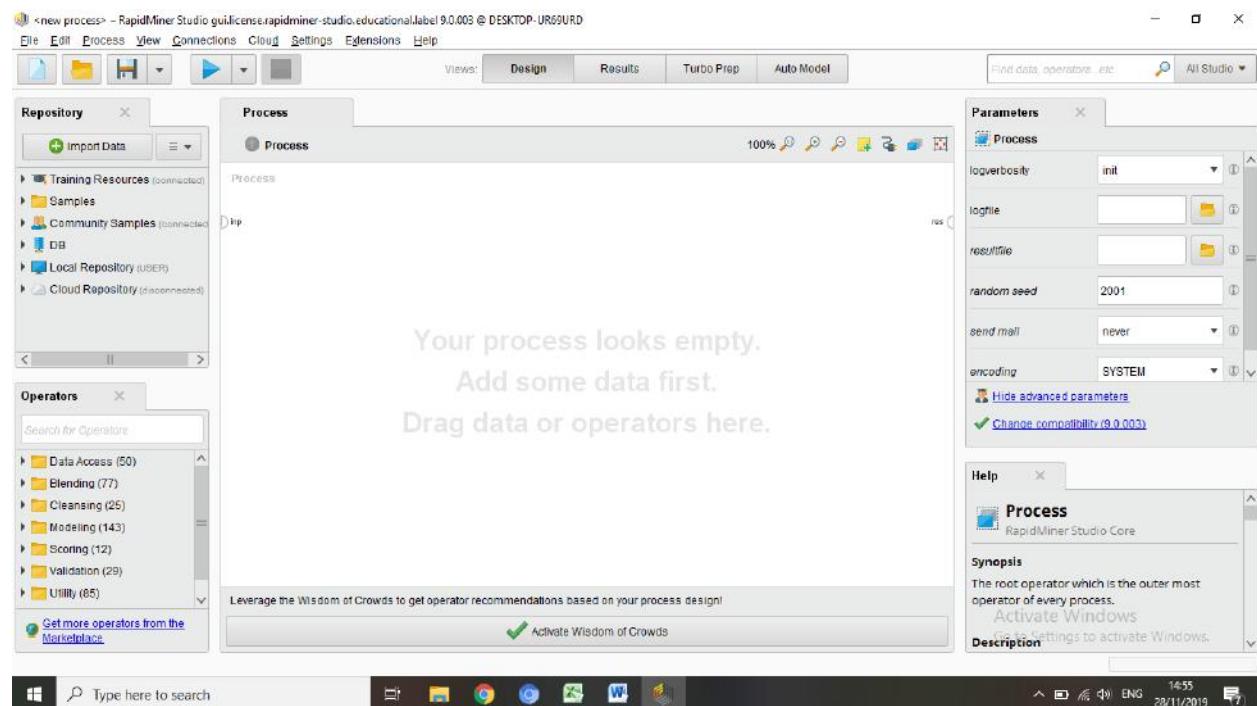
#### LANGKAH – LANGKAH PRAKTIKUM

##### 1. Mencari Nilai t-hitung dan Model Regresi Linier

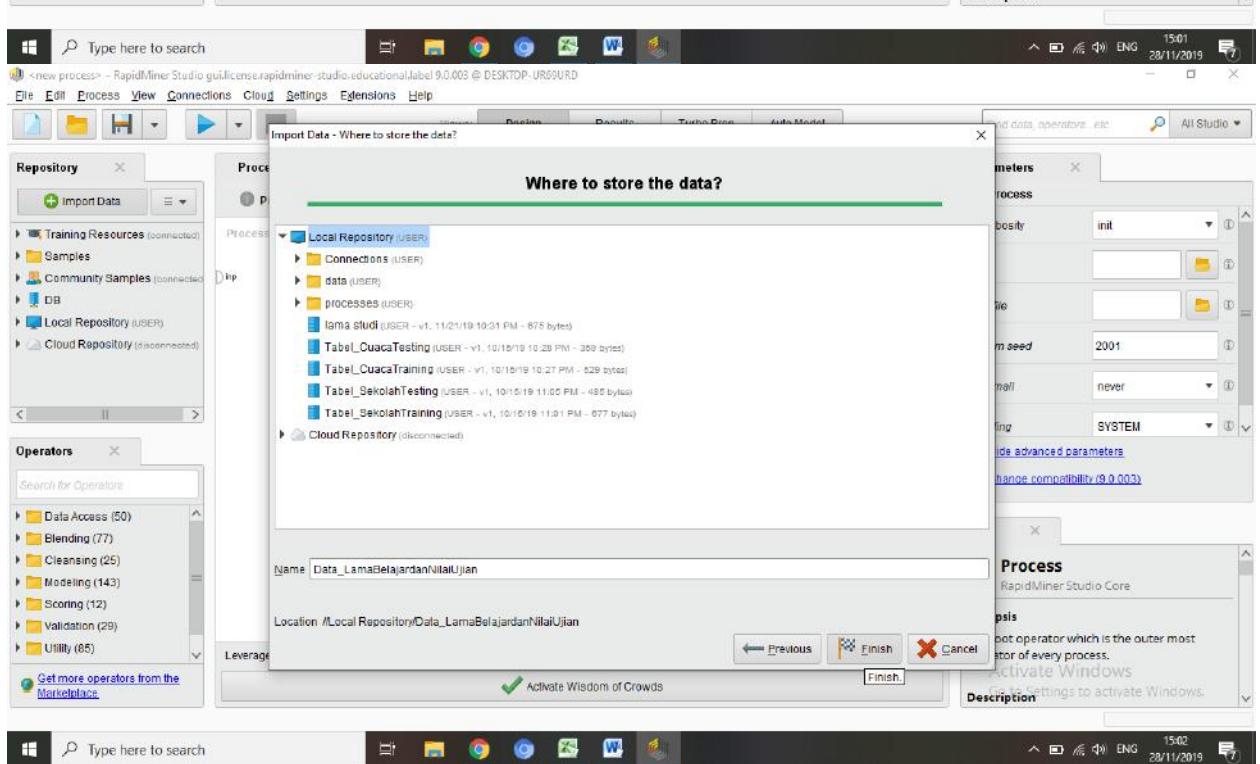
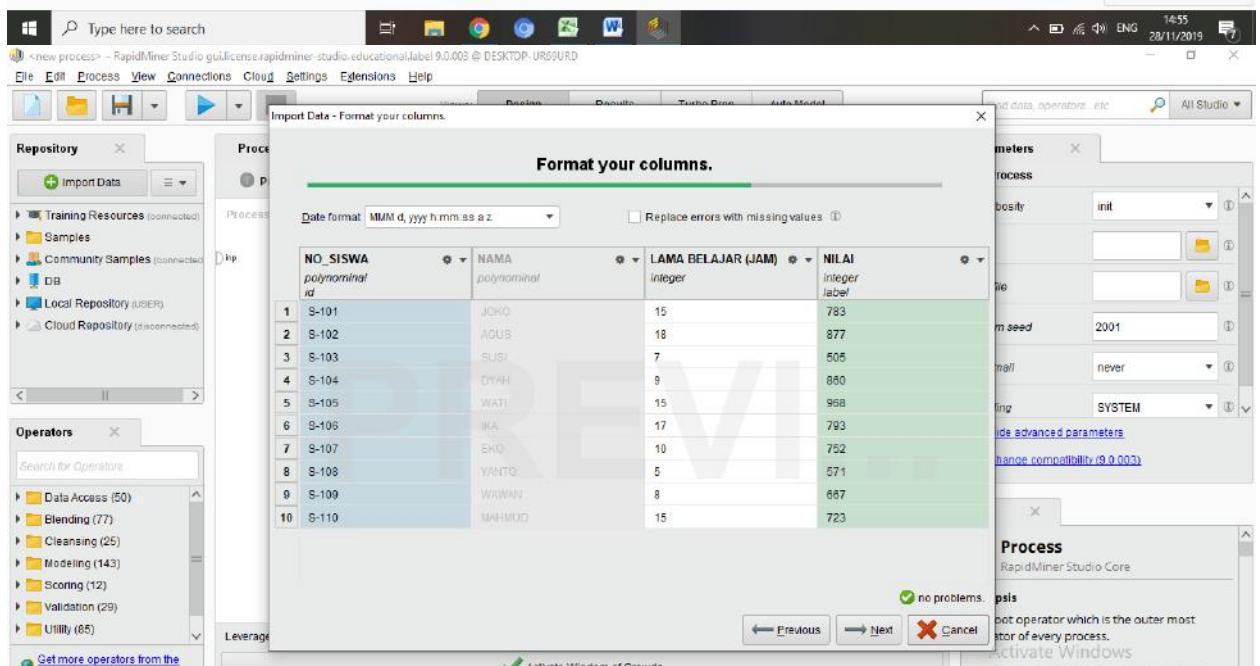
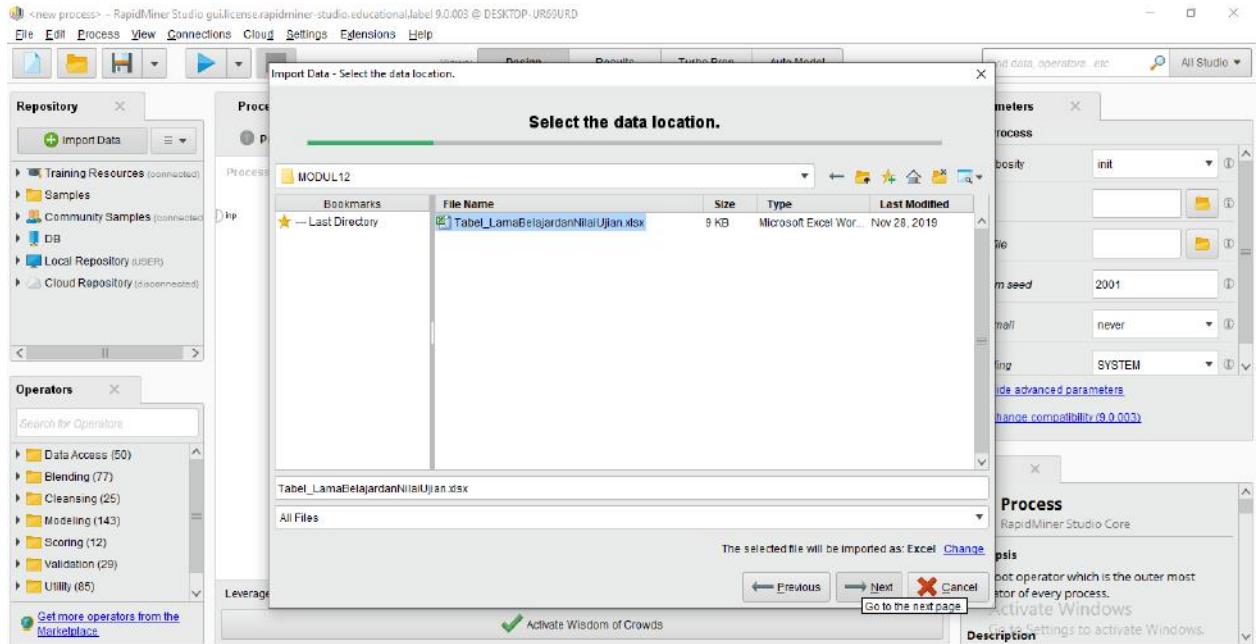


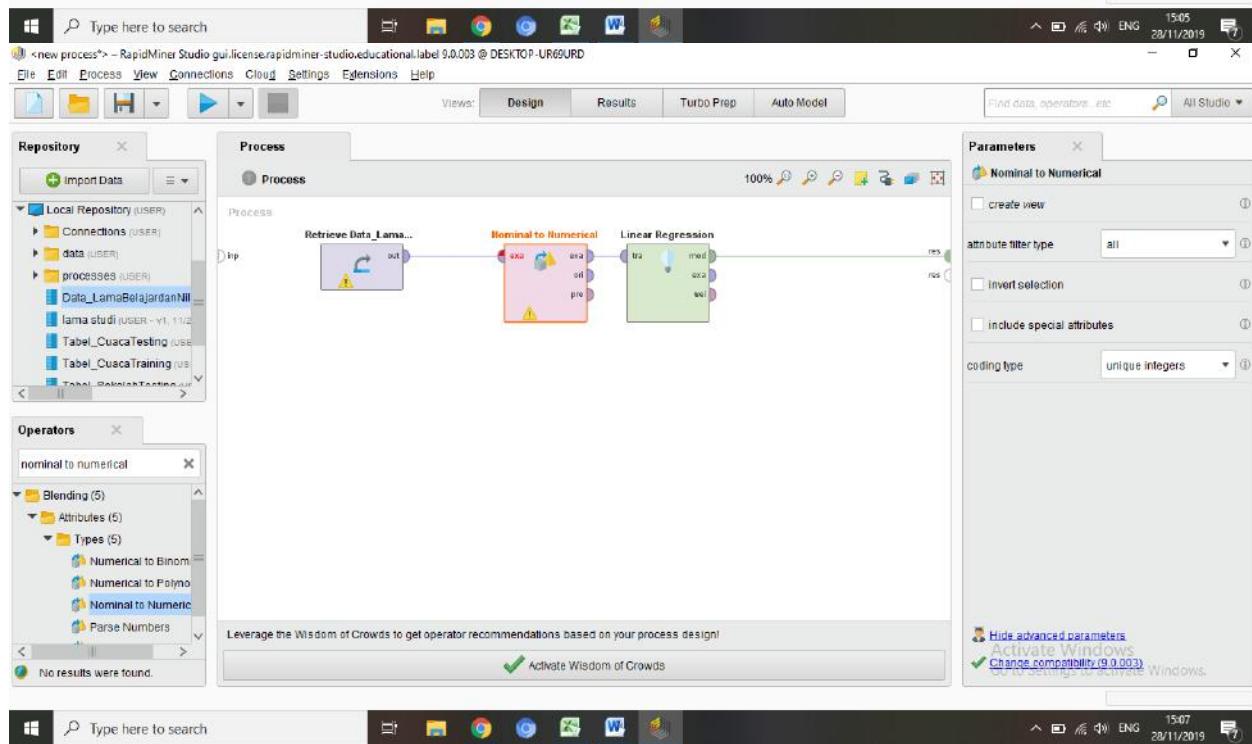
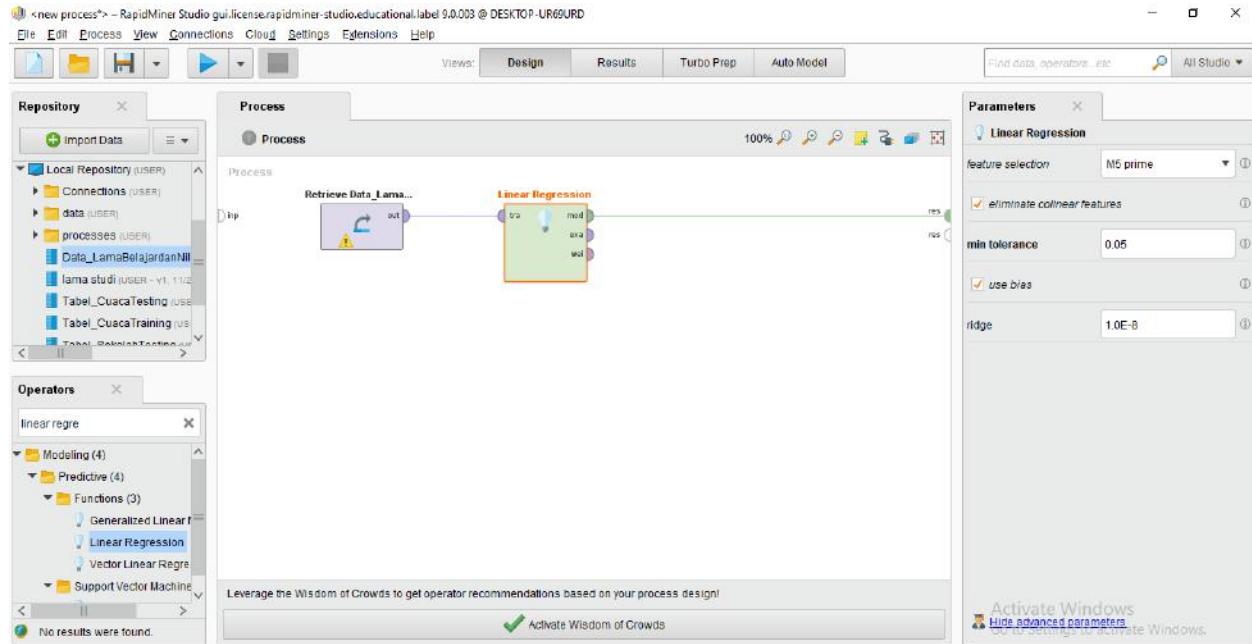
The screenshot shows a Microsoft Excel spreadsheet titled "Tabel\_Lama\_Belajar.xls". The data is organized into columns A through E:

NO_SISWA	NAMA	LAMA BELAJAR (JAM)	NILAI	
S-101	JOKO	15	783	
S-102	AGUS	18	877	
S-103	SUSI	7	505	
S-104	DYAH	9	860	
S-105	WATI	15	968	
S-106	IKA	17	793	
S-107	EKO	10	752	
S-108	YANTO	5	571	
S-109	WAWAN	8	667	
S-110	MAHMUD	15	723	



The screenshot shows the RapidMiner Studio interface. The central workspace displays the message: "Your process looks empty. Add some data first. Drag data or operators here." On the left, the "Repository" panel lists "Training Resources (connected)", "Samples", "Community Samples (connected)", "DB", "Local Repository (USER)", and "Cloud Repository (disconnected)". The "Operators" panel lists categories: Data Access (50), Blending (77), Cleansing (25), Modeling (143), Scoring (12), Validation (29), and Utility (65). The "Parameters" panel contains settings for the "Process" operator, including "loggerbasicstr" set to "init", "logfile" and "resultfile" fields, "random seed" set to 2001, and "send mail" set to "never". The "Help" panel provides information about the "Process" operator and its synopsis.





Hasil proses regresi linier :

a) Table View (mencari besarnya nilai t-hitung)

The screenshot shows the RapidMiner Studio interface with the 'Results' tab selected. A table titled 'LinearRegression (Linear Regression)' is displayed, showing the following data:

Attribute	Coefficient	Std. Error	Std. Coefficient	Tolerance	t.Stat	p.Value	Code
LAMA BELAJAR (JAM)	21.608	7.645	0.707	1	2.827	0.022	**
(Intercept)	492.769	98.909	?	?	5.085	0.001	****

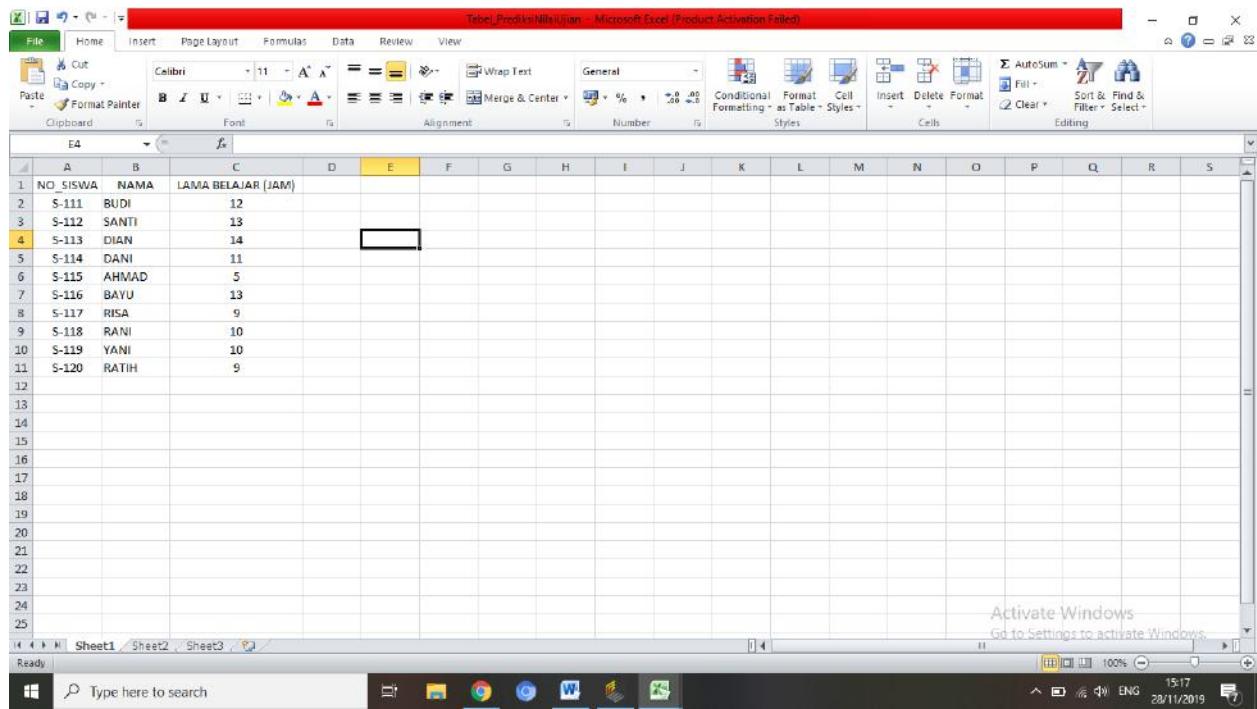
b) Text View (mencari model regresi)

The screenshot shows the RapidMiner Studio interface with the 'Text' tab selected. The output window displays the following text:

**LinearRegression**

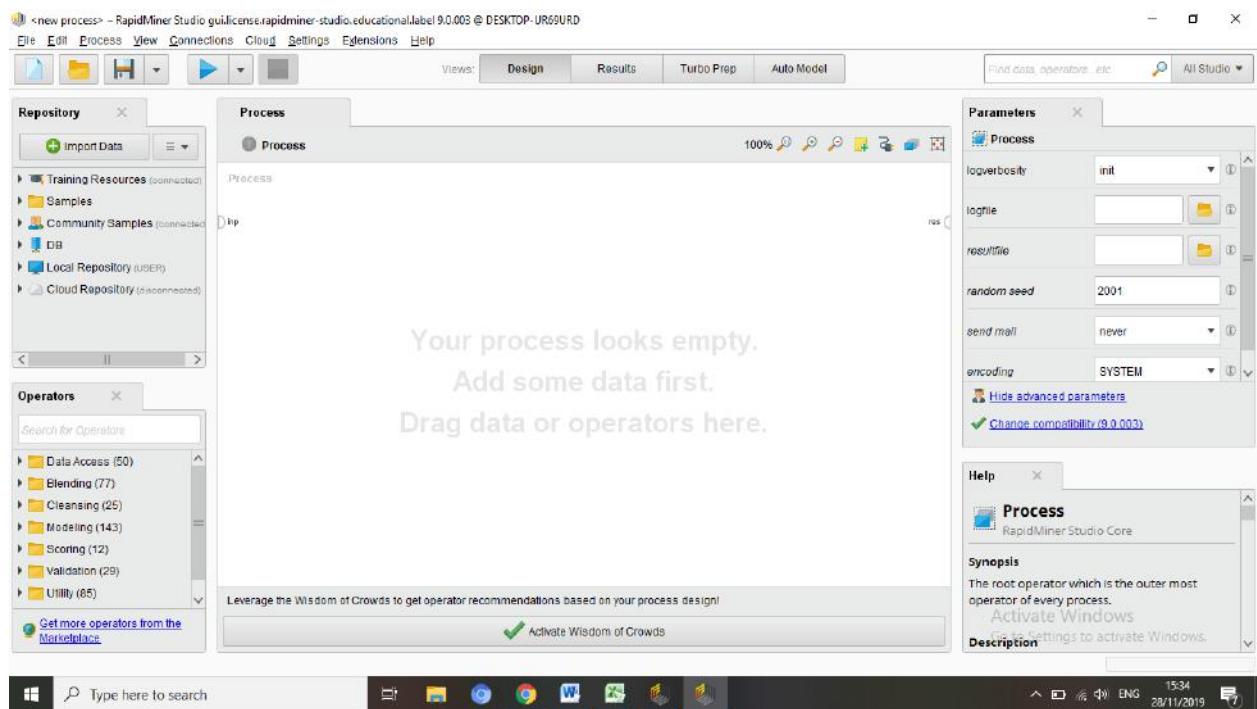
21.608 \* LAMA BELAJAR (JAM)  
+ 492.769

## 2. Mencari Nilai t dan Model Regresi Linier Menggunakan RapidMiner



The screenshot shows a Microsoft Excel spreadsheet titled "Tabel\_Prediksi\_Nilai\_Ujian". The table has columns labeled "NO\_SISWA", "NAMA", and "LAMA BELAJAR (JAM)". The data includes 20 rows of student information. Row 4 is highlighted in yellow. The formula bar at the top shows the address "E4". The ribbon menu is visible at the top.

NO_SISWA	NAMA	LAMA BELAJAR (JAM)
S-111	BUDI	12
S-112	SANTI	13
S-113	DIAN	14
S-114	DANI	11
S-115	AHMAD	5
S-116	BAYU	13
S-117	RISA	9
S-118	RANI	10
S-119	YANI	10
S-120	RATIH	9
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		



The screenshot shows the RapidMiner Studio interface. The main area is titled "Process" and displays the message "Your process looks empty. Add some data first. Drag data or operators here." Below this, it says "Leverage the Wisdom of Crowds to get operator recommendations based on your process design!" and "Activate Wisdom of Crowds". On the left, there are two panes: "Repository" and "Operators". The "Repository" pane shows various data sources like "Training Resources", "Samples", and "Community Samples". The "Operators" pane lists categories such as "Data Access", "Blending", "Cleansing", "Modeling", "Scoring", "Validation", and "Utility". On the right, there are panes for "Parameters" (with fields for logverbosity, logfile, resultfile, random seed, send mail, and encoding), "Help" (with a synopsis about the Process operator), and "Synopsis" (which is currently empty). The bottom status bar shows the date and time as 15:17 28/11/2019.

**Select the data location.**

File Name	Size	Type	Last Modified
Tabel_LamaBelajar... 9 KB		Microsoft Excel Worksheet	Nov 28, 2019
Tabel_PrediksiNilai... 0 KB		Microsoft Excel Worksheet	Nov 28, 2019

The selected file will be imported as: Excel [Change](#)

[Previous](#) [Next](#) [Cancel](#)

[Activate Wisdom of Crowds](#)

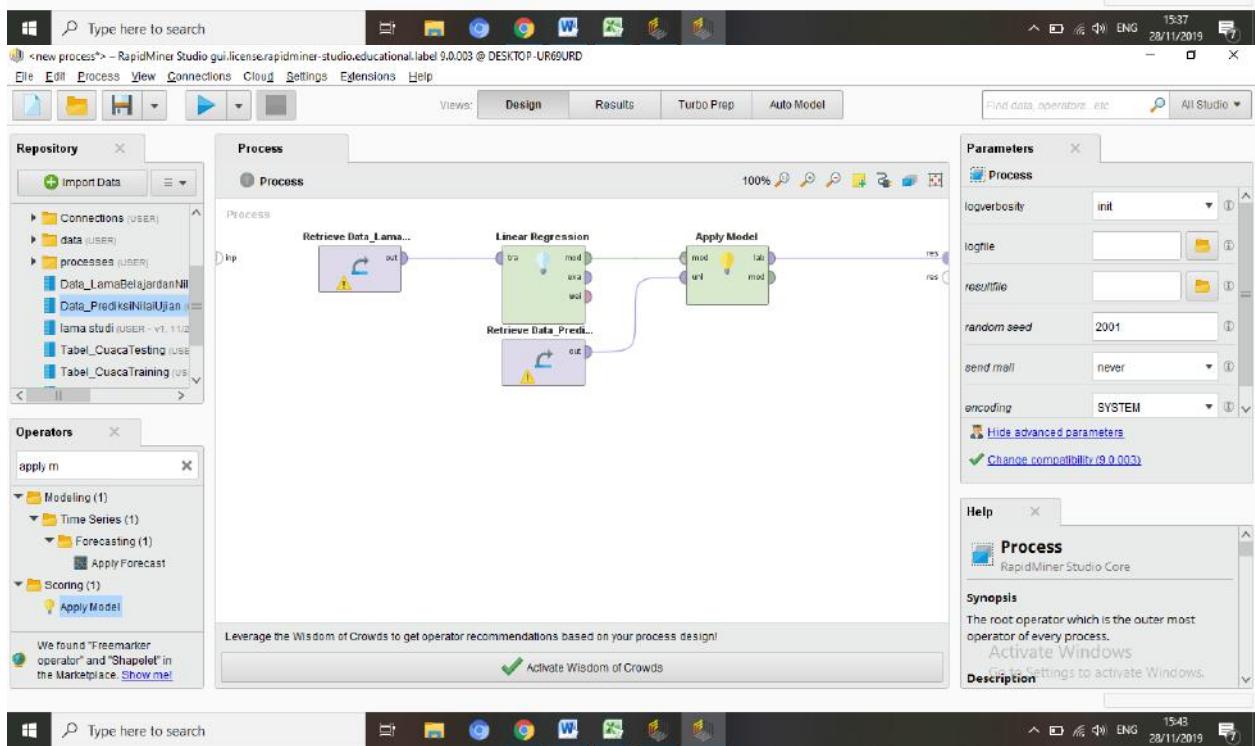
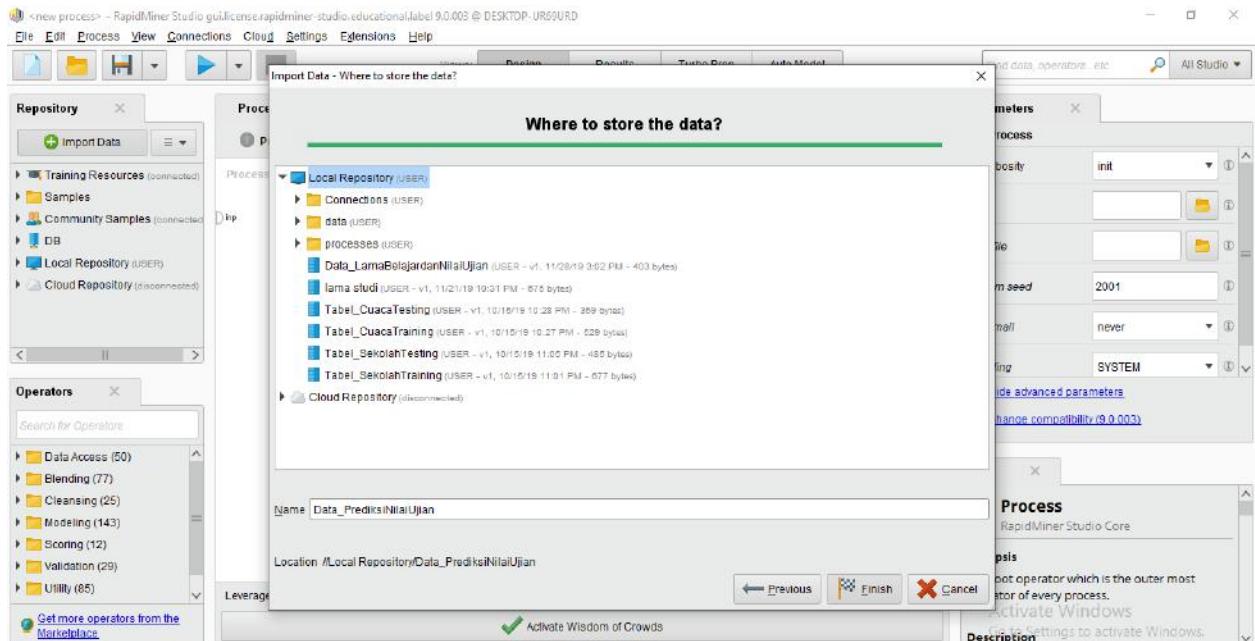
**Format your columns.**

NO_SISWA	NAMA	LAMA BELAJAR (JAM)
1 S-111	BUDI	12
2 S-112	SANTI	13
3 S-113	DIAN	14
4 S-114	DANI	11
5 S-115	ABIBUS	5
6 S-116	BAYU	13
7 S-117	RISA	9
8 S-118	RANI	10
9 S-119	YANI	10
10 S-120	RATIH	9

Date format: MMM d, yyyy h:mm:ss a z  Replace errors with missing values

[no problems.](#) [Previous](#) [Next](#) [Cancel](#)

[Activate Wisdom of Crowds](#)



Hasil proses prediksi terhadap data testing menggunakan regresi linier :

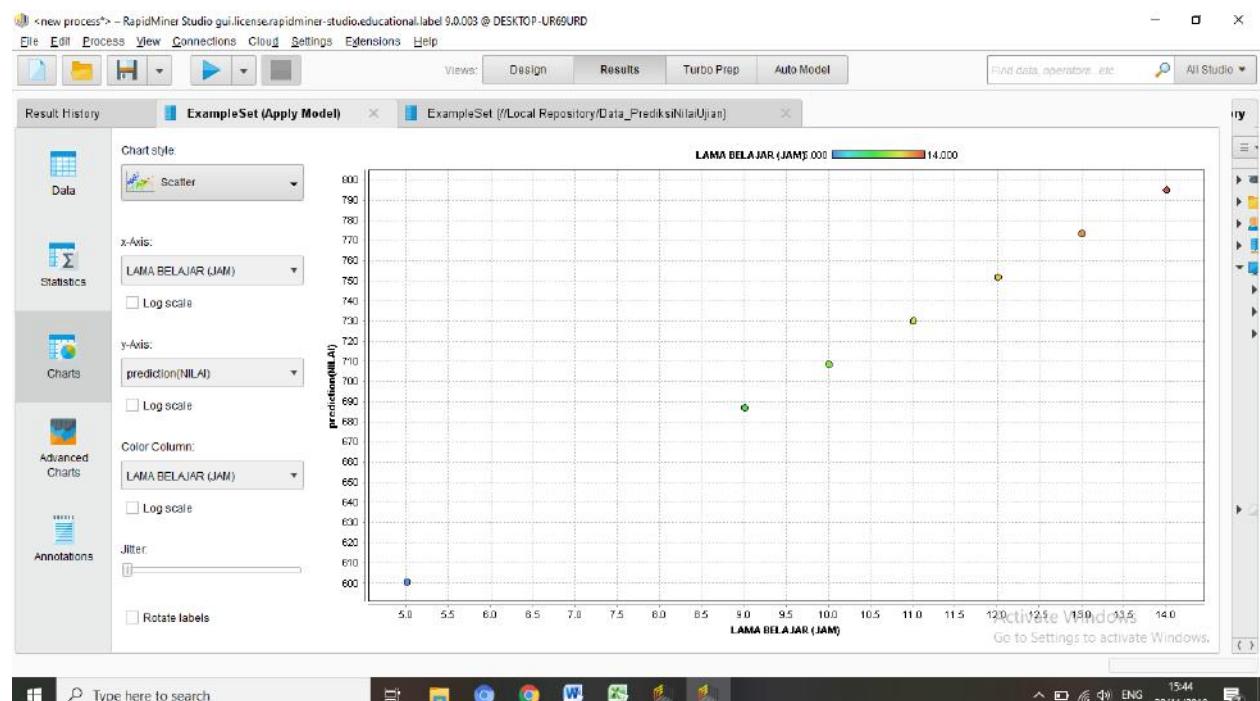
a) Data View (mencari besarnya nilai t-hitung)

The screenshot shows the RapidMiner Studio interface with the 'Results' tab selected. A table titled 'ExampleSet (10 examples, 2 special attributes, 1 regular attribute)' displays the following data:

Row No.	NO_SISWA	prediction(NILAI)	LAMA BELAJAR (JAM)
1	S-111	752.061	12
2	S-112	773.068	13
3	S-113	795.276	14
4	S-114	730.463	11
5	S-115	600.807	5
6	S-116	773.668	13
7	S-117	687.238	9
8	S-118	708.845	10
9	S-119	708.846	10
10	S-120	687.238	9

The interface includes a sidebar with icons for Data, Statistics, Charts, Advanced Charts, and Annotations. A status bar at the bottom right shows 'Activate Windows' and the date '28/11/2019'.

b) Charts View (Scatter Plot)



### 3. Pembuktian Model Regresi

$$Y = 21,608X_1 + 492,769$$

The screenshot shows a Microsoft Excel spreadsheet titled "Tabel\_PrediksiNilaiOjen". The table has columns for NO\_SISWA, NAMA, LAMA BELAJAR (JAM), Prediction (NILAI) from Table 1, and Prediction (NILAI) from the Regression Model. The regression model's predictions are highlighted with a blue border.

NO_SISWA	NAMA	LAMA BELAJAR (JAM)	Prediction (NILAI) Tabel 1	Prediction (NILAI) Model Regresi
3	S-111	BUDI	12	752,061
4	S-112	SANTI	13	773,068
5	S-113	DIAN	14	795,276
6	S-114	DANI	11	730,453
7	S-115	AHMAD	5	600,807
8	S-116	BAYU	13	773,668
9	S-117	RISA	9	687,238
10	S-118	RANI	10	708,845
11	S-119	YANI	10	708,845
12	S-120	RATIH	9	687,238

Nama : Titis Ulfa Mustikawati

NIM : L200170057

Kelas : C

## MODUL 12

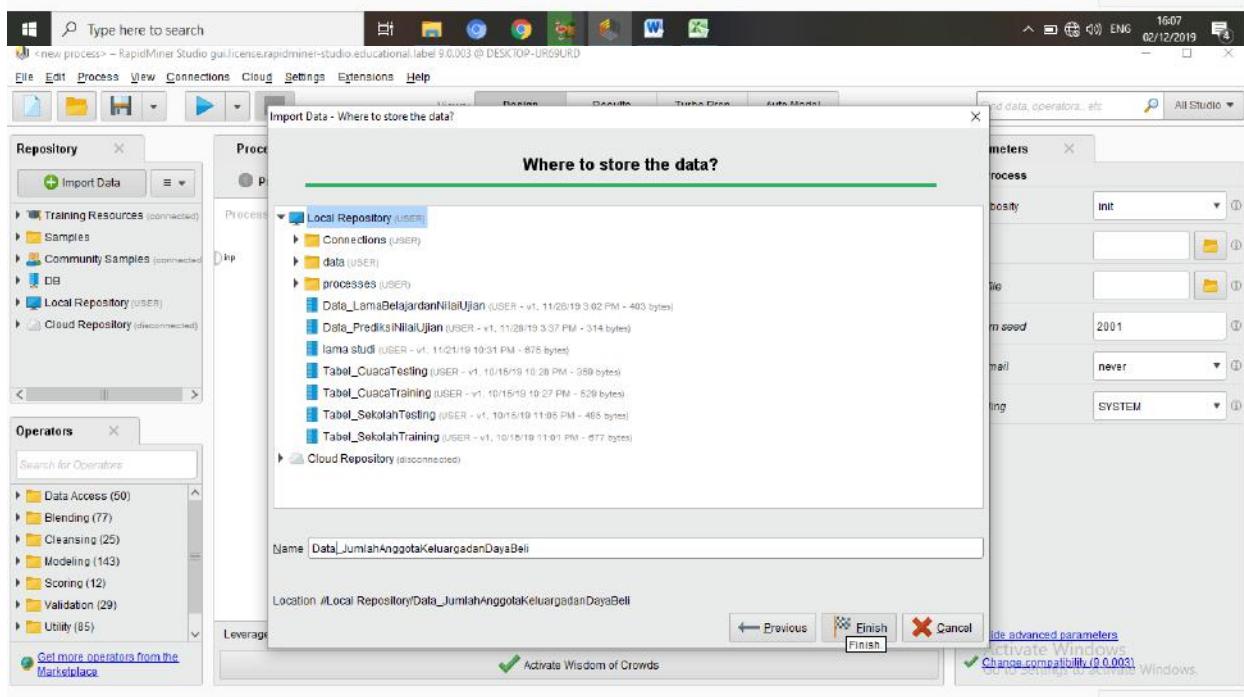
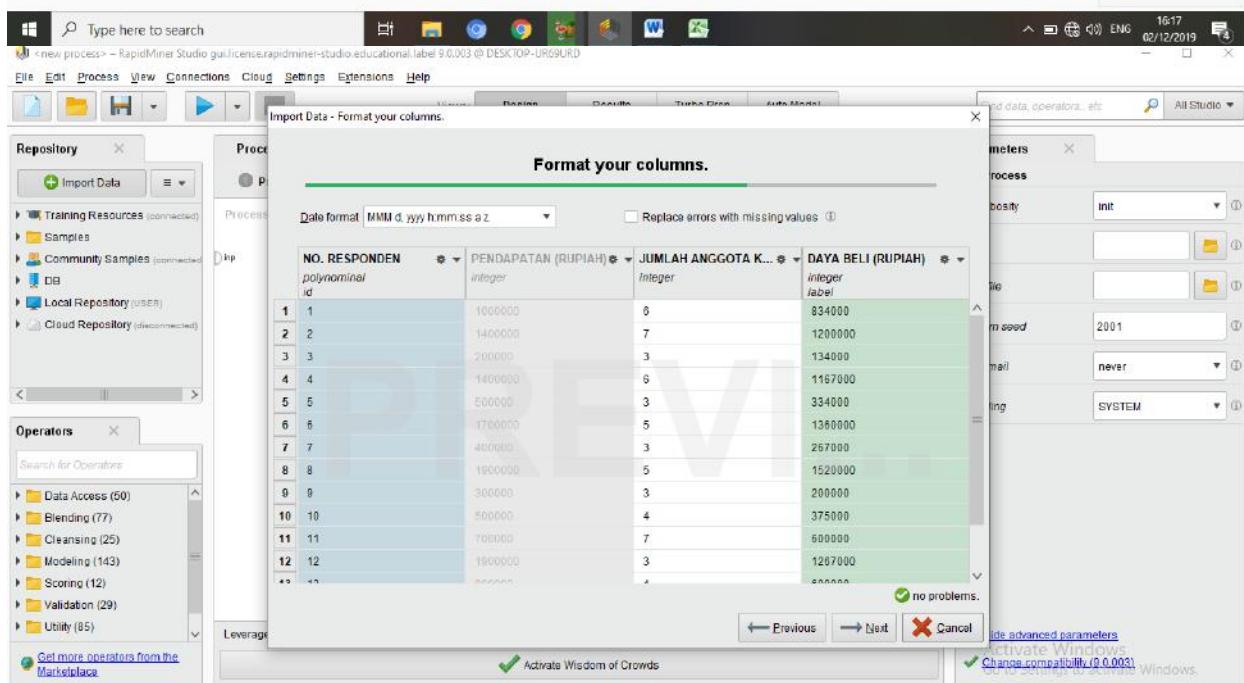
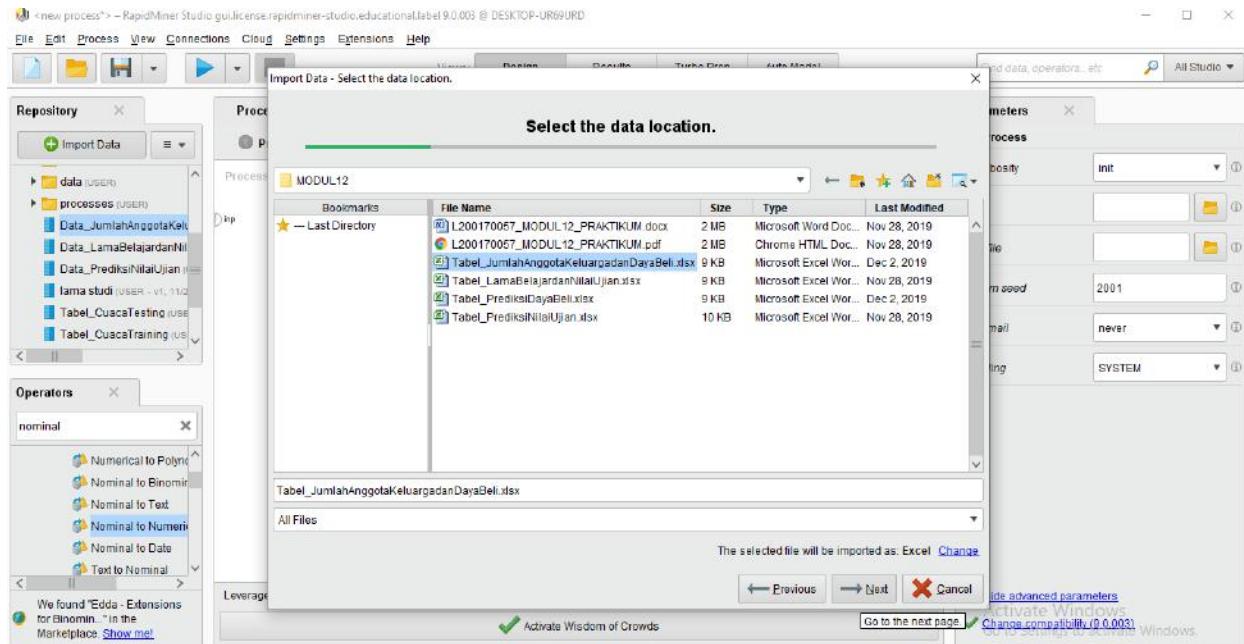
### REGRESI LINIER SEDERHANA

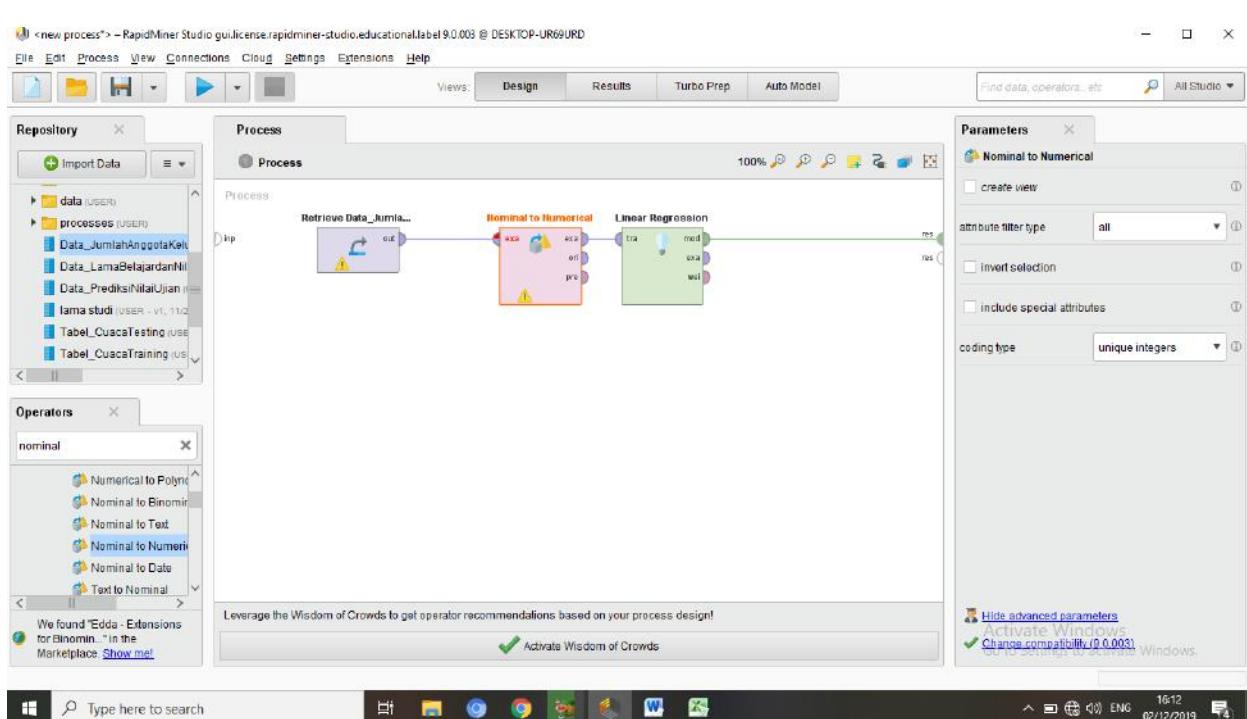
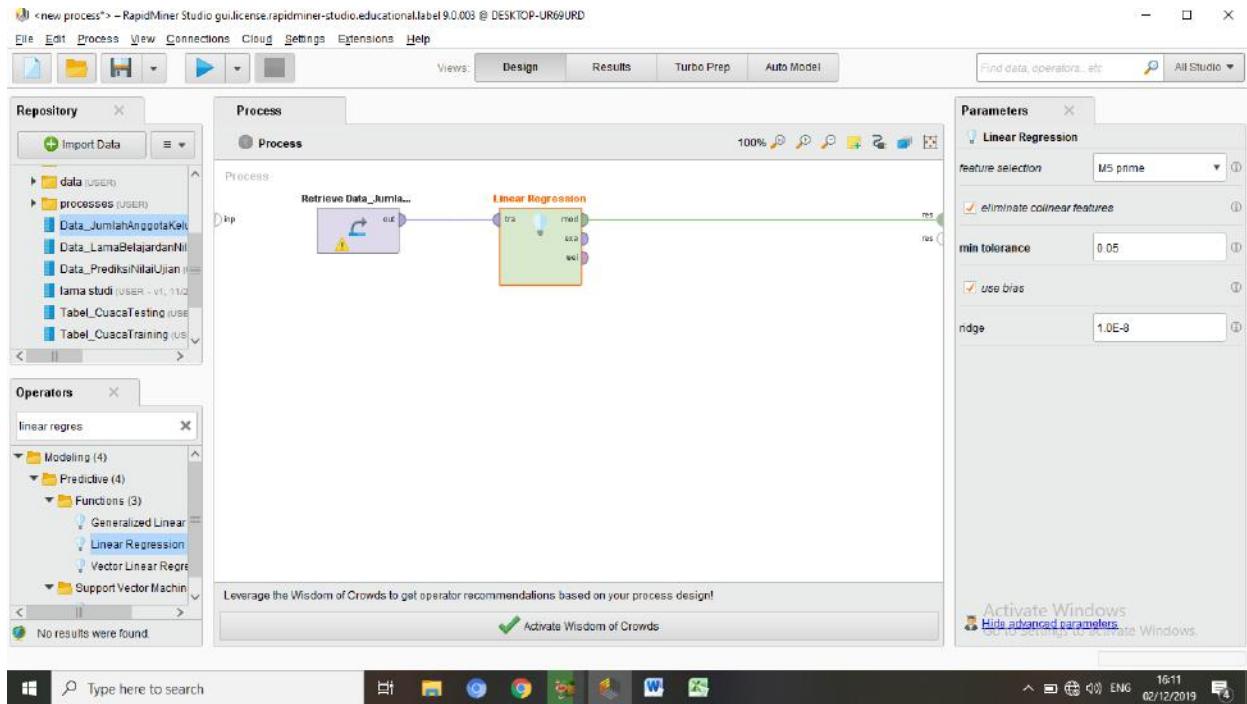
#### TUGAS

##### 1. Mencari Nilai t-hitung dan Model Regresi Linier

NO. RESPONDEN	PENDAPATAN (RUPIAH)	JUMLAH ANGGOTA KELUARGA	DAYA BELI (RUPIAH)
1	1.000.000	6	834.000
2	1.400.000	7	1.200.000
3	200.000	3	134.000
4	1.400.000	6	1.167.000
5	500.000	3	334.000
6	1.700.000	5	1.360.000
7	400.000	3	267.000
8	1.900.000	5	1.520.000
9	300.000	3	200.000
10	500.000	4	375.000
11	700.000	7	600.000
12	1.900.000	3	1.257.000
13	800.000	4	600.000
14	1.500.000	4	1.125.000
15	1.300.000	7	1.115.000

The screenshot shows the RapidMiner Studio interface. The top menu bar includes File, Edit, Process, View, Connections, Cloud, Settings, Extensions, and Help. The main workspace is titled "Process" and displays the message "Your process looks empty. Add some data first. Drag data or operators here." A "Leverage the Wisdom of Crowds to get operator recommendations based on your process design!" button is also present. On the left, there are three panes: "Repository" (listing Training Resources, Samples, Community Samples, DB, Local Repository, and Cloud Repository), "Operators" (listing Data Access, Blending, Cleansing, Modeling, Scoring, Validation, and Utility), and "Parameters" (showing logverbosity, logfile, resultfile, random seed, send mail, and encoding settings). The bottom status bar shows the Windows taskbar with various icons and the date/time.





Hasil proses regresi linier :

a) Table View (mencari besarnya nilai t-hitung)

The screenshot shows the RapidMiner Studio interface with the 'Results' tab selected. A table titled 'LinearRegression (Linear Regression)' is displayed, showing the following data:

Attribute	Coefficient	Std. Error	Std. Coefficient	Tolerance	t-Stat	p-value	Code
JUMLAH ANGGOTA K...	151688.679	70801.481	0.511	?	2.142	0.052	*
(Intercept)	98652.830	347817.155	?	?	0.284	0.781	

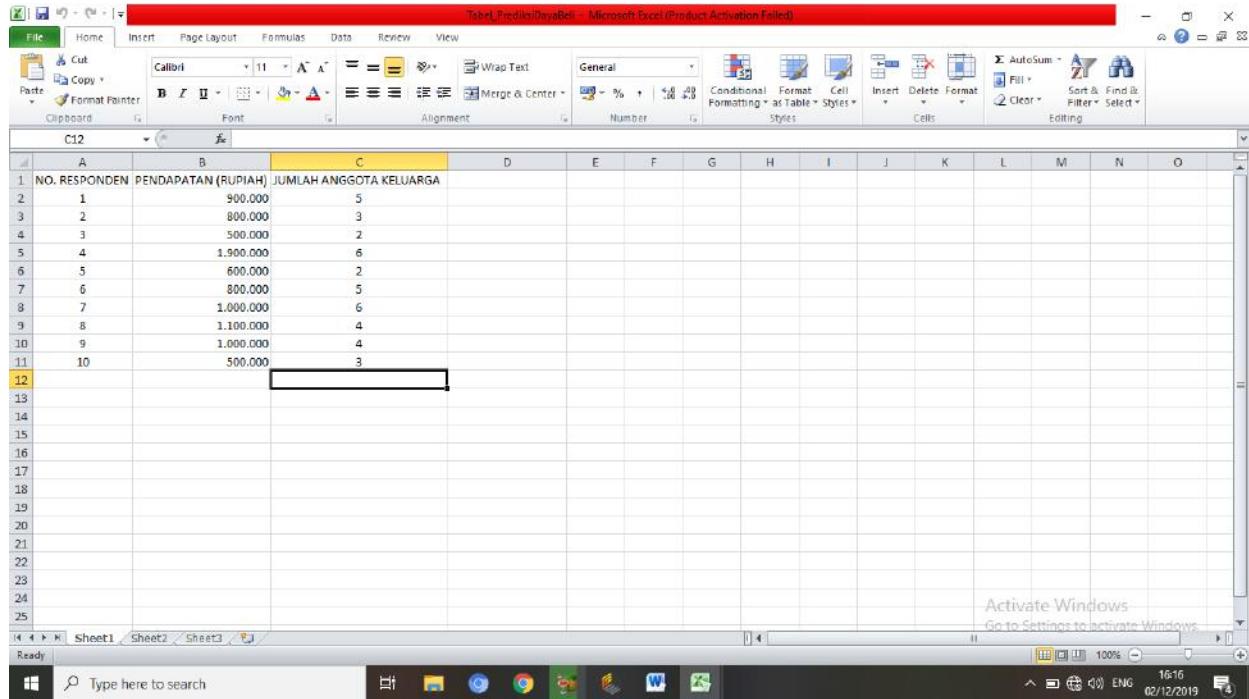
b) Text View (mencari model regresi)

The screenshot shows the RapidMiner Studio interface with the 'Text' view selected. The output window displays the following text:

**LinearRegression**

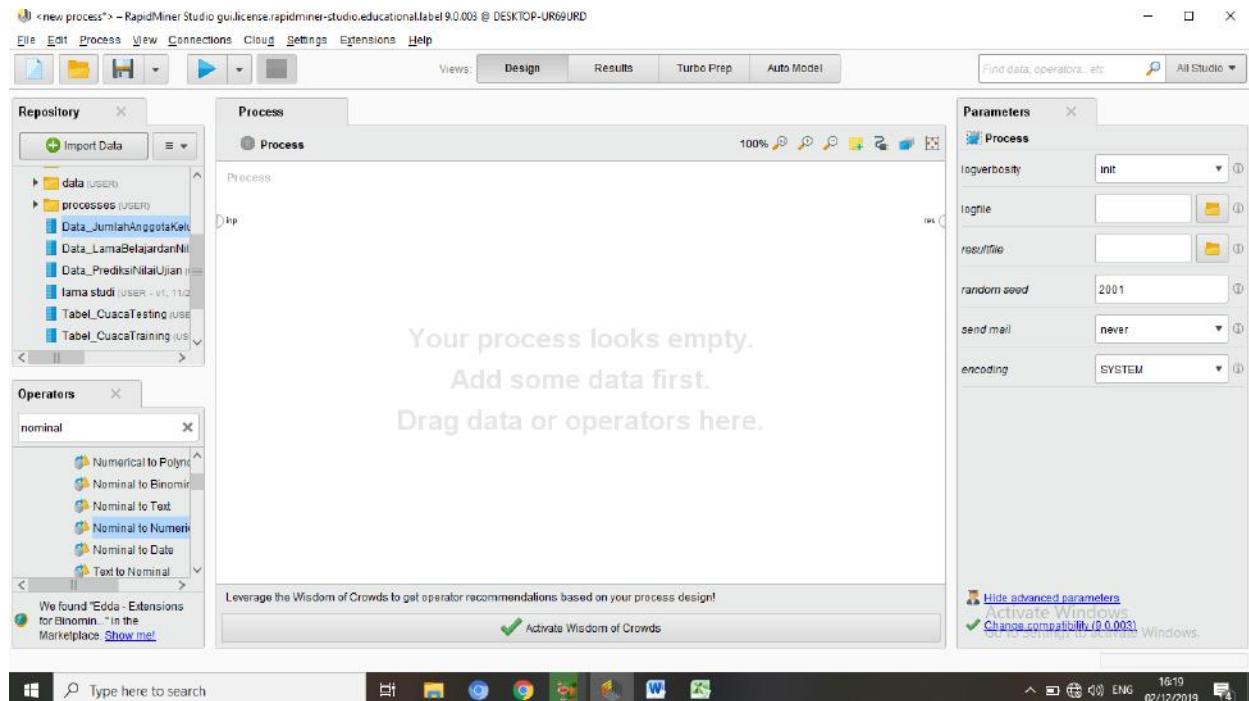
151688.679 \* JUMLAH ANGGOTA KELUARGA  
+ 98652.830

## 2. Mencari Nilai t dan Model Regresi Linier Menggunakan RapidMiner

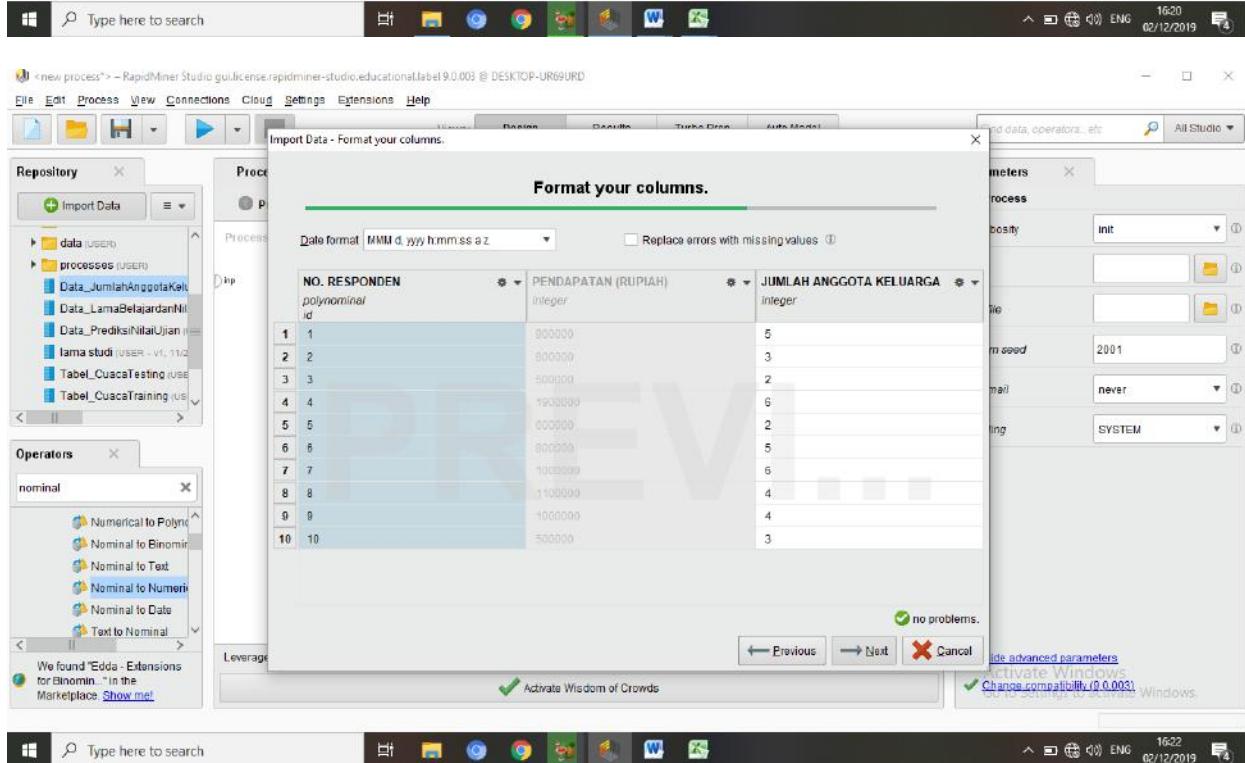
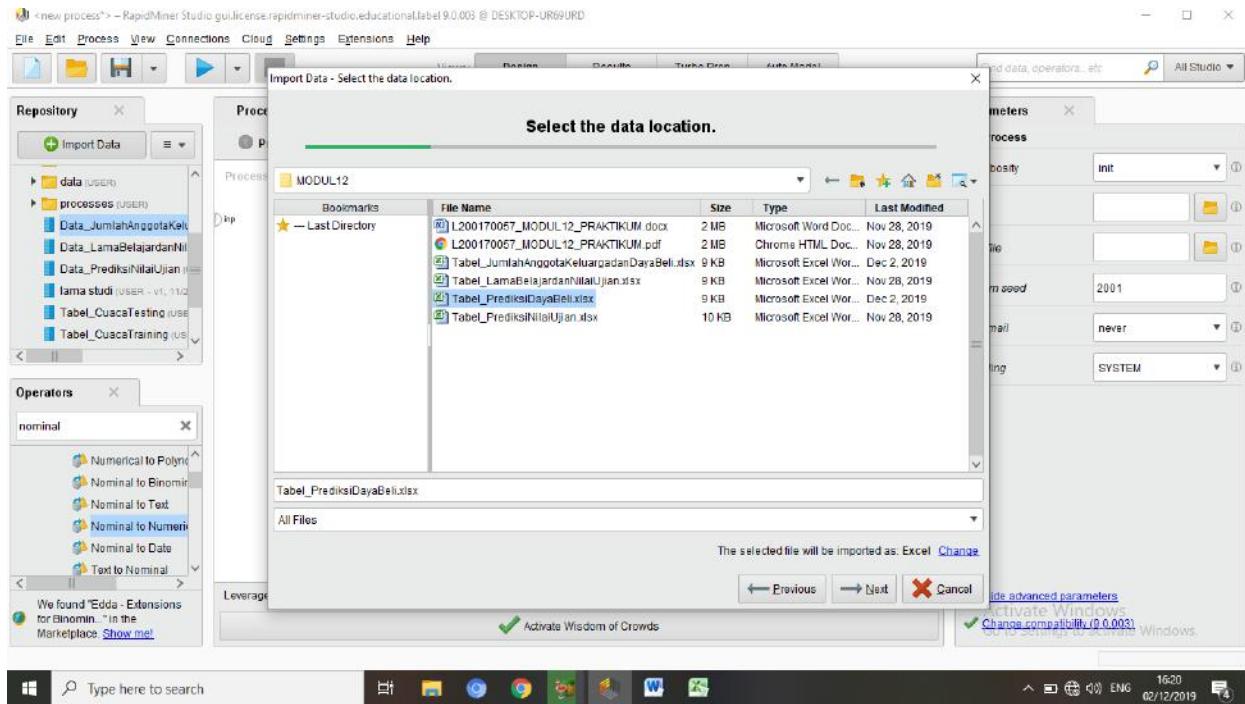


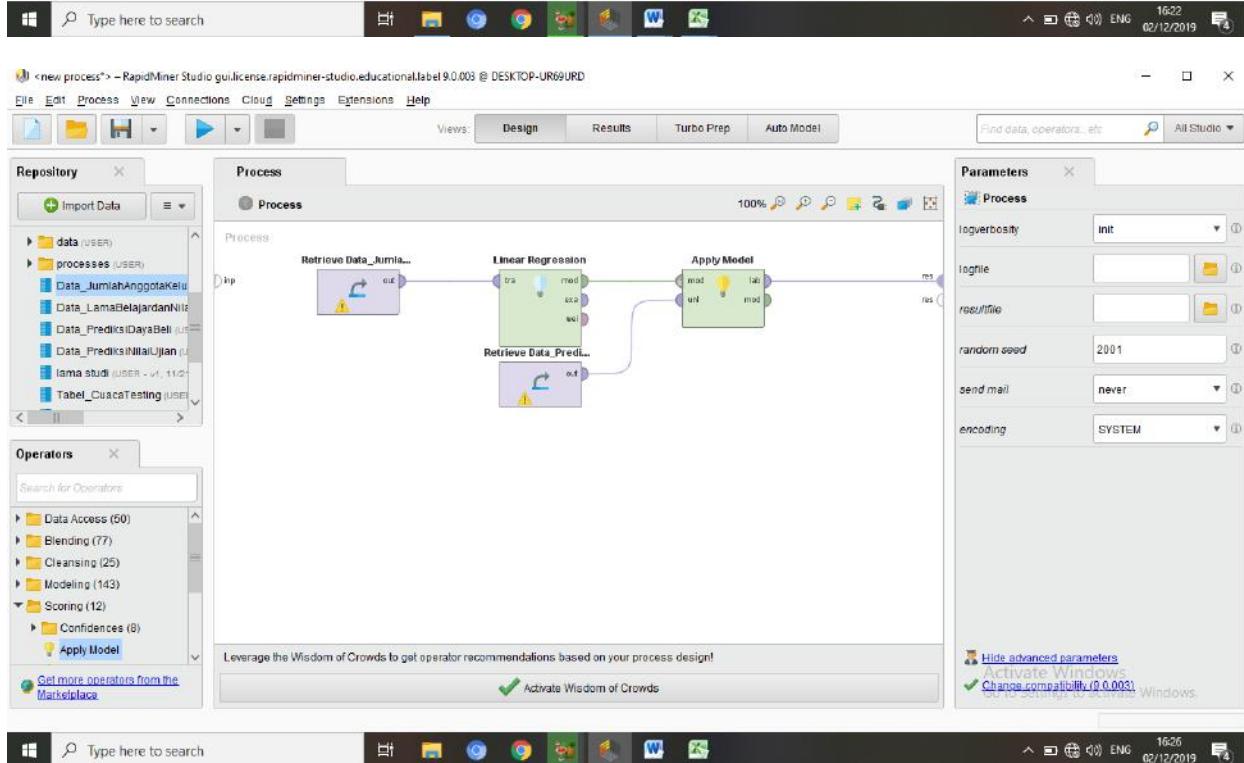
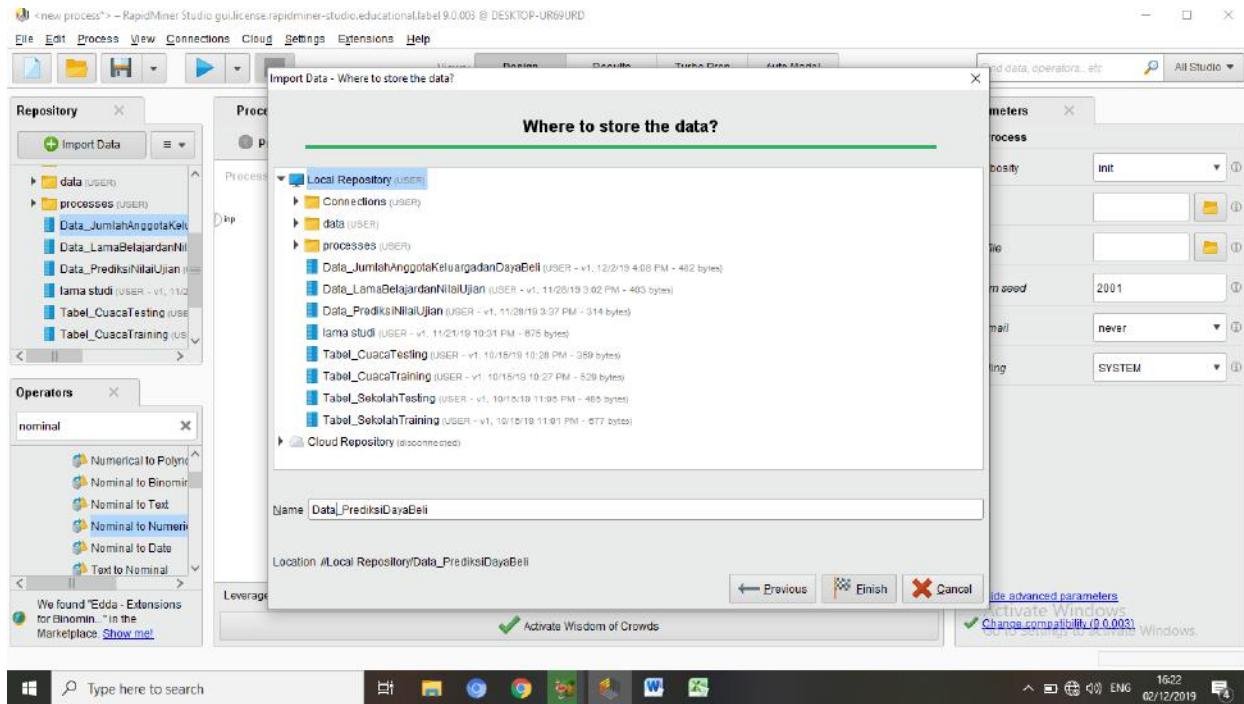
The screenshot shows a Microsoft Excel spreadsheet titled "Tabel\_PrediksiNilaiUjian.xls". The data is organized into columns A and B, with column C serving as the header. Column A is labeled "NO. RESPONDEŃ" and column B is labeled "PENDAPATAN (RUPIAH)". Column C is labeled "JUMLAH ANGGOTA KELUARGA". The data consists of 11 rows of numerical values.

NO. RESPONDEŃ	PENDAPATAN (RUPIAH)	JUMLAH ANGGOTA KELUARGA
1	900.000	5
2	800.000	3
3	500.000	2
4	1.900.000	6
5	600.000	2
6	800.000	5
7	1.000.000	6
8	1.100.000	4
9	1.000.000	4
10	500.000	3
11		



The screenshot shows the RapidMiner Studio interface. The central area is labeled "Your process looks empty. Add some data first. Drag data or operators here." The left sidebar contains a "Repository" section with a tree view of data and process files. The bottom left shows a "Operators" section with a list of nominal operators. The right side features a "Parameters" panel with various configuration options. The status bar at the bottom indicates the date and time as 02/12/2019 and 16:19.





Hasil proses prediksi terhadap data testing menggunakan regresi linier :

a) Data View (mencari besarnya nilai t-hitung)

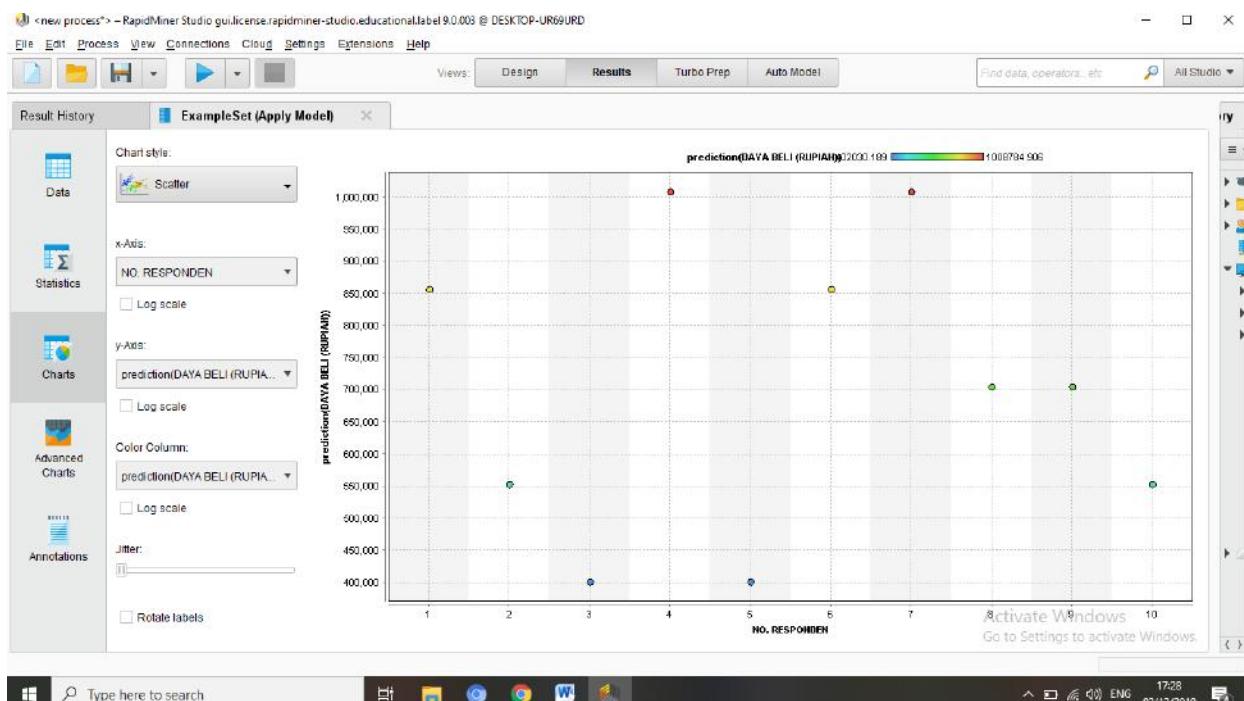
Row No.	NO. RESPON...	prediction(DAYA BELI (RUPIAH))	JUMLAH AN...
1	1	857096.226	5
2	2	553718.868	3
3	3	402030.189	2
4	4	1008794.906	6
5	5	402030.189	2
6	6	857096.226	5
7	7	1008794.906	6
8	8	705407.547	4
9	9	705407.547	4
10	10	553718.868	3

b) Charts View (Scatter Plot)

x-Axis = No. Responden,

y-Axis = Prediction (Daya Beli (Rupiah)),

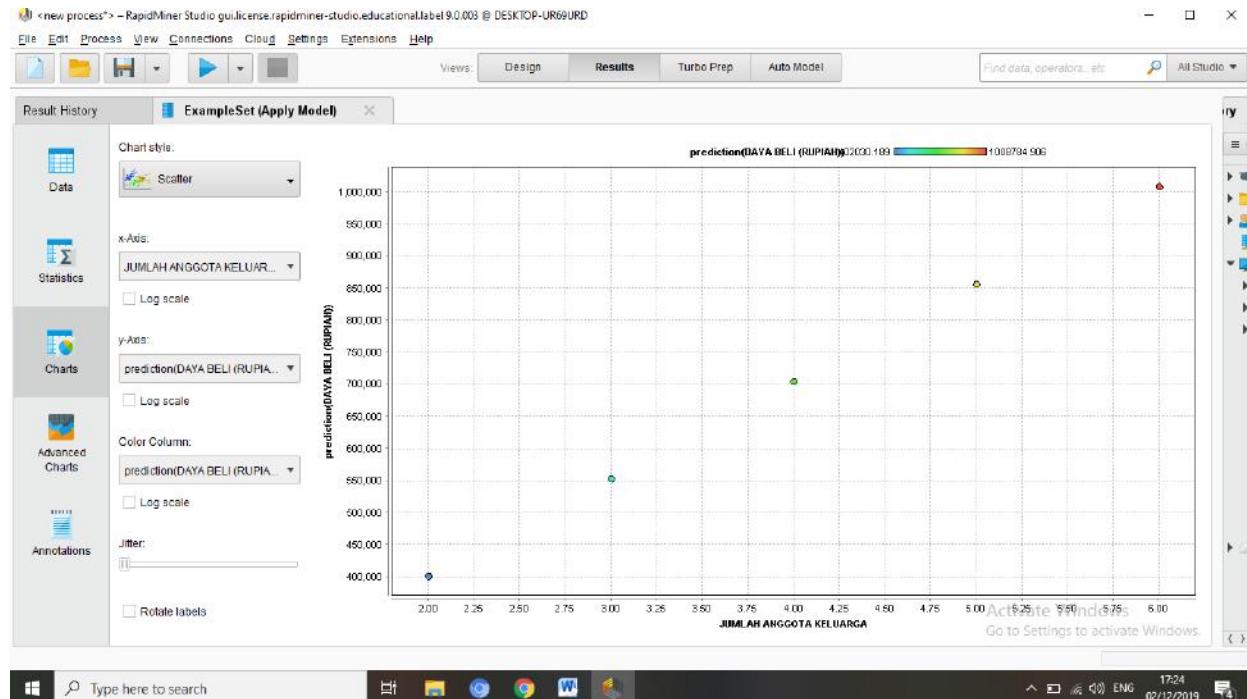
Color Column = Prediction (Daya Beli (Rupiah))



x-Axis = Jumlah Anggota Keluarga,

y-Axis = Prediction (Daya Beli (Rupiah)),

Color Column = Prediction (Daya Beli (Rupiah))



### **3. Pembuktian Model Regresi**

$$Y = 151688,679 X_1 + 98652,830$$