

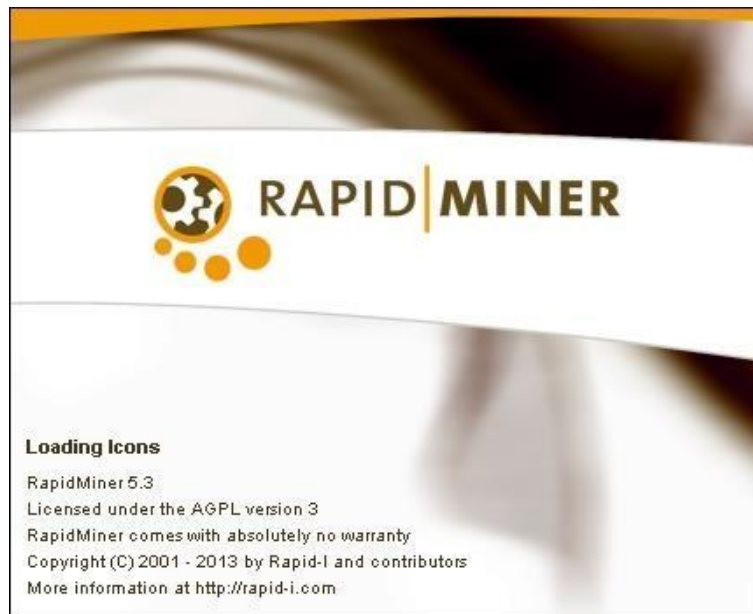
Nama : Shadam Alfito K P
NIM : 2106011
Kelas : Teknik Informatika - A

Tugas Praktikum Kecerdasan Buatan

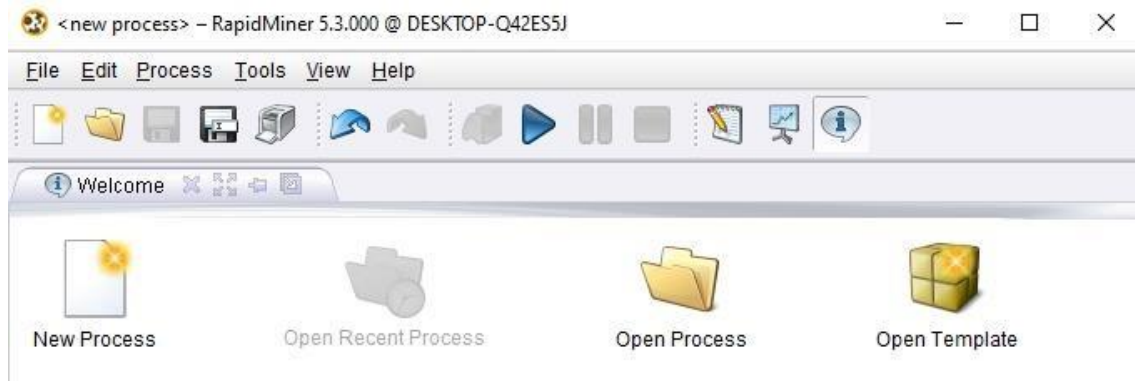
Linear Regression & Neural Network Menggunakan Rapid Miner

Linear Regression

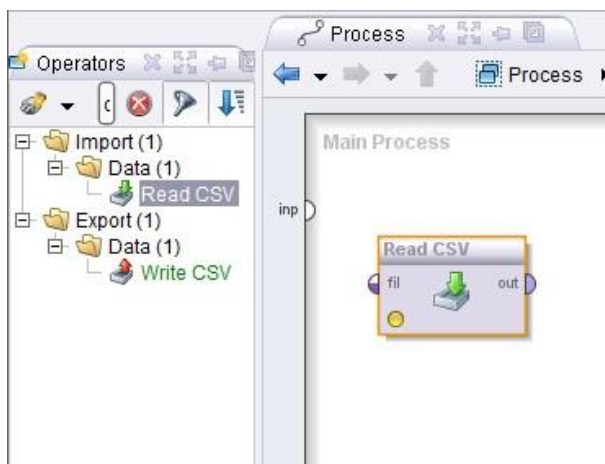
1. Buka RapidMiner 5.



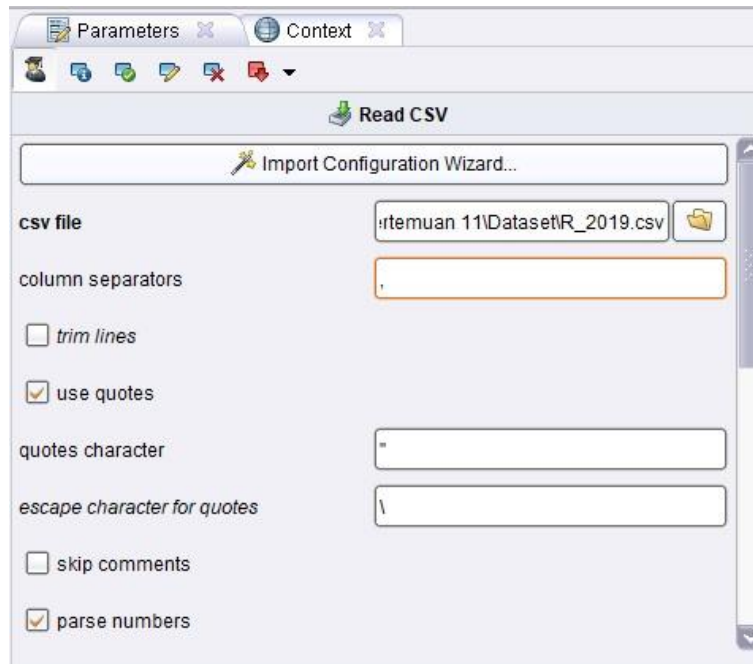
2. Buat proses baru. Pilih New Process.



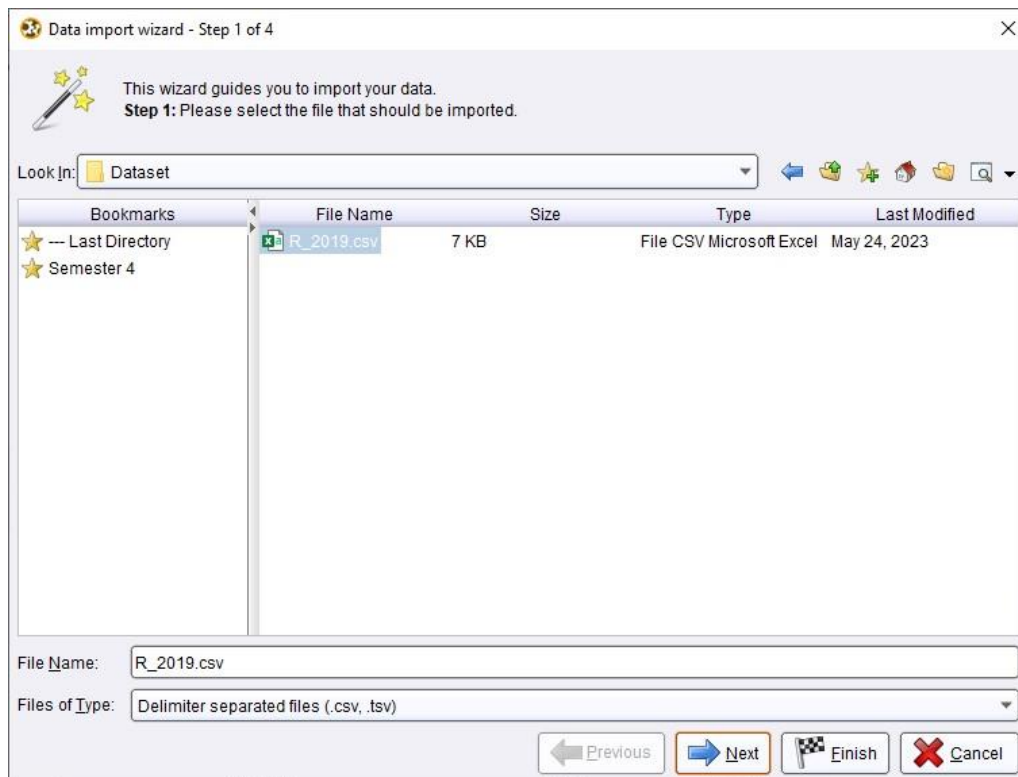
3. Tambahkan Operator “Read CSV” dan masukkan kedalam bagian Process.



4. Klik Operator “Read CSV”, kemudian klik tombol “Import Configuration Wizard” pada bagian Parameter read csv tersebut.



5. Pilih dataset yang hendak digunakan kemudian klik next.



6. Tentukan comma sebagai column separator nya, kemudian klik next

Data import wizard - Step 2 of 4

This wizard guides you to import your data.
Step 2: Please specify how the file should be parsed and how columns are separated.

File Reading

File Encoding:

☐ Trim Lines

☐ Skip Comments:

Column Separation

☒ Comma "," ☐ Space

☐ Semicolon ";" ☐ Tab

☐ Regular Expression:

Escape Character for Separator:

☒ Use Quotes:

att1	att2	att3	att4	att5	att6	att7	att8
GDP per cap	Social supp	Healthy life e	Freedom to	Generosity	Perceptions	Overall rank	Country or re
1.34	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.41	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.38	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands
1.452	1.526	1.052	0.572	0.263	0.343	6	Switzerland

Row, Column	Error	Original value	Message
-------------	-------	----------------	---------

7. Klik Next dan Next lagi.

Report 2019							
A	B	C	D	E	F	G	H
GDP per cap	Social supp	Healthy life e	Freedom to i	Generosity	Perceptions	Overall rank	Country or re
1.34	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.41	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.38	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands
1.452	1.526	1.052	0.572	0.263	0.343	6	Switzerland
1.387	1.487	1.009	0.574	0.267	0.373	7	Sweden
1.303	1.557	1.026	0.585	0.33	0.38	8	New Zealand
1.365	1.505	1.039	0.584	0.285	0.308	9	Canada
1.376	1.475	1.016	0.532	0.244	0.226	10	Austria
1.372	1.548	1.036	0.557	0.332	0.29	11	Australia
1.034	1.441	0.963	0.558	0.144	0.093	12	Costa Rica
1.276	1.455	1.029	0.371	0.261	0.082	13	Israel
1.609	1.479	1.012	0.526	0.194	0.316	14	Luxembourg

Annotation	A	B	C	D	E	F	G	
Name	GDP per cap	Social supp	Healthy life e	Freedom to i	Generosity	Perceptions	Overall rank	C
-	1.34	1.587	0.986	0.596	0.153	0.393	1	F
-	1.383	1.573	0.996	0.592	0.252	0.41	2	C
-	1.488	1.582	1.028	0.603	0.271	0.341	3	N
-	1.38	1.624	1.026	0.591	0.354	0.118	4	Ik
-	1.396	1.522	0.999	0.557	0.322	0.298	5	N
-	1.452	1.526	1.052	0.572	0.263	0.343	6	S
-	1.387	1.487	1.009	0.574	0.267	0.373	7	S
-	1.303	1.557	1.026	0.585	0.33	0.38	8	N
-	1.365	1.505	1.039	0.584	0.285	0.308	9	C
-	1.376	1.475	1.016	0.532	0.244	0.226	10	A
-	1.372	1.548	1.036	0.557	0.332	0.29	11	A
-	1.034	1.441	0.963	0.558	0.144	0.093	12	C
-	1.276	1.455	1.029	0.371	0.261	0.082	13	Is
-	1.609	1.479	1.012	0.526	0.194	0.316	14	L
-	1.333	1.538	0.998	0.45	0.348	0.278	15	I

- Selanjutnya sesuaikan type data dari atribut dataset, kolom “Overall rank” ganti atributenya menjadi “label”, lalu kolom Country of Region di unchecklist. Klik Finish.

Data import wizard - Step 4 of 4

This wizard guides you to import your data.
Step 4: RapidMiner uses strongly typed attributes. In this step, you can define the data types of your attributes. Furthermore, RapidMiner assigns roles to the attributes, defining what they can be used for by the individual operators. These roles can be also defined here. Finally, you can rename attributes or deselect them entirely.

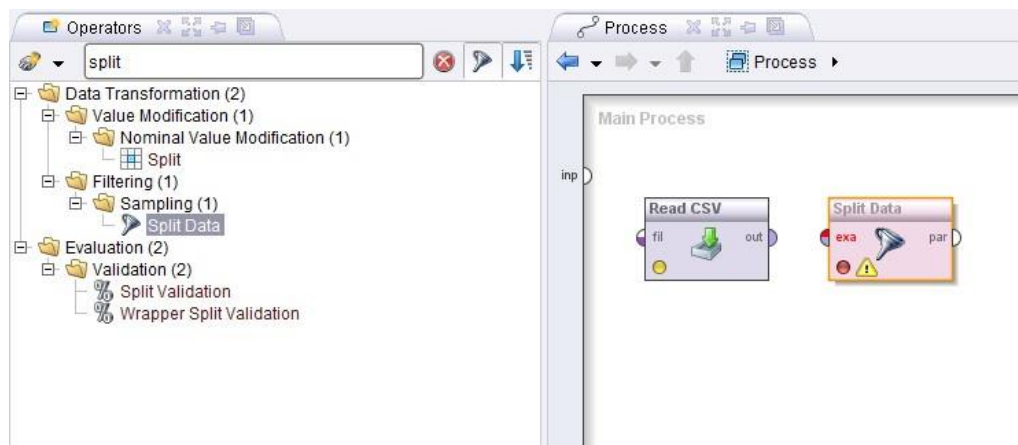
☒ Preview uses only first 100 rows.
 Date format

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GDP per cap	Social supp	Healthy life e	Freedom to	Generosity	Perceptions	Overall rank	Country or region
real	real	real	real	real	real	integer	polyno...
attribute	attribute	attribute	attribute	attribute	attribute	label	attribute
1.340	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.410	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.380	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands
1.452	1.526	1.052	0.572	0.263	0.343	6	Switzerland

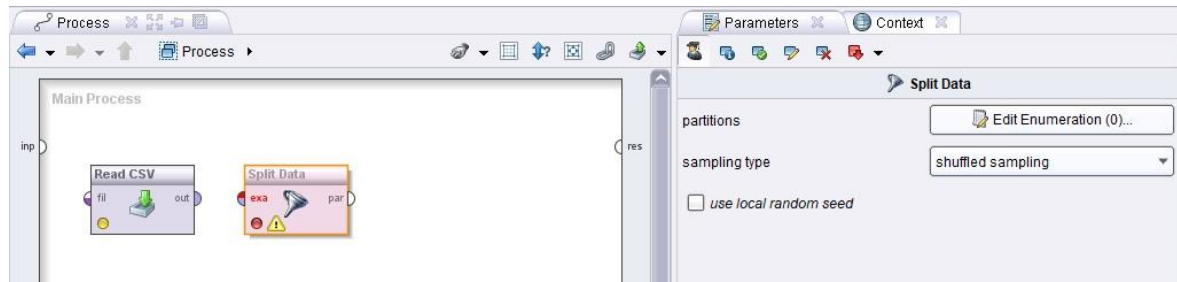
☒ 0 errors.
 ☒ Ignore errors
 ☐ Show only errors

Row, Column	Error	Original value	Message
-------------	-------	----------------	---------

9. Masukkan Operator “Split Data” dan hubungkan dengan Operator “Read CSV”.



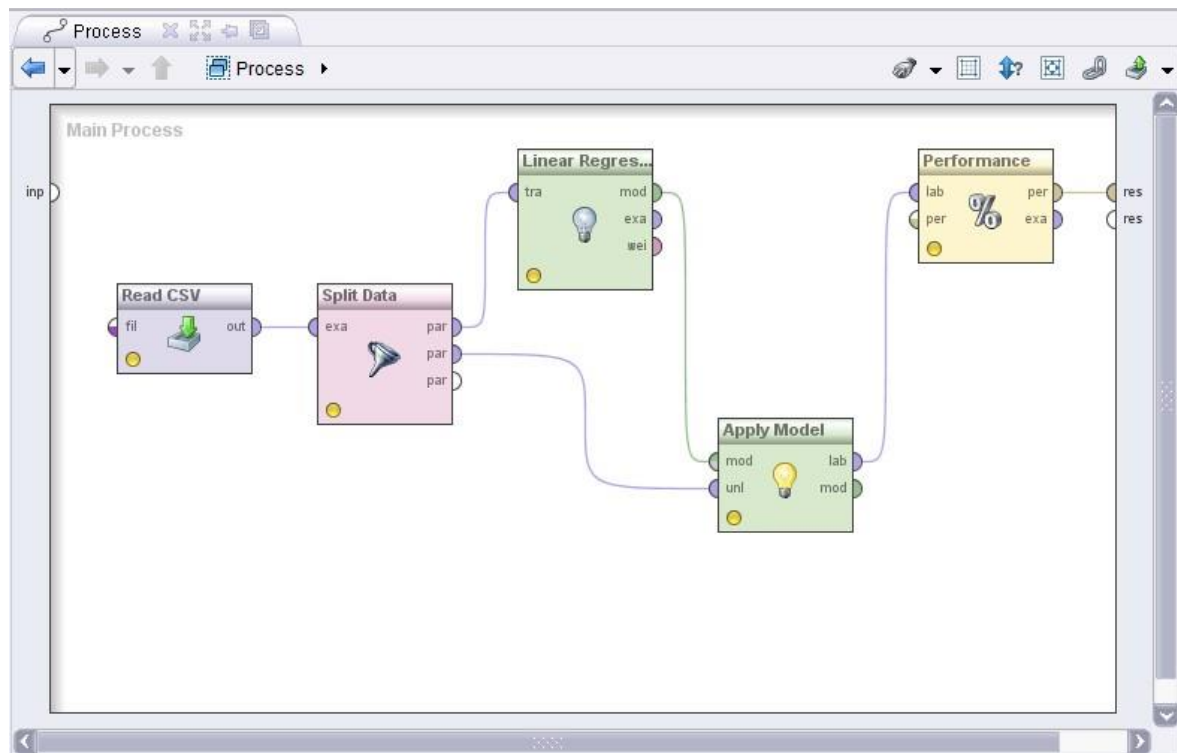
10. Klik Operator “Split Data” kemudian klik “Edit Enumeration” pada bagian Parameter split data tersebut



11. Split data menjadi 80% untuk training (0.8) dan 20% untuk testing (0.2). Jika sudah klik OK



12. Masukkan Operator “Linear Regression”, “Apply Model”, dan “Performance(Regression)” kemudian hubungkan seperti gambar dibawah ini:



13. Run atau jalankan untuk melihat hasilnya

<new process*> – RapidMiner 5.3.000 @ DESKTOP-Q42ES5J

File Edit Process Tools View Help

Result Overview PerformanceVector (Performance)

Table / Plot View Text View Annotations

Criterion Selector
root_mean_squared_error

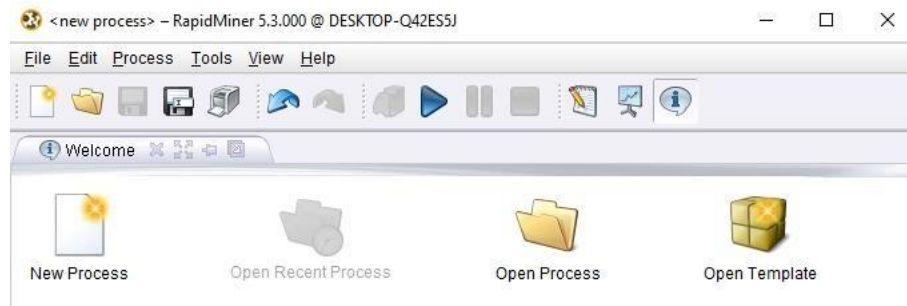
Text View Annotations

root_mean_squared_error

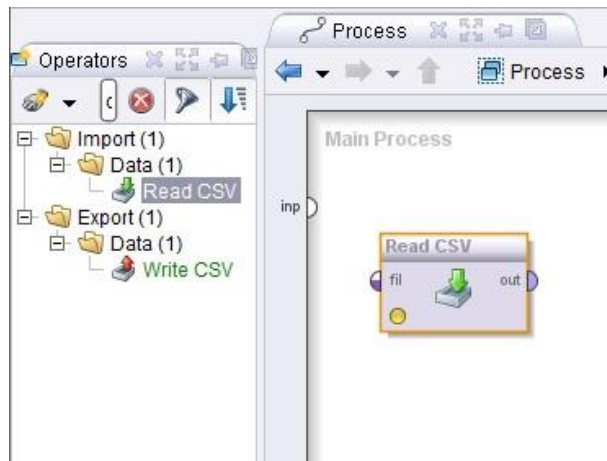
root_mean_squared_error: 19.493 +/- 0.000

Neural Network

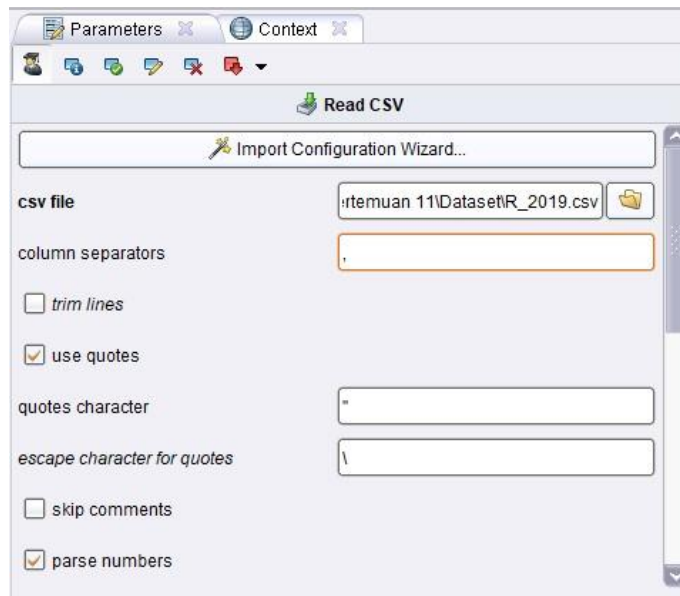
1. Buat proses baru. Pilih New Process.



2. Tambahkan Operator “Read CSV” dan masukkan kedalam bagian Process.



3. Klik Operator “Read CSV”, kemudian klik tombol “Import Configuration Wizard” pada bagian Parameter read csv tersebut.



4. Pilih dataset yang hendak digunakan kemudian klik next.

Data import wizard - Step 1 of 4

This wizard guides you to import your data.
Step 1: Please select the file that should be imported.

Look In: Dataset

Bookmarks	File Name	Size	Type	Last Modified
<ul style="list-style-type: none"> --- Last Directory Semester 4 	R_2019.csv	7 KB	File CSV Microsoft Excel	May 24, 2023

File Name: R_2019.csv

Files of Type: Delimiter separated files (.csv, .tsv)

Previous Next Finish Cancel

5. Tentukan comma sebagai column separator nya, kemudian klik next

Data import wizard - Step 2 of 4

This wizard guides you to import your data.
Step 2: Please specify how the file should be parsed and how columns are separated.

File Reading

File Encoding: windows-1252

☐ Trim Lines

☐ Skip Comments: #

Column Separation

☒ Comma "," ☐ Space

☐ Semicolon ";" ☐ Tab

☐ Regular Expression: .\s*;\s*

Escape Character for Separator: \

☒ Use Quotes: "

att1	att2	att3	att4	att5	att6	att7	att8
GDP per cap	Social supp	Healthy life e	Freedom to i	Generosity	Perceptions	Overall rank	Country or re
1.34	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.41	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.38	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands
1.452	1.526	1.052	0.572	0.263	0.343	6	Switzerland

Row, Column	Error	Original value	Message
-------------	-------	----------------	---------

Previous Next Finish Cancel

6. Klik Next dan Next lagi.

Report 2019							
A	B	C	D	E	F	G	H
GDP per cap	Social supp	Healthy life e	Freedom to i	Generosity	Perceptions	Overall rank	Country or re
1.34	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.41	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.38	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands
1.452	1.526	1.052	0.572	0.263	0.343	6	Switzerland
1.387	1.487	1.009	0.574	0.267	0.373	7	Sweden
1.303	1.557	1.026	0.585	0.33	0.38	8	New Zealand
1.365	1.505	1.039	0.584	0.285	0.308	9	Canada
1.376	1.475	1.016	0.532	0.244	0.226	10	Austria
1.372	1.548	1.036	0.557	0.332	0.29	11	Australia
1.034	1.441	0.963	0.558	0.144	0.093	12	Costa Rica
1.276	1.455	1.029	0.371	0.261	0.082	13	Israel
1.609	1.479	1.012	0.526	0.194	0.316	14	Luxembourg

Annotation	A	B	C	D	E	F	G	
Name	GDP per cap	Social supp	Healthy life e	Freedom to i	Generosity	Perceptions	Overall rank	C
-	1.34	1.587	0.986	0.596	0.153	0.393	1	F
-	1.383	1.573	0.996	0.592	0.252	0.41	2	D
-	1.488	1.582	1.028	0.603	0.271	0.341	3	N
-	1.38	1.624	1.026	0.591	0.354	0.118	4	Ic
-	1.396	1.522	0.999	0.557	0.322	0.298	5	N
-	1.452	1.526	1.052	0.572	0.263	0.343	6	S
-	1.387	1.487	1.009	0.574	0.267	0.373	7	S
-	1.303	1.557	1.026	0.585	0.33	0.38	8	N
-	1.365	1.505	1.039	0.584	0.285	0.308	9	C
-	1.376	1.475	1.016	0.532	0.244	0.226	10	A
-	1.372	1.548	1.036	0.557	0.332	0.29	11	A
-	1.034	1.441	0.963	0.558	0.144	0.093	12	C
-	1.276	1.455	1.029	0.371	0.261	0.082	13	Is
-	1.609	1.479	1.012	0.526	0.194	0.316	14	L
-	1.333	1.538	0.988	0.45	0.348	0.278	15	I

7. Selanjutnya sesuaikan type data dari atribut dataset, kolom “Country or region” ganti atributenya menjadi “label”. Klik Finish.

Data import wizard - Step 4 of 4

This wizard guides you to import your data.
Step 4: RapidMiner uses strongly typed attributes. In this step, you can define the data types of your attributes. Furthermore, RapidMiner assigns roles to the attributes, defining what they can be used for by the individual operators. These roles can be also defined here. Finally, you can rename attributes or deselect them entirely.

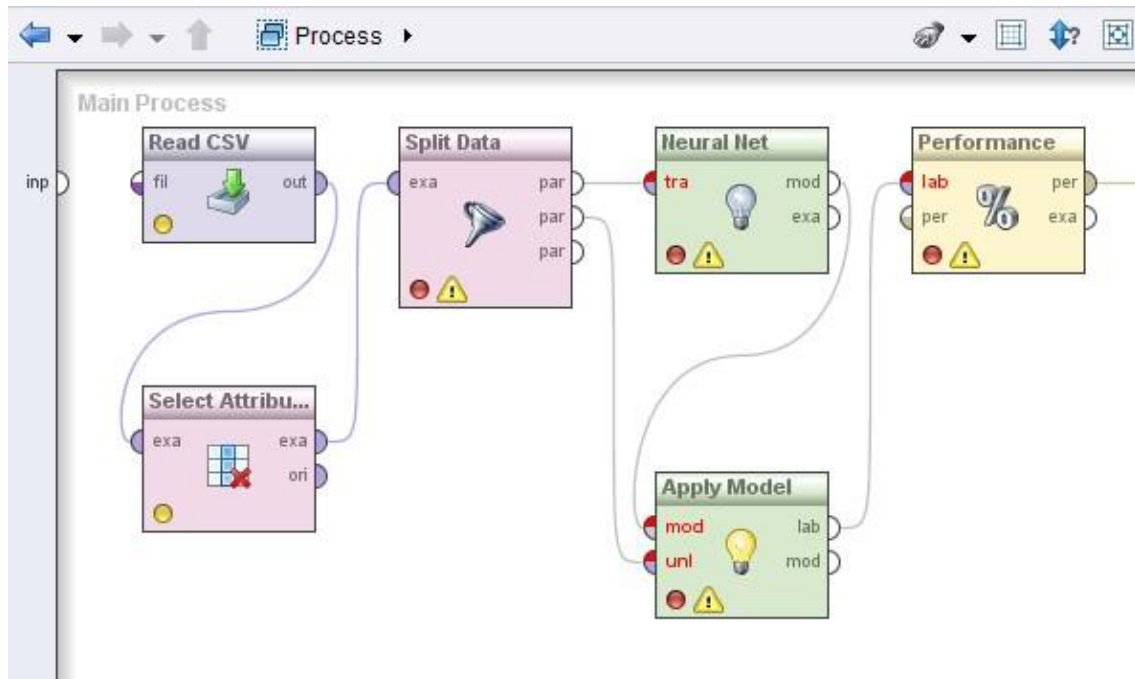
☒ Preview uses only first 100 rows. Date format

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GDP per cap	Social supp	Healthy life e	Freedom to	Generosity	Perceptions	Overall rank	ity or region
real	real	real	real	real	real	integer	polyno...
attribute	attribute	attribute	attribute	attribute	attribute	attribute	label
1.340	1.587	0.986	0.596	0.153	0.393	1	Finland
1.383	1.573	0.996	0.592	0.252	0.410	2	Denmark
1.488	1.582	1.028	0.603	0.271	0.341	3	Norway
1.380	1.624	1.026	0.591	0.354	0.118	4	Iceland
1.396	1.522	0.999	0.557	0.322	0.298	5	Netherlands

☒ 0 errors. ☒ Ignore errors ☐ Show only errors

Row, Column	Error	Original value	Message
-------------	-------	----------------	---------

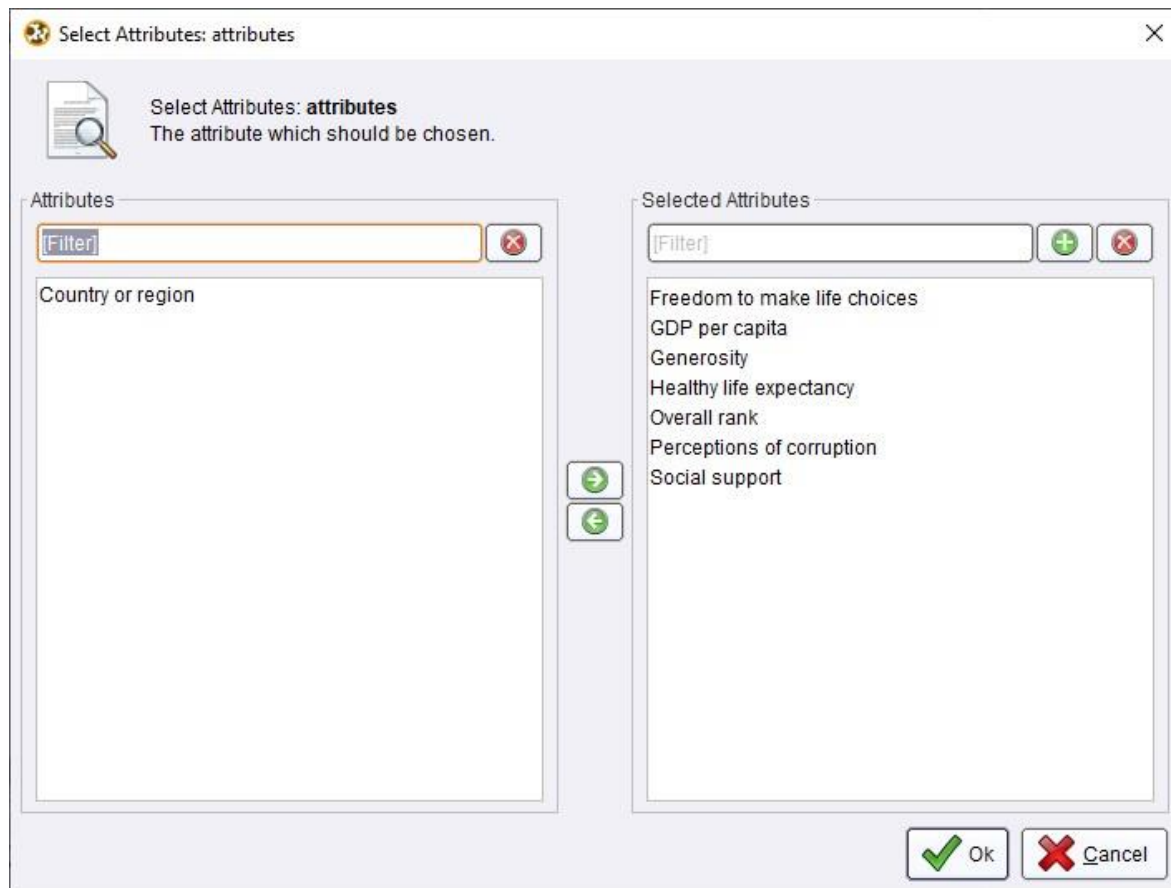
8. Masukkan Operator “Select Attributes”, “Split Data”, “Neural Net”, “Apply Model”, dan “Performance (Classification). Kemudian hubungkan seperti gambar dibawah ini:



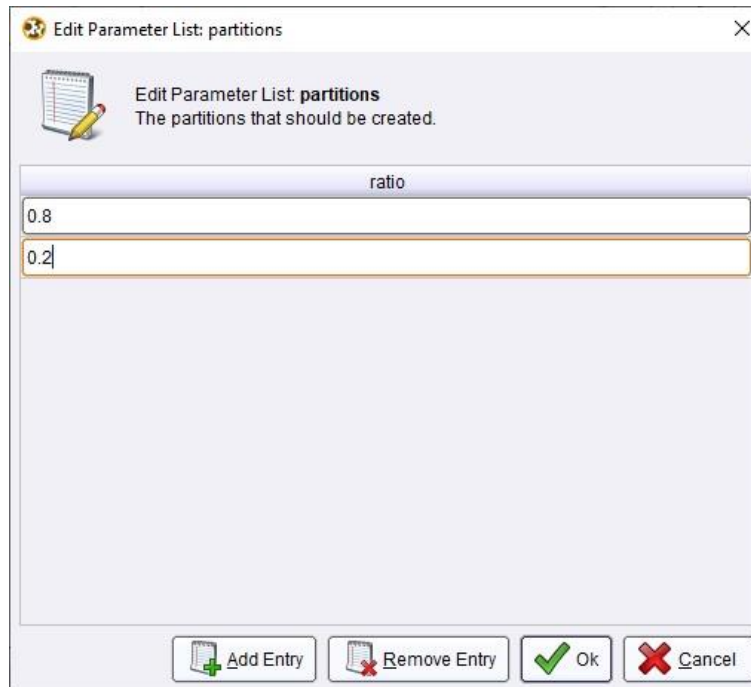
9. Klik Operator “Select Attributes”, kemudian pada Parameter select attributes tersebut terdapat “attribute filter type” ubah lah menjadi “subset” dan lalu juga klik dibawahnya yaitu “Select Attributes”.



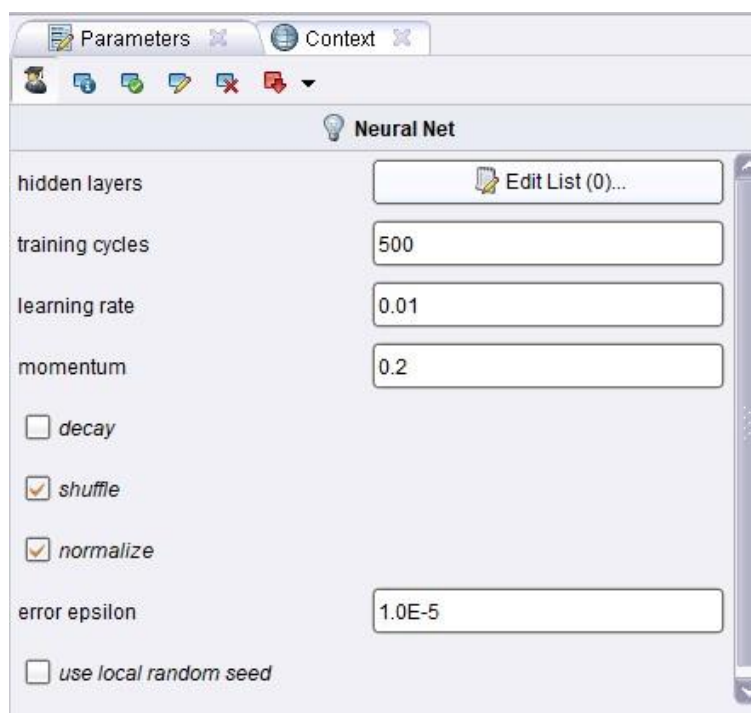
10. Tentukan atribut mana saja yang akan digunakan (disini kita akan mengecualikan atribut id).
Kemudian klik OK



11. Klik Operator "Split Data" kemudian klik "Edit Enumeration" pada bagian Parameter split data tersebut. Lalu ubah Split data menjadi 80% untuk training (0.8) dan 20% untuk testing (0.2). Jika sudah klik OK



12. Klik Operator “Neural Net” kemudian atur “Learning Rate” pada Parameter neural net tersebut menjadi 0.01.



13. Run atau Jalankan untuk melihat hasilnya.

accuracy: 0.00%

[illegible]