

Nama : Aji Prastyo
Nim : L200170082

MODUL 10

KEGIATAN PRAKTIKUM

- Berikut table data nilai siswa :

Tabel_NilaiUjian - Excel

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

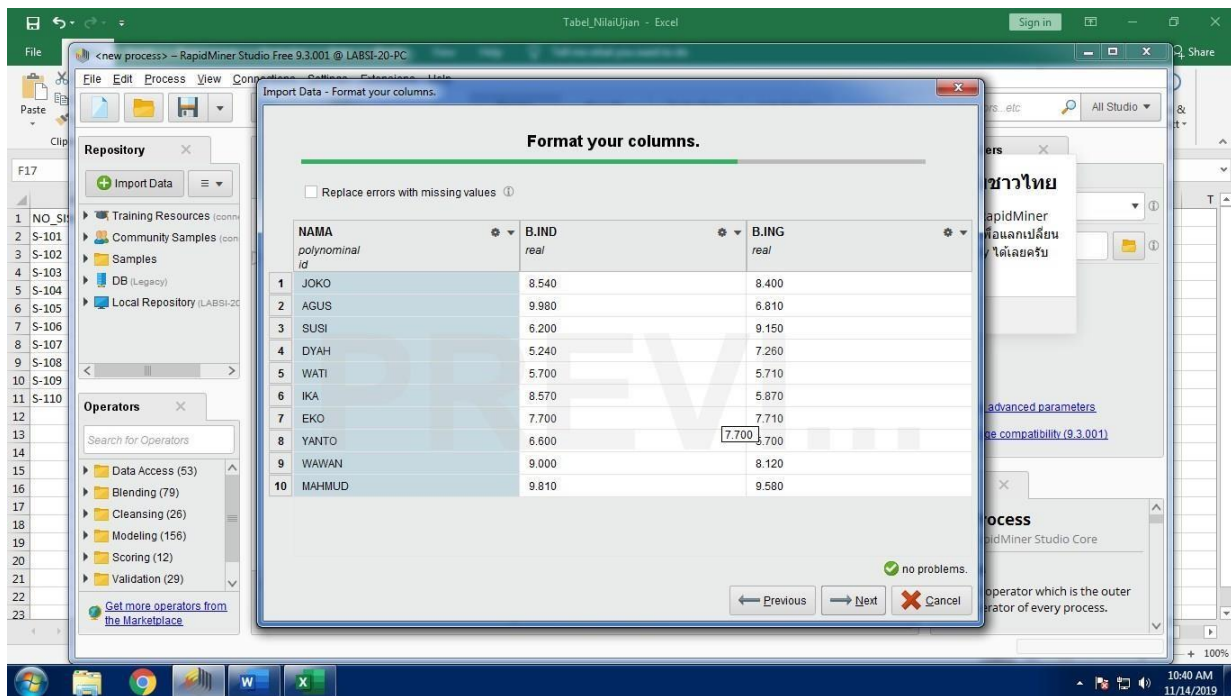
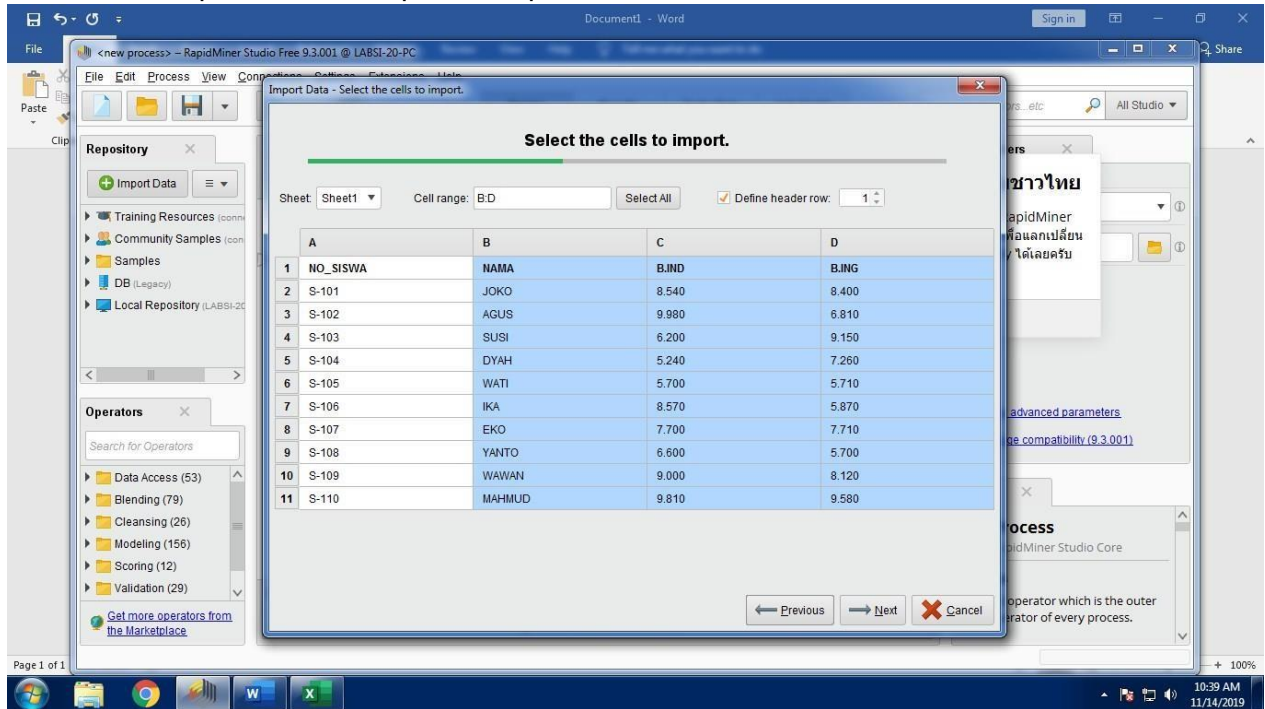
Clipboard Font Alignment Number Styles Cells Editing

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	NO_SISWA	NAMA	B.IND	B.ING																
2	S-101	JOKO		8.54	8.4															
3	S-102	AGUS		9.98	6.81															
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	8.12															
11	S-110	MAHMUD		9.81	9.58															
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				

Sheet1

10:39 AM 11/14/2019

Gunakan file Tabel_NilaiUjian.xlsx sebagai data yang akan digunakan dalam proses Clustering. Lalu import ke dalam aplikasi RapidMiner.



The screenshot shows the RapidMiner Studio interface. A data table is displayed with the following content:

Row No.	NAMA	B.IND	B.JING
1	JOKO	8.540	8.400
2	AGUS	9.980	6.810
3	SUSI	6.200	9.150
4	DYAH	5.240	7.260
5	WATI	5.700	5.710
6	IKA	8.570	5.870
7	EKO	7.700	7.710
8	YANTO	6.600	5.700
9	WAWAN	9	8.120
10	MAHMUD	9.810	9.580

A notification window in Thai is overlaid on the right side of the interface, mentioning 'ฟลอร์ RapidMiner สำหรับชาวไทย' (RapidMiner Floor for Thai people).

- **tambahkan operator k-Means. Lalu Jalankan dengan menekan tombol run (F11)**

The screenshot shows the RapidMiner Studio interface with a process design. The process flow is as follows:

```

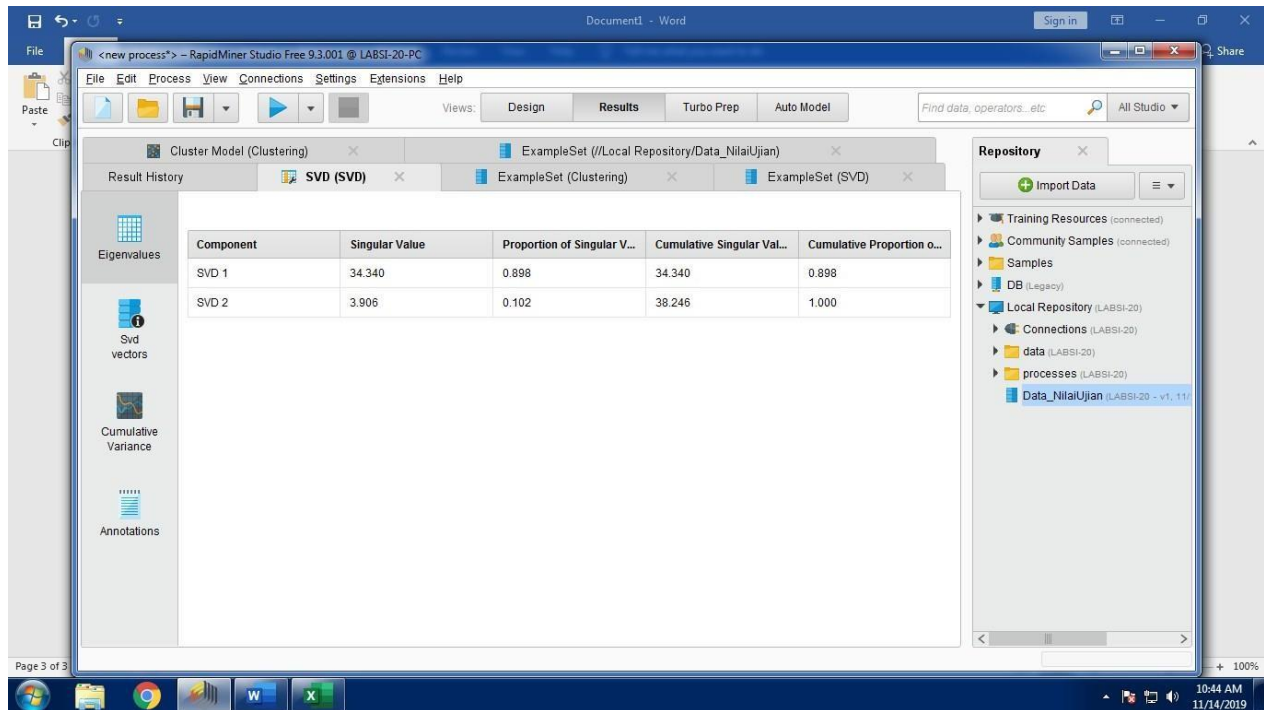
graph LR
    RetrieveData[Retrieve Data_NilaiUj...] --> Clustering[Clustering]
    Clustering --> SVD[SVD]
    SVD --> Out1[Out 1]
    SVD --> Out2[Out 2]
    SVD --> Out3[Out 3]
    SVD --> Out4[Out 4]
  
```

The SVD operator is configured with the following parameters:

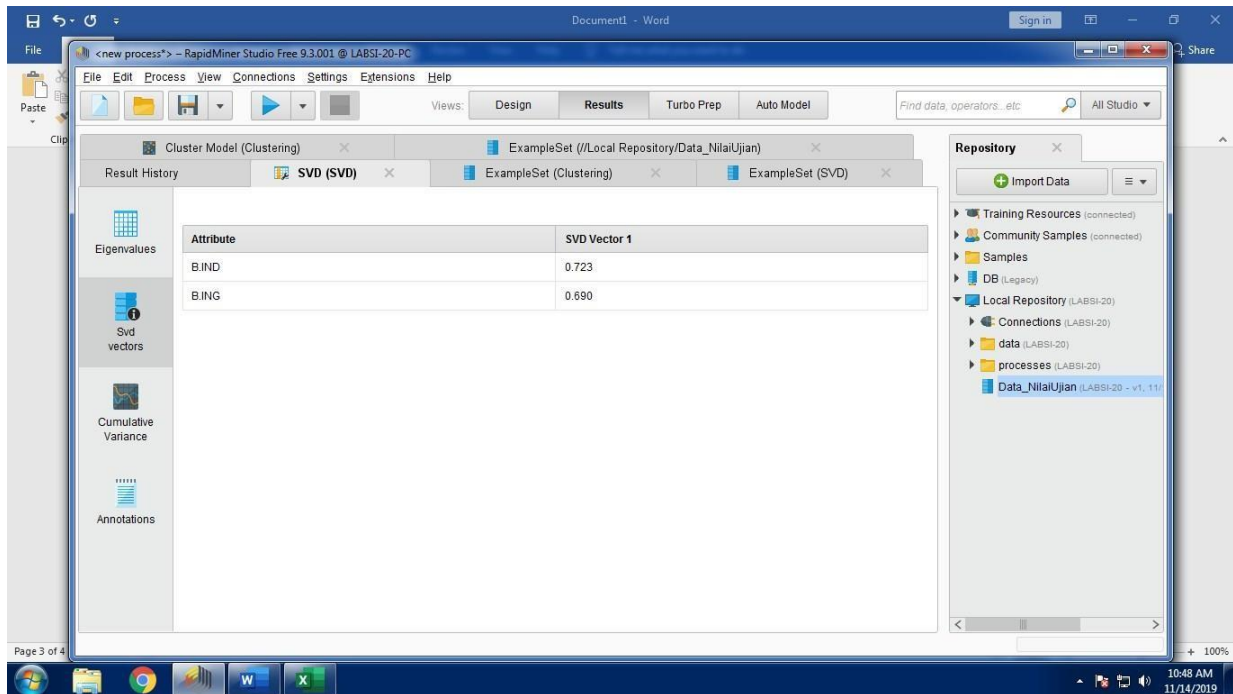
- dimensionality redu...: fixed number
- dimensions: 1

The Operators panel on the left shows the SVD operator selected under the Dimensionality Reduction category.

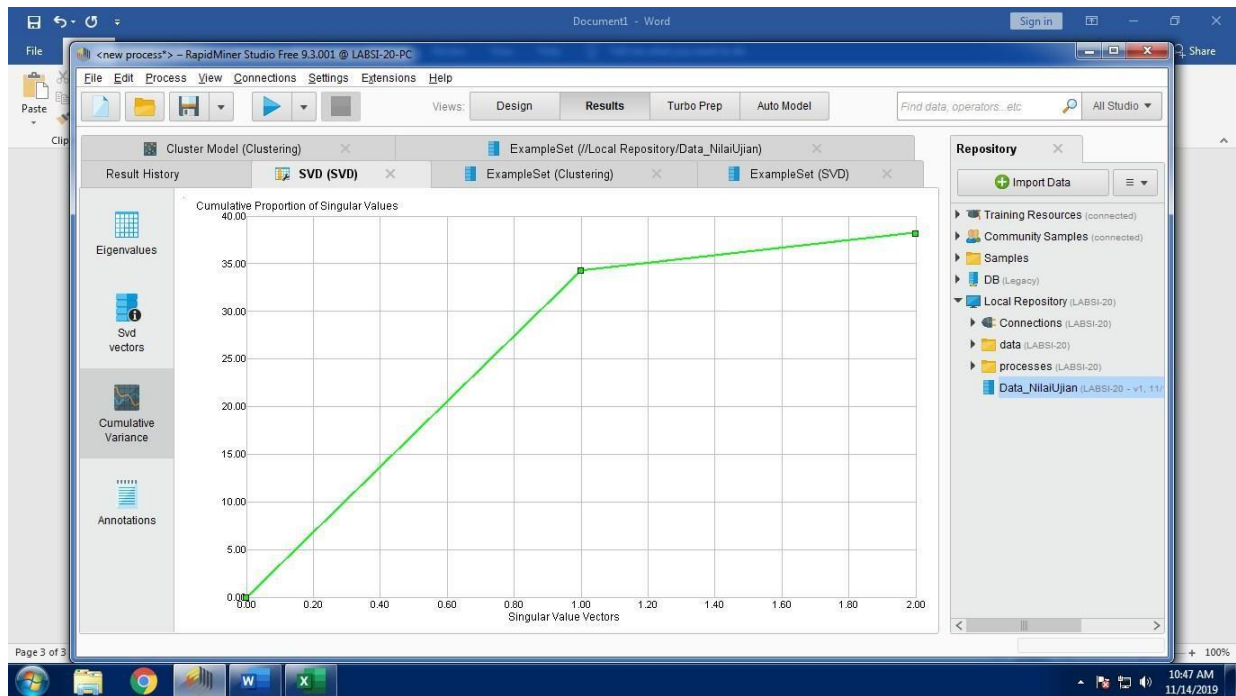
Nilai Eigenvalue



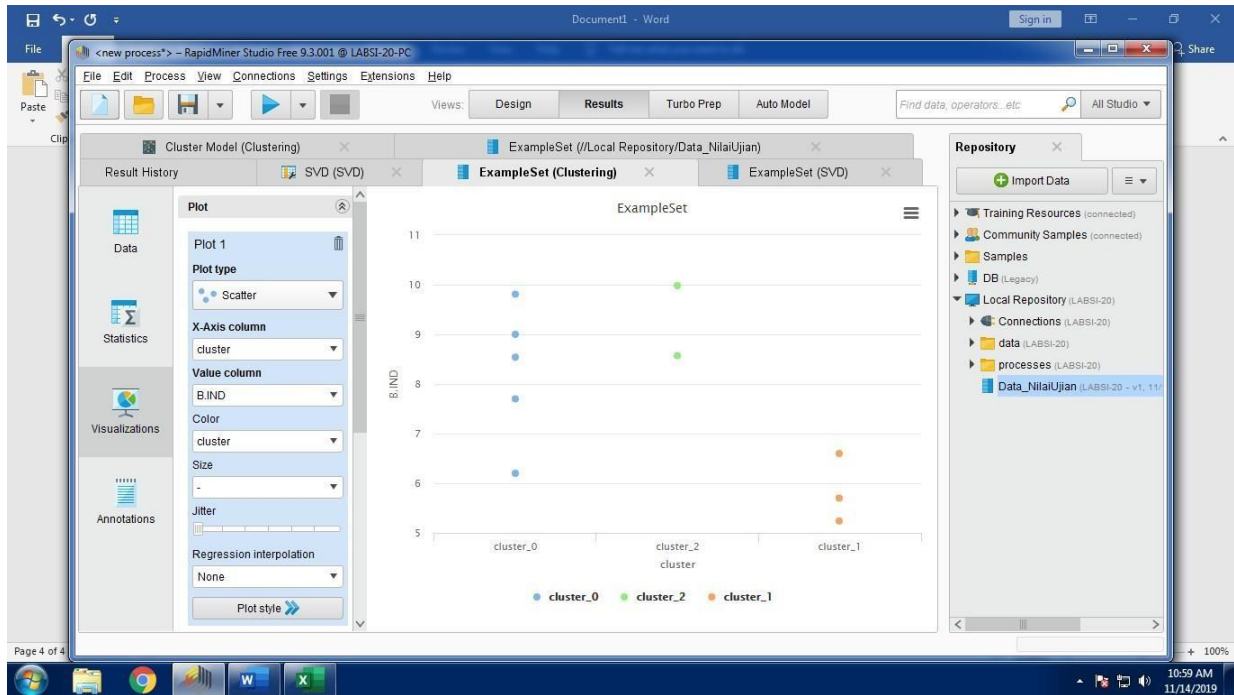
Nilai Svd vectors



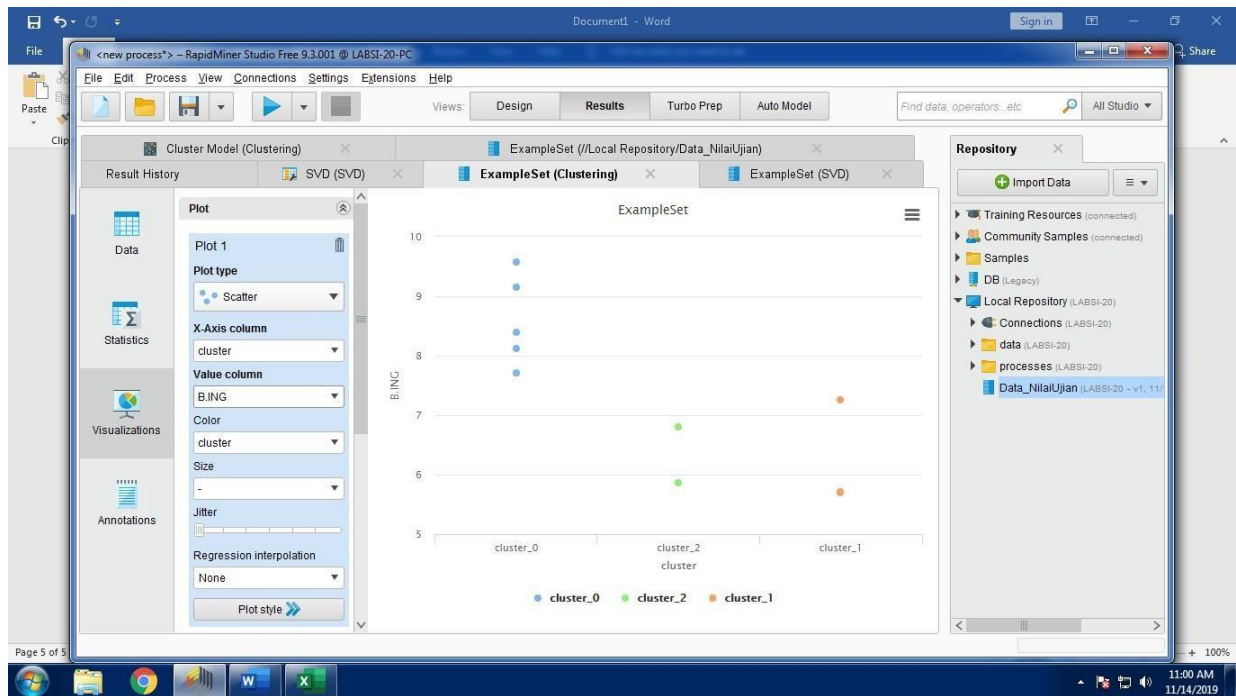
Nilai Cumulative Variance



- Kelompok siswa bidang B.indonesia



Kelompok siswa bidang B.inggris



- Kelompok masing-masing siswa yang dikelompokkan berdasarkan cluster 0, cluster 1, cluster 2.

Row No.	NAMA	cluster ↑	B.INDO	B.ING
1	JOKO	cluster_0	8.540	8.400
3	SUSI	cluster_0	6.200	9.150
7	EKO	cluster_0	7.700	7.710
9	WAWAN	cluster_0	9	8.120
10	MAHMUD	cluster_0	9.810	9.580
4	DYAH	cluster_1	5.240	7.260
5	WATI	cluster_1	5.700	5.710
8	YANTO	cluster_1	6.600	5.700
2	AGUS	cluster_2	9.980	6.810
6	IKA	cluster_2	8.570	5.870

Description

The screenshot displays the RapidMiner Studio interface. The main window shows the 'Cluster Model (Clustering)' results. The 'Description' tab is active, displaying the following information:

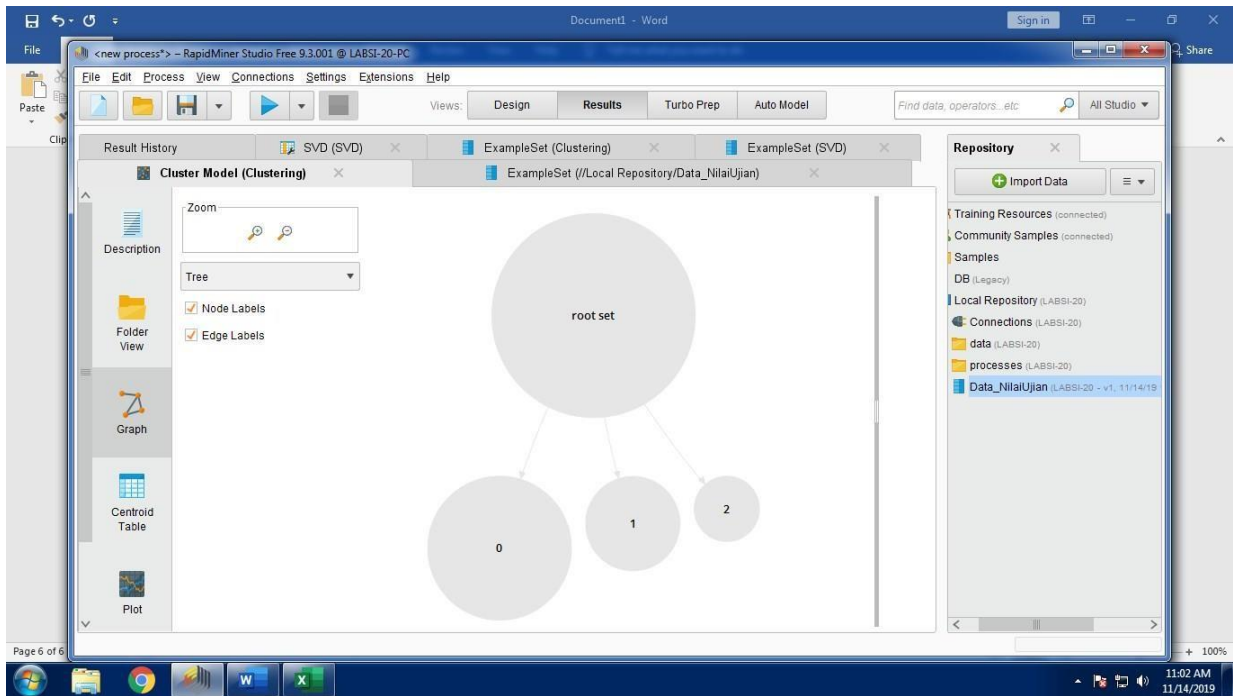
- Cluster 0: 5 items
- Cluster 1: 3 items
- Cluster 2: 2 items
- Total number of items: 10

The 'Repository' panel on the right shows the data source 'Data_NilaiUjian' (LABSI-20 - v1, 11/14/2019) under the 'Local Repository'.

The background shows an Excel spreadsheet with a table containing student IDs and scores.

NO. S	S
1	S-101
2	S-102
3	S-103
4	S-104
5	S-105
6	S-106
7	S-107
8	S-108
9	S-109
10	S-110

-
- Graph



Kesimpulan :

Row No.	NAMA	cluster ↑	B.INDO	B.ING
1	JOKO	cluster_0	8.540	8.400
3	SUSI	cluster_0	6.200	9.150
7	EKO	cluster_0	7.700	7.710
9	WAWAN	cluster_0	9	8.120
10	MAHMUD	cluster_0	9.810	9.580
4	DYAH	cluster_1	5.240	7.260
5	WATI	cluster_1	5.700	5.710
8	YANTO	cluster_1	6.600	5.700
2	AGUS	cluster_2	9.980	6.810
6	IKA	cluster_2	8.570	5.870

1. Cluster 2 yang diajukan untuk lomba olimpiade bidang B.Indonesia
2. Cluster 0 yang diajukan untuk lomba olimpiade bidang B.Inggris

Tugas

- Berikut adalah table siswa dan memasukkan nilai secara random dengan $=5+RAND()*5$

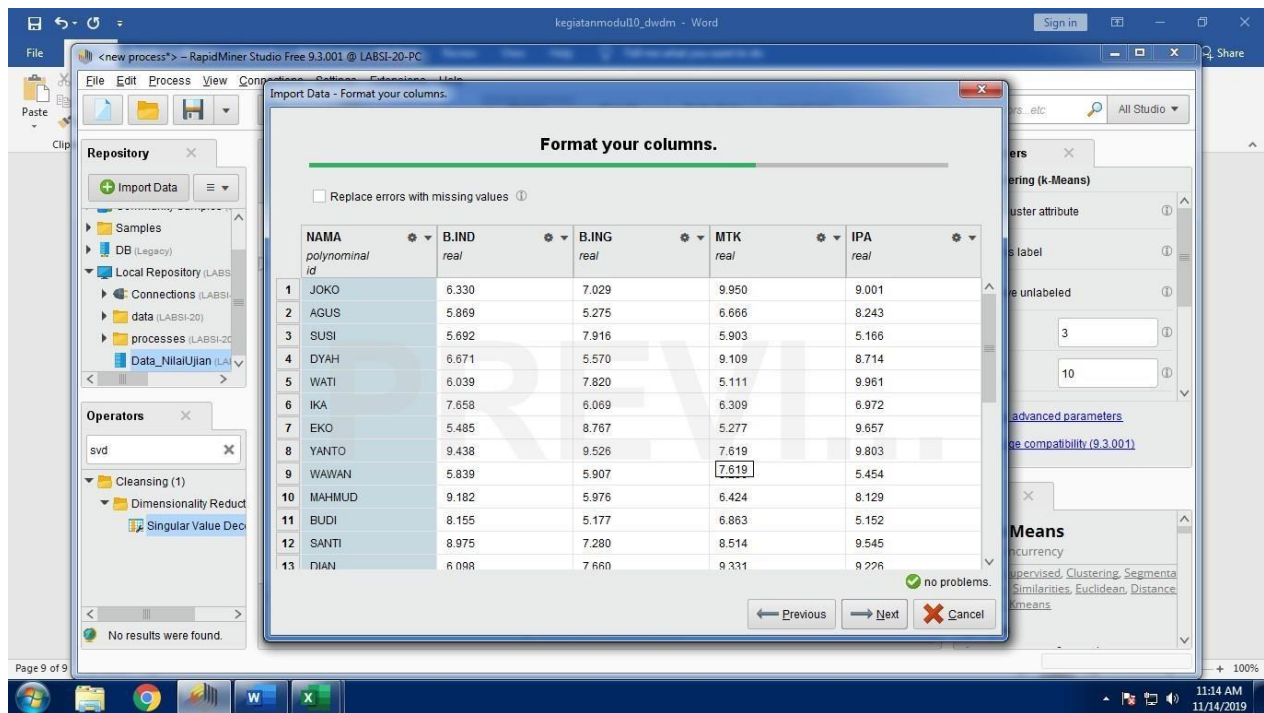
ID	NAMA	B.IND	B.ING	MTK	IPA
S-101	JOKO	6.33	7.03	3.95	9.00
S-102	AGUS	5.07	5.28	6.67	8.24
S-103	SUSI	5.69	7.92	5.30	5.17
S-104	DYAH	6.67	5.57	9.11	8.71
S-105	WATI	6.04	7.82	5.11	9.96
S-106	IKA	7.66	6.07	6.31	6.97
S-107	EKO	5.48	8.77	5.28	9.66
S-108	YANTO	9.44	9.53	7.62	9.80
S-109	WAWAN	5.84	5.91	5.26	5.45
S-110	MAHMUD	3.18	5.98	6.42	8.13
S-111	BUDI	8.15	5.18	6.86	5.15
S-112	SANTI	8.38	7.28	8.51	9.54
S-113	DIAN	6.10	7.66	9.33	9.23
S-114	DANI	5.17	7.34	6.86	9.40
S-115	AHMAD	5.14	8.93	6.63	6.49
S-116	BAYU	5.06	6.27	7.29	8.96
S-117	RISA	3.85	3.61	6.86	7.61
S-118	RANI	5.13	6.91	9.69	6.07
S-119	YANI	7.55	9.88	6.82	5.51
S-120	RATIH	3.78	5.24	3.89	8.99
S-121	INDAH	8.90	5.17	3.08	9.00
S-122	JONO	9.63	8.24	5.56	5.83
S-123	SARAH	6.10	7.05	6.81	7.45
S-124	RAMA	5.13	5.26	6.41	5.10
S-125	BAMBANG	5.52	6.33	5.30	9.63
S-126	HADI	6.27	8.67	6.38	9.15
S-127	NANA	7.98	7.63	7.68	3.94
S-128	FEBRI	6.75	5.80	7.67	5.76
S-129	DENI	5.65	5.97	7.12	6.04
S-130	TONI	6.01	5.64	5.38	6.10

- Gunakan file Tugas_NilaiUjian.xlsx sebagai data yang akan digunakan dalam proses Clustering. Lalu import ke dalam aplikasi RapidMiner.

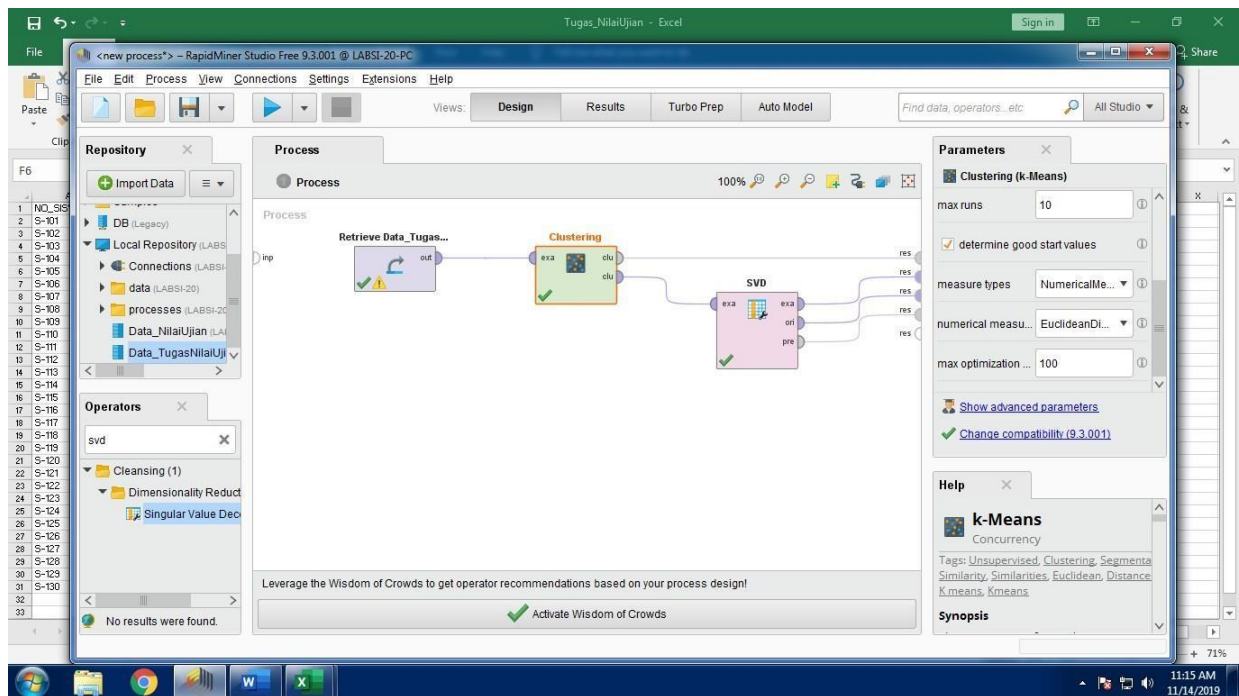
Import Data - Select the cells to import.

Sheet: Sheet1 Cell range: B:F Select All Define header row: 1

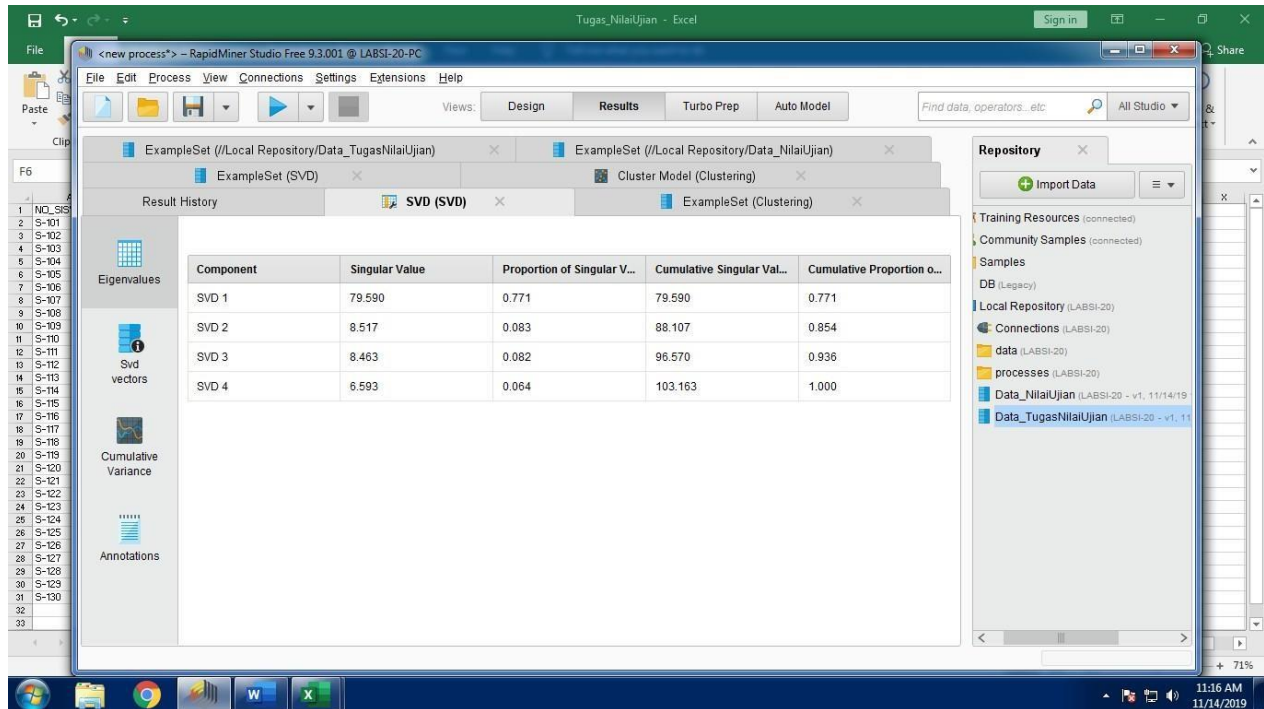
	A	B	C	D	E	F
13	S-112	SANTI	8.975	7.280	8.514	9.545
14	S-113	DIAN	6.098	7.660	9.331	9.226
15	S-114	DANI	5.170	7.338	6.863	9.401
16	S-115	AHMAD	5.140	8.933	6.625	6.490
17	S-116	BAYU	5.062	6.268	7.287	8.958
18	S-117	RISA	9.846	9.611	6.862	7.611
19	S-118	RANI	5.126	6.906	9.694	6.069
20	S-119	YANI	7.547	9.881	6.825	5.510
21	S-120	RATIH	9.785	5.239	8.893	8.987
22	S-121	INDAH	8.901	5.171	9.076	9.005
23	S-122	JONO	9.832	8.238	5.557	5.830
24	S-123	SARAH	6.105	7.050	6.814	7.449
25	S-124	RAMA	5.127	5.262	6.411	5.104
26	S-125	BAMBANG	5.523	6.326	5.300	9.633



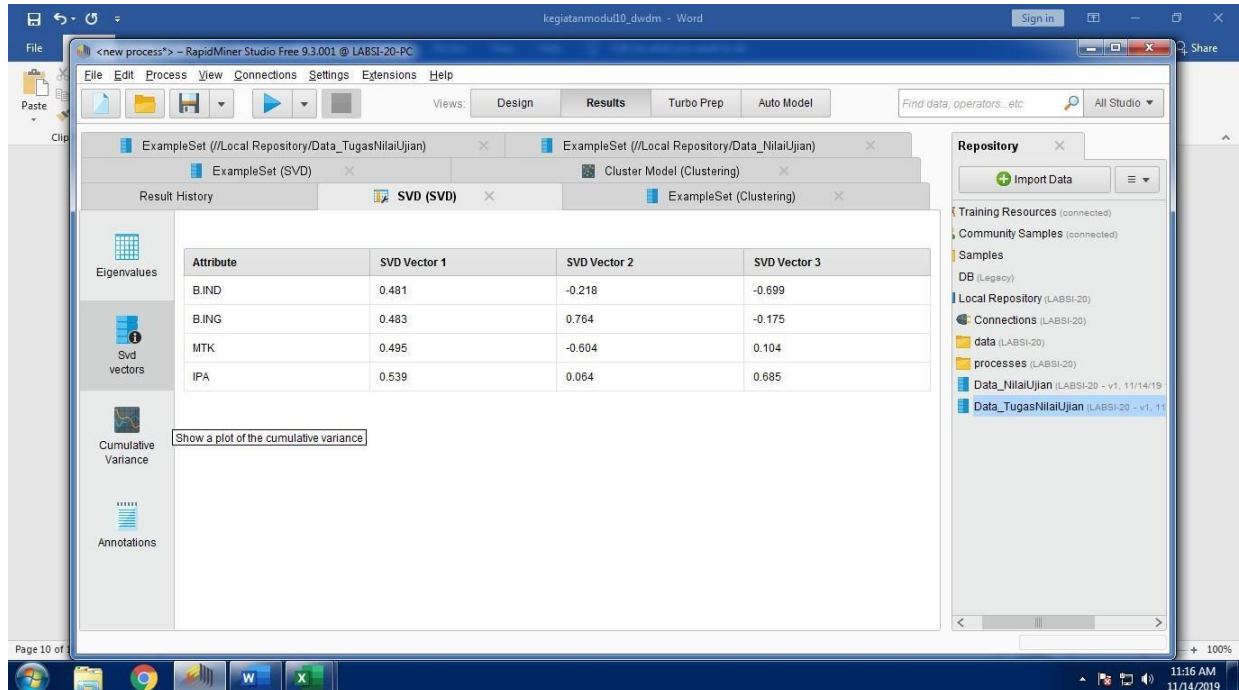
- Tambahkan operator k-Means. Lalu Jalankan dengan menekan tombol run (F11)



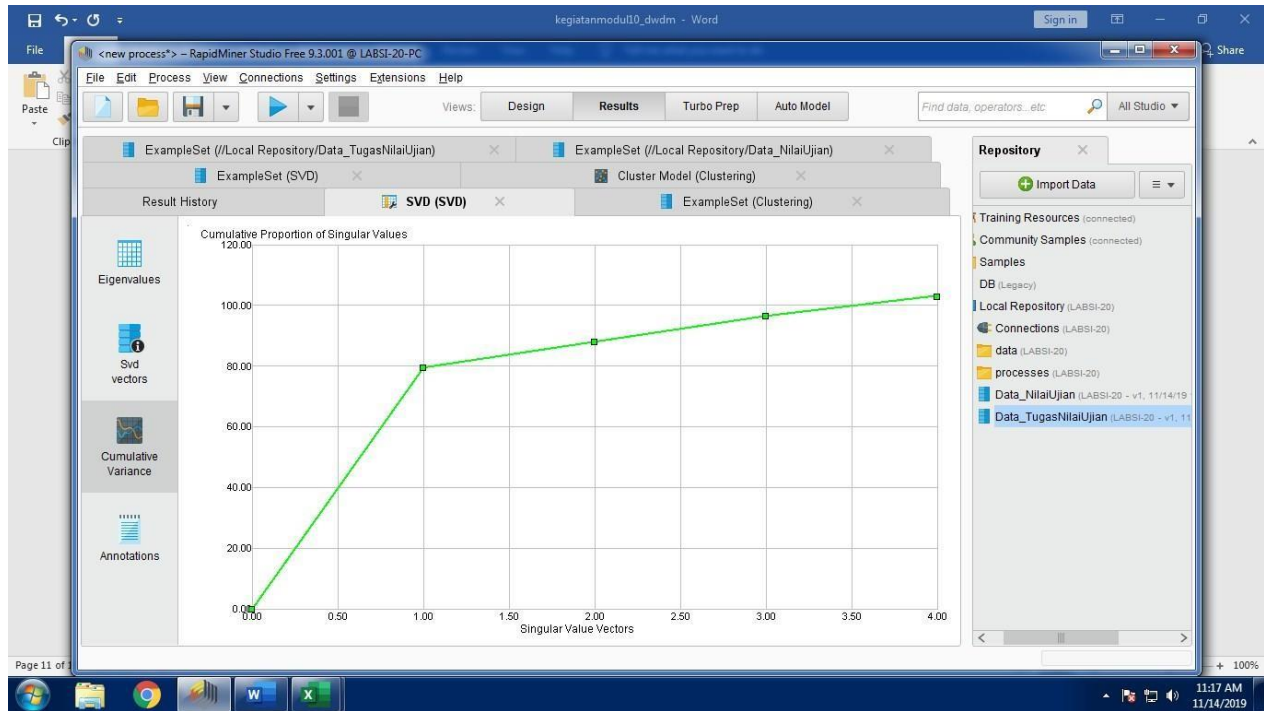
Nilai Eigenvalue



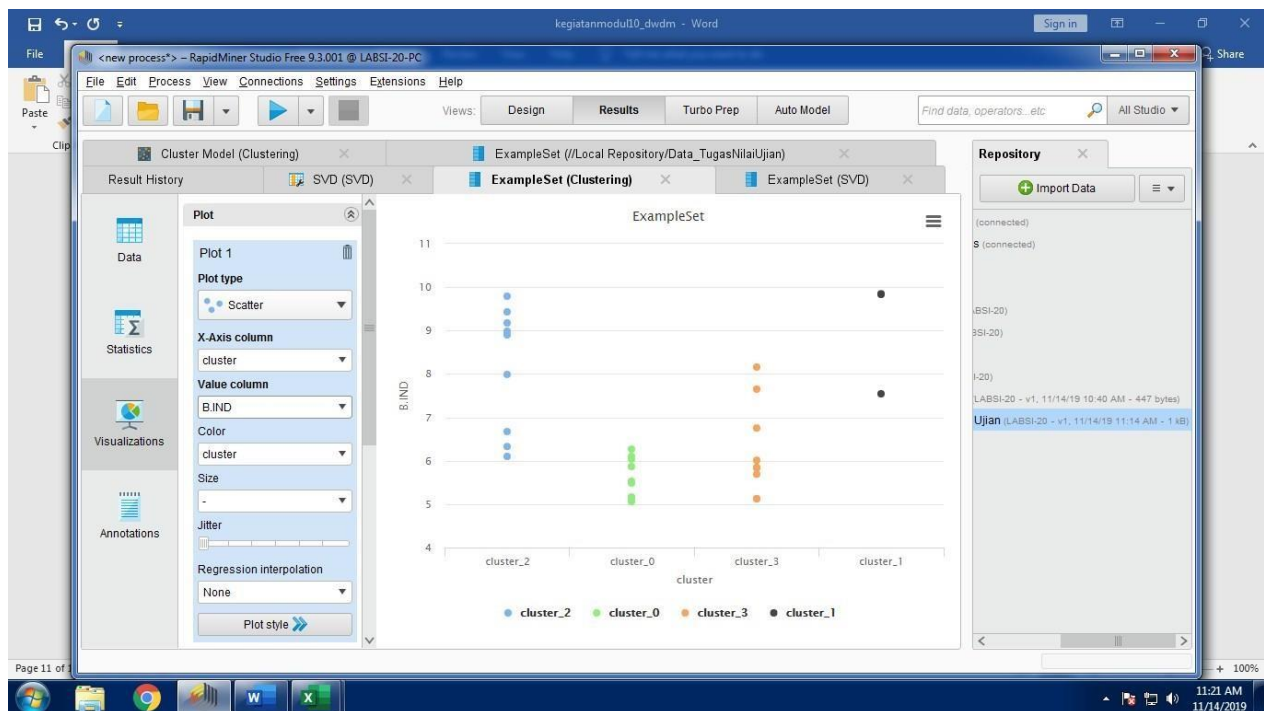
Nilai Svd Vectors



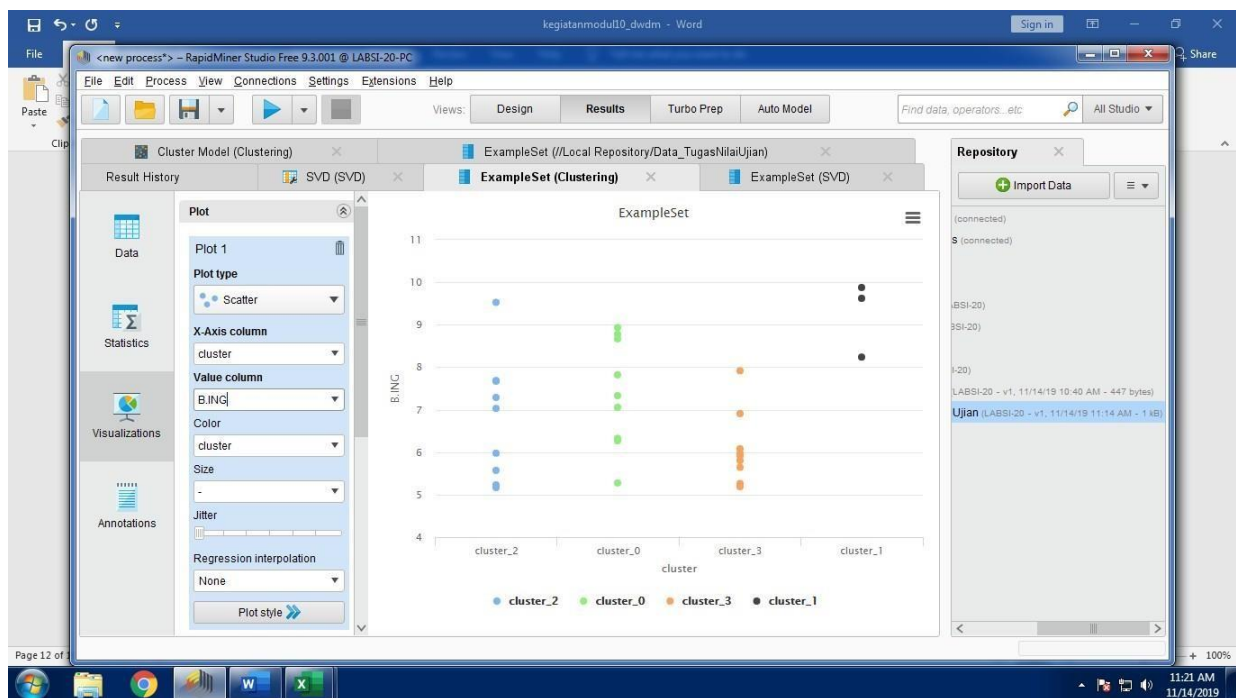
Nilai Cumulative Variance



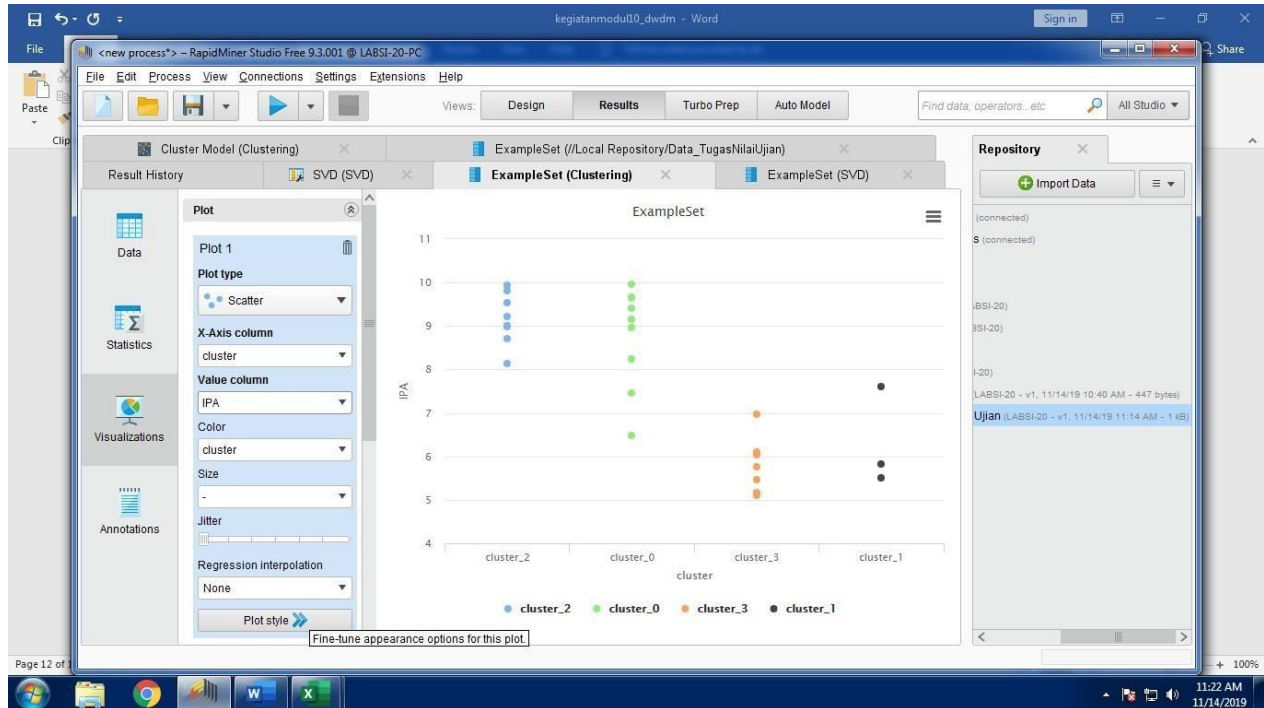
Kelompok siswa bidang B.INDO



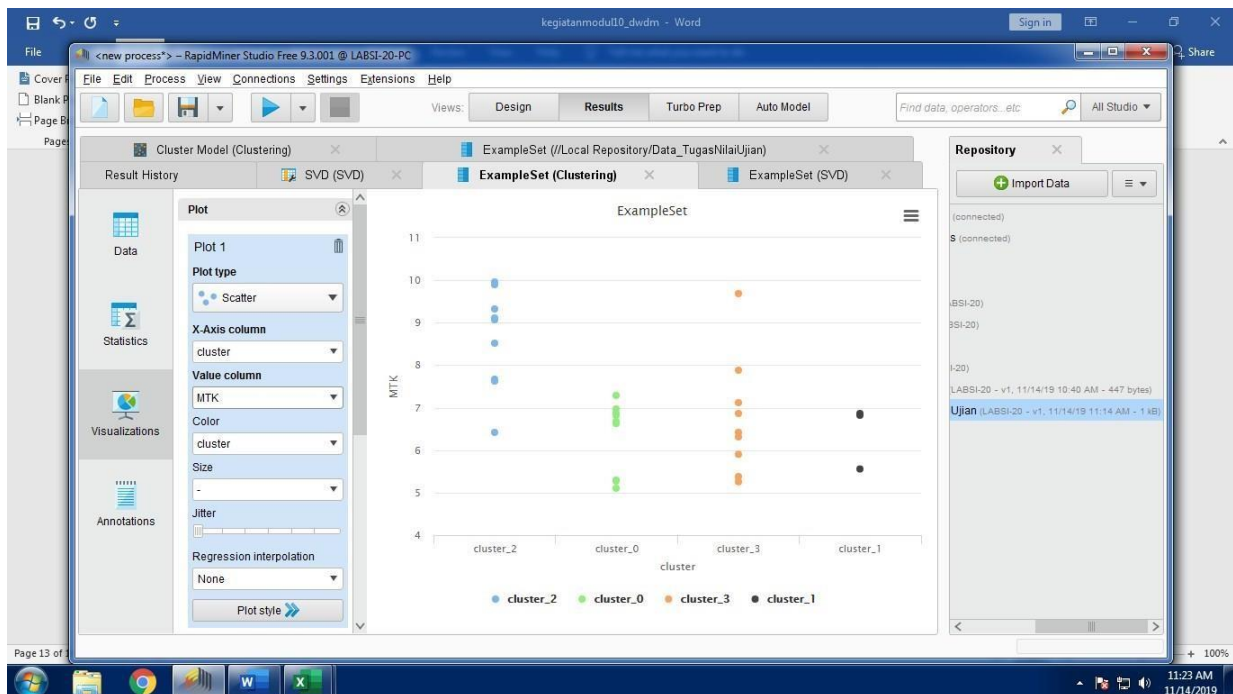
Kelompok siswa kelompok B.ING



- Kelompok siswabidang IPA



- Kelompok siswabidang MTK



-
- The screenshot shows the RapidMiner Studio Free 9.3.001 interface. The main window displays a table of 30 examples with 7 attributes: Row No., NAMA, cluster, BJND, BJNG, MTK, and IPA. The 'cluster' attribute is highlighted in yellow for all rows. The 'Repository' panel on the right shows the data source 'Ujian' (LABSI-20 - v1, 11/14/19 11:14 AM - 1 KB). The top menu bar includes File, Edit, Process, View, Connections, Settings, Extensions, and Help. The bottom status bar indicates 'Page 12 of 12'.
- | Row No. | NAMA | cluster | BJND | BJNG | MTK | IPA |
|---------|---------|-----------|-------|-------|-------|-------|
| 2 | AGUS | cluster_0 | 5.869 | 5.275 | 6.666 | 8.243 |
| 5 | WATI | cluster_0 | 6.039 | 7.820 | 5.111 | 9.961 |
| 7 | EKO | cluster_0 | 5.485 | 8.767 | 5.277 | 9.657 |
| 14 | DANI | cluster_0 | 5.170 | 7.338 | 6.863 | 9.401 |
| 15 | AHMAD | cluster_0 | 5.140 | 8.933 | 6.625 | 6.490 |
| 16 | BAYU | cluster_0 | 5.062 | 6.268 | 7.287 | 8.958 |
| 23 | SARAH | cluster_0 | 6.105 | 7.050 | 6.814 | 7.449 |
| 25 | BAMBANG | cluster_0 | 5.523 | 6.326 | 5.300 | 9.633 |
| 26 | HADI | cluster_0 | 6.266 | 8.670 | 6.977 | 9.151 |
| 17 | RISA | cluster_1 | 9.846 | 9.611 | 6.862 | 7.611 |
| 19 | YANI | cluster_1 | 7.547 | 9.881 | 6.825 | 5.510 |
| 22 | JONO | cluster_1 | 9.832 | 8.238 | 5.557 | 5.830 |
- ExampleSet (30 examples, 2 special attributes, 4 regular attributes)

The screenshot displays the RapidMiner Studio Free 9.3.001 interface. The main workspace shows a workflow with the following components:

- Cluster Model (Clustering)**: The active process, showing a table of 30 examples.
- ExampleSet (/Local Repository/Data_TugasNilaiUjian)**: The data source for the clustering model.
- Result History**: A list of processes including SVD (SVD), ExampleSet (Clustering), and ExampleSet (SVD).

The **Cluster Model (Clustering)** process is currently open in **Turbo Prep** mode. It displays a table with 30 examples, filtered to show all 30. The table has the following columns: Row No., NAMA, cluster, B.IND, B.JNG, MTK, and IPA.

Row No.	NAMA	cluster	B.IND	B.JNG	MTK	IPA
22	JONO	cluster_1	9.832	8.238	5.557	5.830
1	JOKO	cluster_2	6.330	7.029	9.950	9.001
4	DYAH	cluster_2	6.671	5.570	9.109	8.714
8	YANTO	cluster_2	9.438	9.526	7.619	9.803
10	MAHMUD	cluster_2	9.182	5.976	6.424	8.129
12	SANTI	cluster_2	8.975	7.280	8.514	9.545
13	DIAN	cluster_2	6.098	7.660	9.331	9.226
20	RATIH	cluster_2	9.785	5.239	9.893	8.987
21	INDAH	cluster_2	8.901	5.171	9.076	9.005
27	NANA	cluster_2	7.979	7.688	7.679	9.945
3	SUSI	cluster_3	5.692	7.916	5.903	5.166
6	IKA	cluster_3	7.658	6.069	6.309	6.972

Below the table, it states: **ExampleSet (30 examples, 2 special attributes, 4 regular attributes)**.

The **Repository** panel on the right shows the local data source **Ujian** (LABSI-20 - v1, 11/14/19 11:14 AM - 1 KB).

kegiatanmodul0_dwdm - Word

Sign in

File Edit Process View Connections Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

Cluster Model (Clustering) ExampleSet (/Local Repository/Data_TugasNilaiUjian)

Result History SVD (SVD) ExampleSet (Clustering) ExampleSet (SVD)

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

Row No.	NAMA	cluster ↑	B.JND	B.JNG	MTK	IPA
20	RATH	cluster_2	9.785	5.239	9.893	8.987
21	INDAH	cluster_2	8.901	5.171	9.076	9.005
27	NANA	cluster_2	7.979	7.688	7.679	9.945
3	SUSI	cluster_3	5.692	7.916	5.903	5.166
6	IKA	cluster_3	7.658	6.069	6.309	6.972
9	WAWAN	cluster_3	5.839	5.907	5.256	5.454
11	BUDI	cluster_3	8.155	5.177	6.863	5.152
18	RAINI	cluster_3	5.126	6.906	9.894	6.069
24	RAMA	cluster_3	5.127	5.262	6.411	5.104
28	FEBRI	cluster_3	6.754	5.798	7.874	5.763
29	DENI	cluster_3	5.846	5.969	7.120	6.037
30	TONI	cluster_3	6.011	5.644	5.378	6.099

ExampleSet (30 examples, 2 special attributes, 4 regular attributes)

Repository

Import Data

(connected)

S (connected)

LABSI-20

SSI-20

I-20

LABSI-20 - v1, 11/14/19 10:40 AM - 447 bytes

Ujian (LABSI-20 - v1, 11/14/19 11:14 AM - 1 KB)

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11:24 AM 11/14/2019

• Description

kegiatanmodul0_dwdm - Word

Sign in

File Edit Process View Connections Settings Extensions Help

Views: Design Results Turbo Prep Auto Model

Find data, operators, etc. All Studio

Cluster Model (Clustering) ExampleSet (/Local Repository/Data_TugasNilaiUjian)

Result History SVD (SVD) ExampleSet (Clustering) ExampleSet (SVD)

Cluster Model

Description

Cluster 0: 9 items
Cluster 1: 3 items
Cluster 2: 9 items
Cluster 3: 9 items
Total number of items: 30

Folder View

Graph

Centroid Table

Plot

Repository

Import Data

(connected)

S (connected)

LABSI-20

SSI-20

I-20

LABSI-20 - v1, 11/14/19 10:40 AM - 447 bytes

Ujian (LABSI-20 - v1, 11/14/19 11:14 AM - 1 KB)

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11:19 AM 11/14/2019

- Graph

