

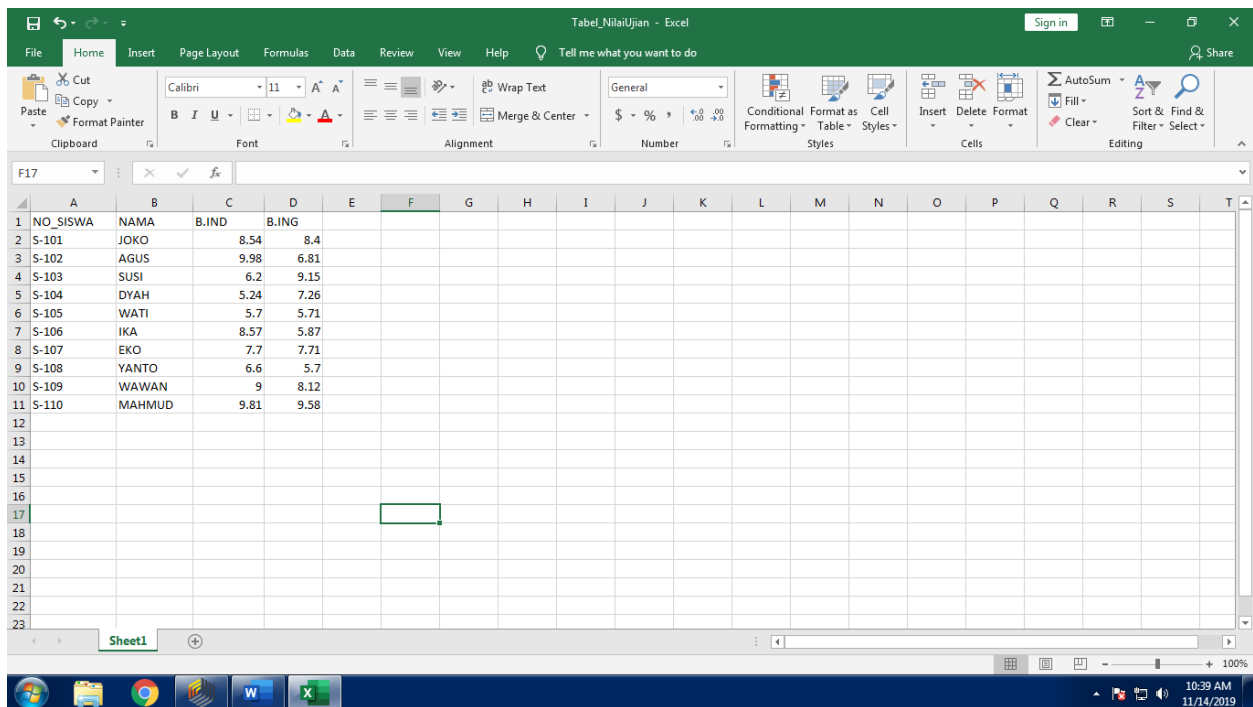
NAMA : NURUL ARIFIA SAFITRI

NIM : L200170088

KELAS : B

### KEGIATAN PRAKTIKUM

- Berikut table data nilai siswa :

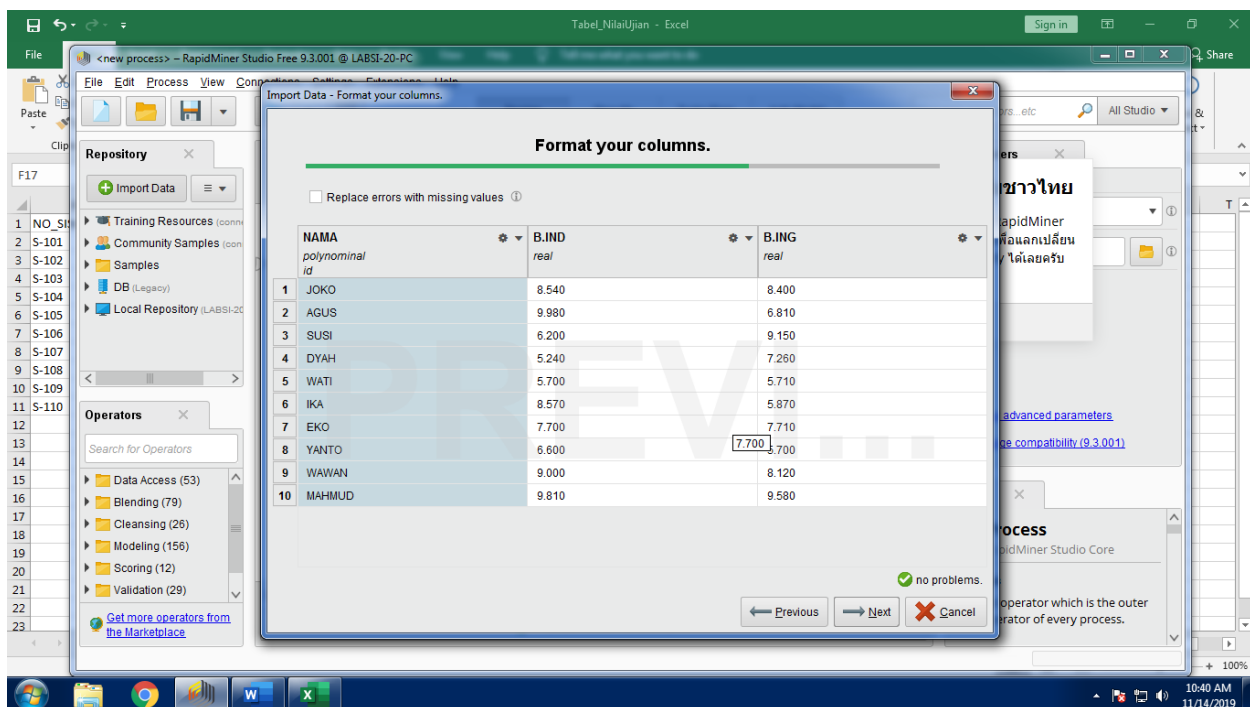
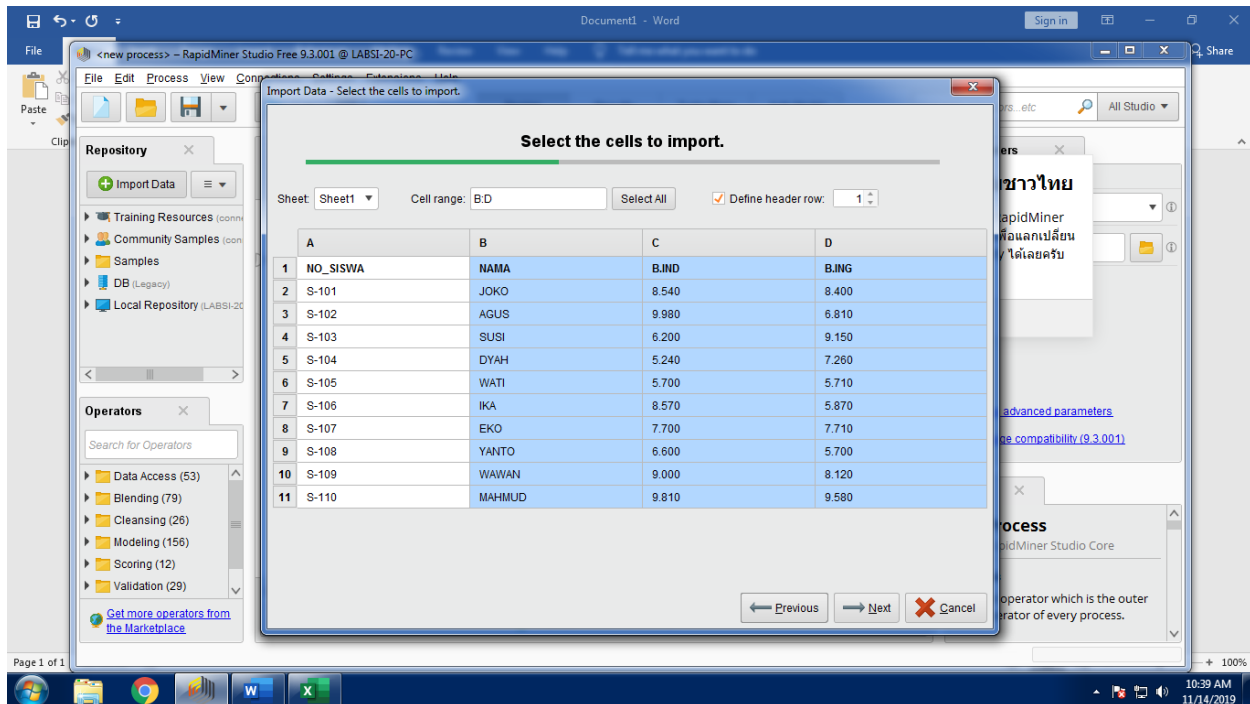


The screenshot shows a Microsoft Excel spreadsheet titled 'Tabel\_NilaiUjian - Excel'. The spreadsheet contains a table with student data. The columns are labeled A through T, and the rows are numbered 1 through 23. The data is as follows:

NO_SISWA	NAMA	B.IND	B.ING
S-101	JOKO	8.54	8.4
S-102	AGUS	9.98	6.81
S-103	SUSI	6.2	9.15
S-104	DYAH	5.24	7.26
S-105	WATI	5.7	5.71
S-106	IKA	8.57	5.87
S-107	EKO	7.7	7.71
S-108	YANTO	6.6	5.7
S-109	WAWAN	9	8.12
S-110	MAHMUD	9.81	9.58

The Excel interface includes the ribbon with tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, and Help. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The status bar at the bottom indicates the current sheet is 'Sheet1' and the zoom level is 100%.

- 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.JNG
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 pop-up window in Thai language is overlaid on the interface, titled "ฟอรัม RapidMiner สำหรับชาวไทย" (RapidMiner Forum for Thai people). It contains text about a community forum and a button labeled "ไปที่กลุ่ม" (Go to group).

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

The screenshot shows the RapidMiner Studio interface with a workflow diagram. The workflow consists of the following operators:

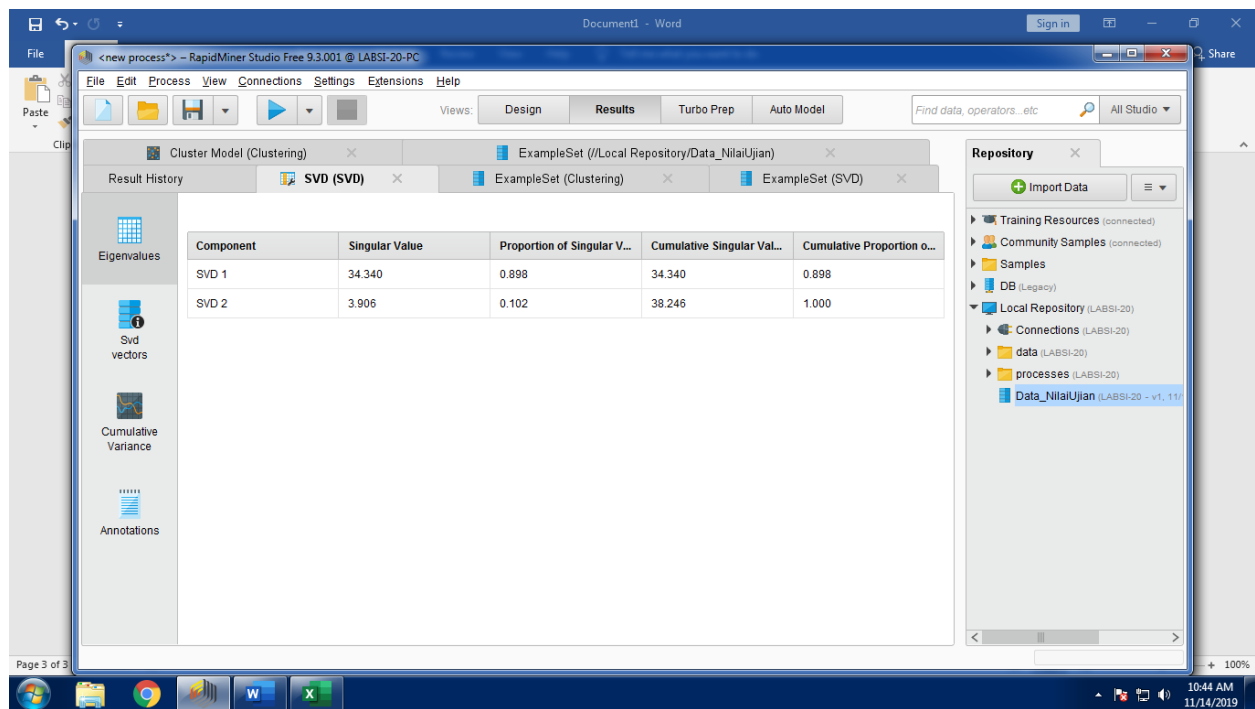
- Retrieve Data\_NilaiUjian...**: The first operator in the process.
- Clustering**: The second operator, connected to the first.
- SVD**: The third operator, connected to the Clustering operator.

The **Parameters** panel for the SVD operator is open, showing the following settings:

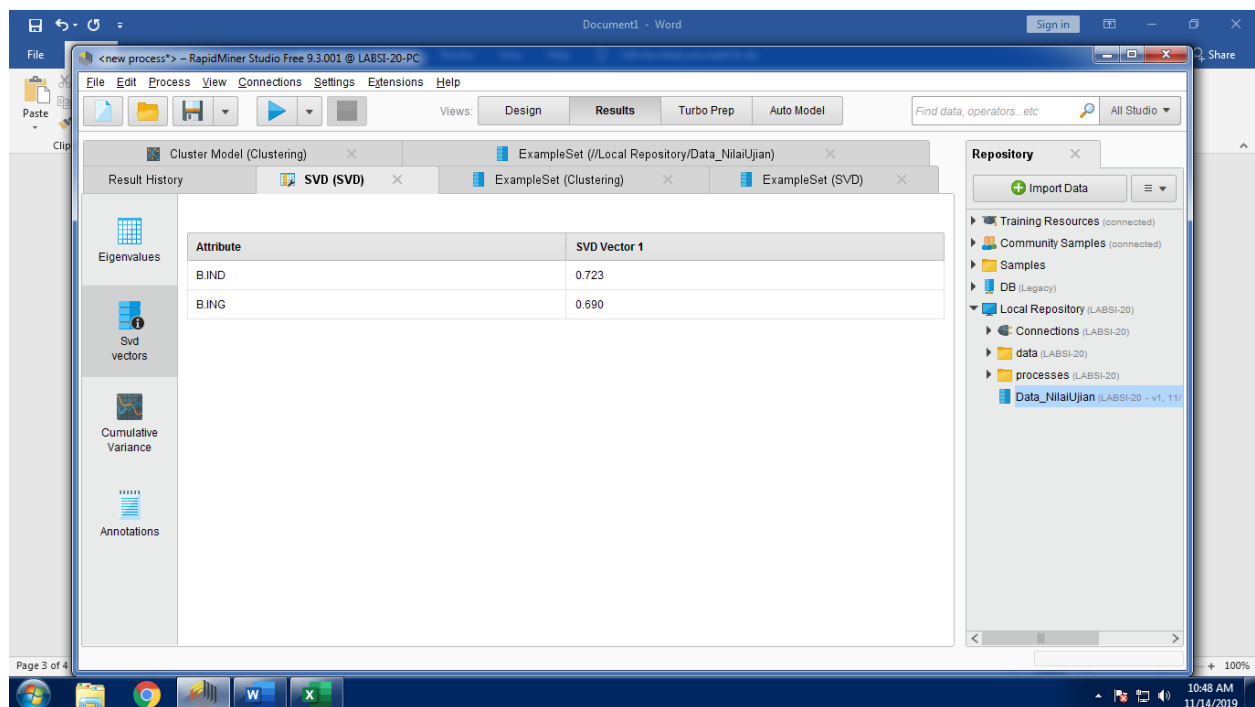
- dimensionality reduction**: fixed number
- dimensions**: 1

The **Help** panel for the SVD operator is also open, displaying the title "Singular Value Decomposition" and a list of tags: PCA, Components, Orthogonal, Eigenvalues, Decompositions, Reduction, Multicollinearity, SVD, Dimensionality Reduction.

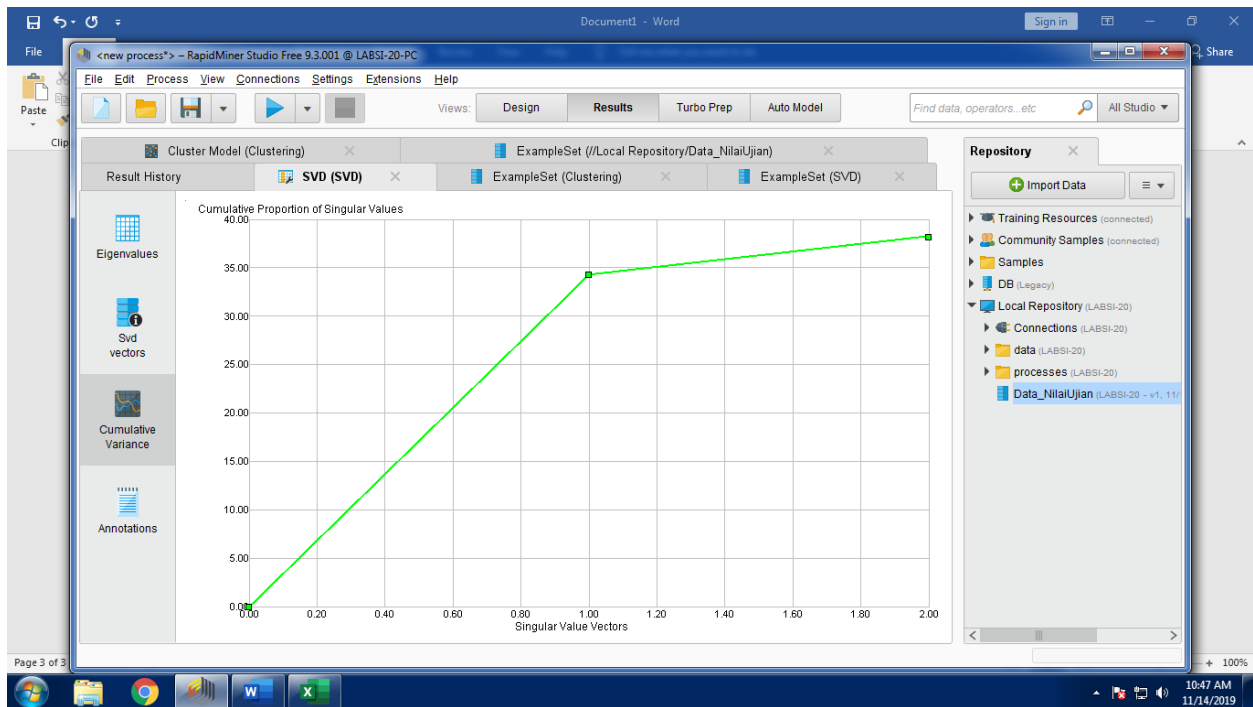
- Nilai Eigenvalue



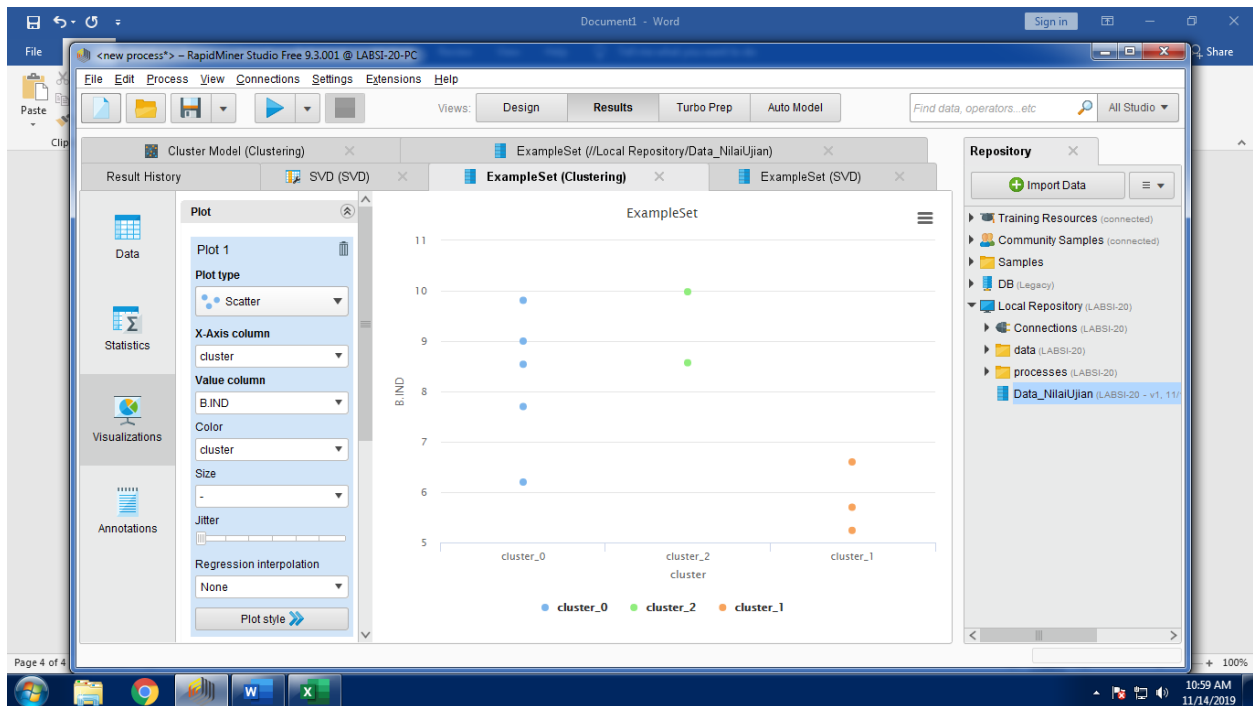
- Nilai Svd vectors



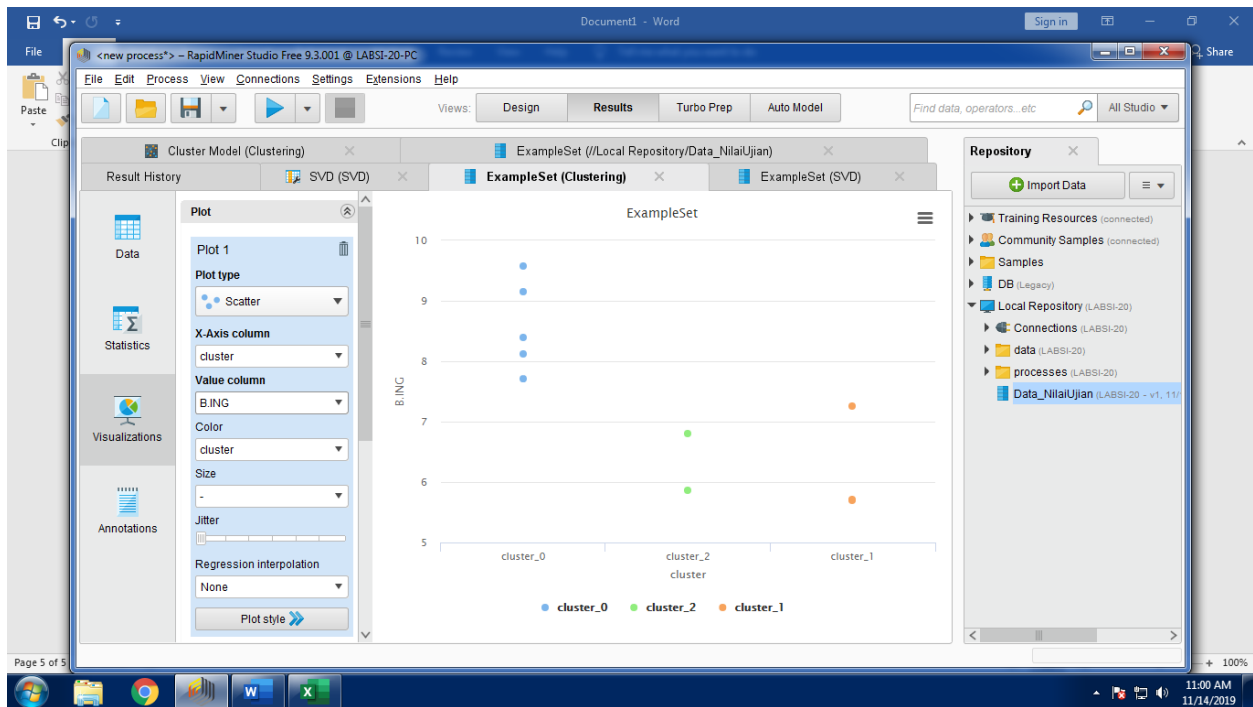
- Nilai Cumulative Variance



- Kelompok siswa bidang B.indonesia



- Kelompok siswa bidang B.inggris



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

Open in: Turbo Prep | Auto Model

Filter (10 / 10 examples): all

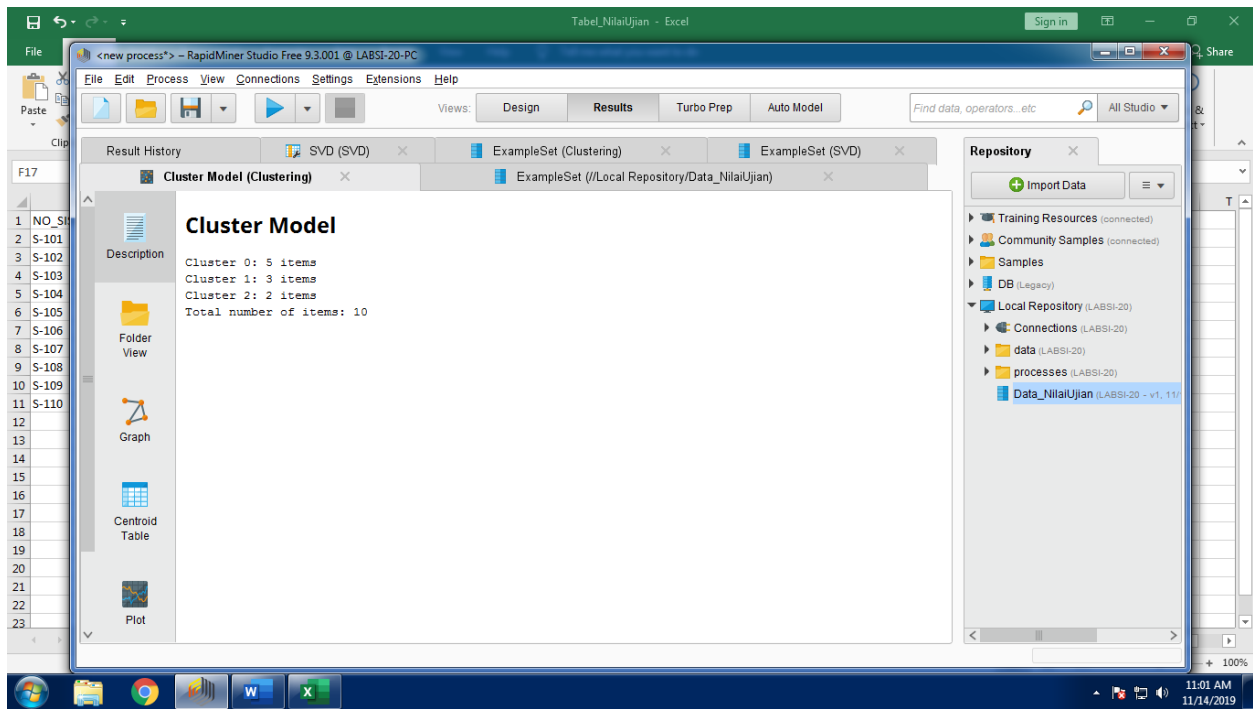
Row No.	NAMA	cluster	B.IND	B.ING
1	JOKO	cluster_0	8.540	8.400
2	AGUS	cluster_2	9.980	6.810
3	SUSI	cluster_0	6.200	9.150
4	DYAH	cluster_1	5.240	7.260
5	WATI	cluster_1	5.700	5.710
6	IKA	cluster_2	8.570	5.870
7	EKO	cluster_0	7.700	7.710
8	YANTO	cluster_1	6.600	5.700
9	WAWAN	cluster_0	9	8.120
10	MAHMUD	cluster_0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

ExampleSet (10 examples, 2 special attributes, 2 regular attributes)

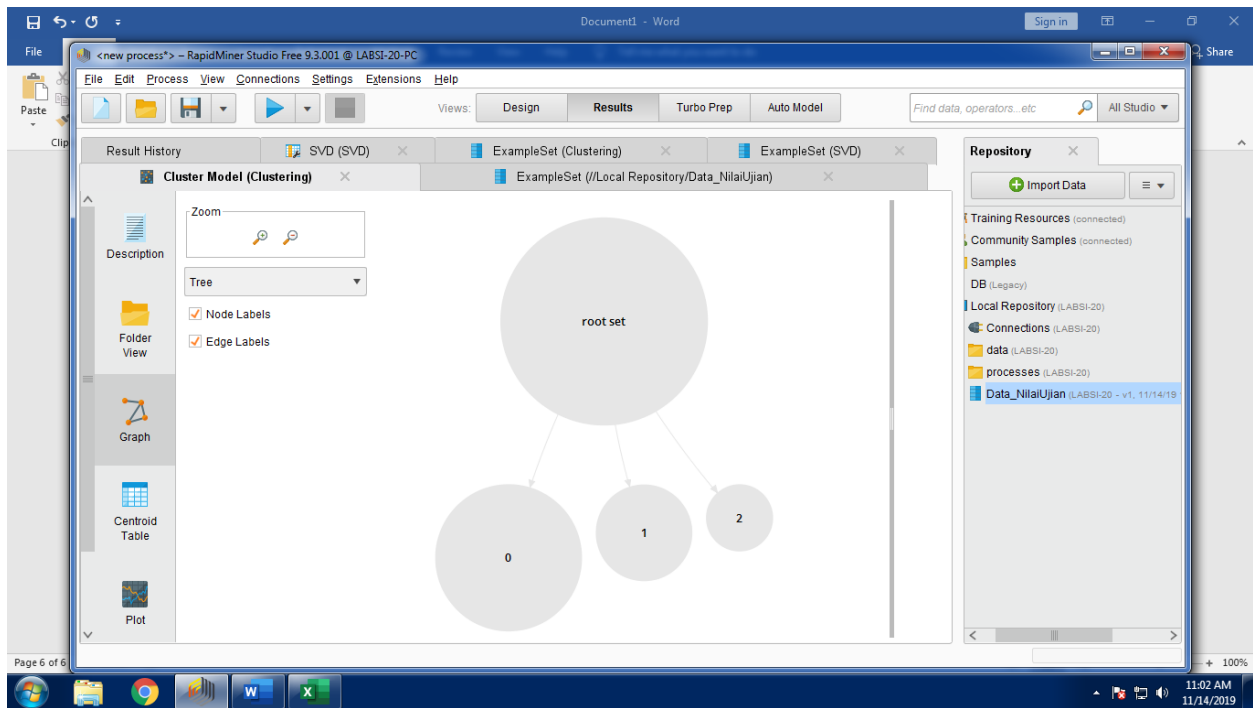
Repository

- Training Resources (connected)
- Community Samples (connected)
- Samples
- DB (Legacy)
- Local Repository (LABSI-20)
  - Connections (LABSI-20)
  - data (LABSI-20)
  - processes (LABSI-20)
  - Data\_NilaiUjian (LABSI-20 - v1, 11)

- Description



- Graph



Kesimpulan :

Cluster Model (Clustering) x ExampleSet (/Local Repository/Data\_NilaiUjian) x

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

Open in Turbo Prep Auto Model Filter (10 / 10 examples): all

Row No.	NAMA	cluster ↑	B.IND	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

ExampleSet (10 examples, 2 special attributes, 2 regular attributes)

Repository x

Import Data

Training Resources (connected)

Community Samples (connected)

Samples

DB (Legacy)

Local Repository (LABSI-20)

Connections (LABSI-20)

data (LABSI-20)

processes (LABSI-20)

Data\_NilaiUjian (LABSI-20 - v1, 11/14/19)

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



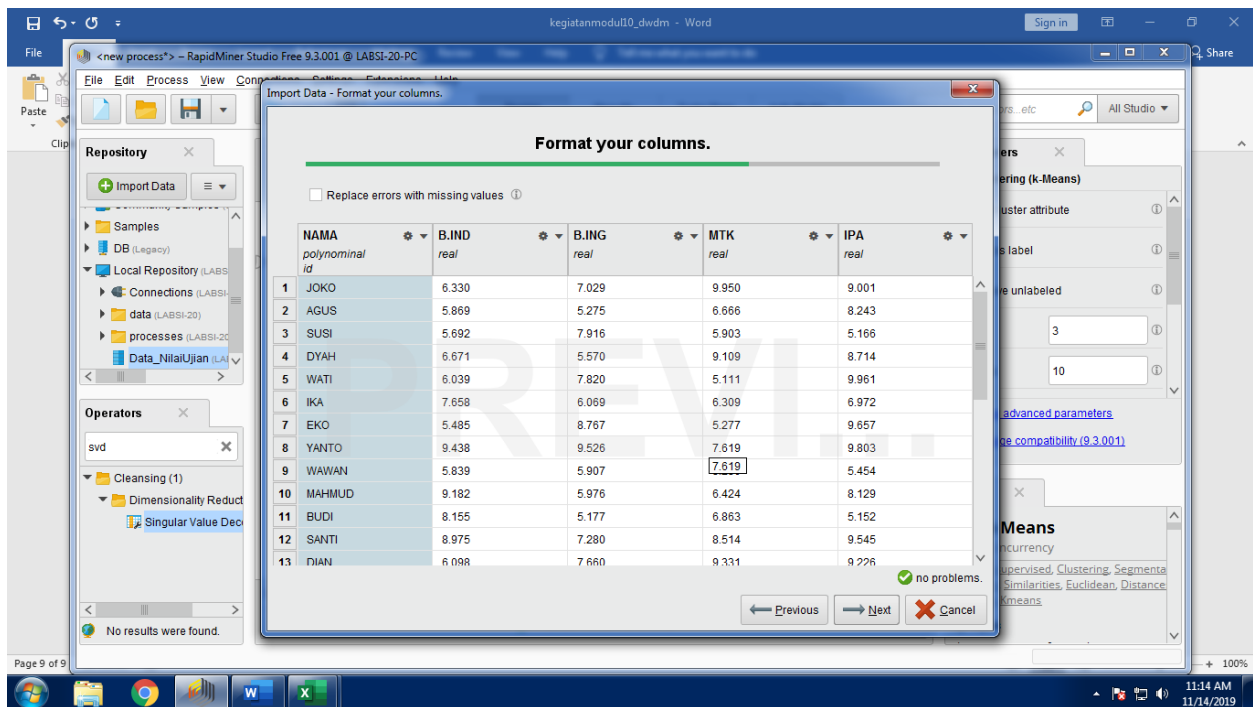
## Tugas

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

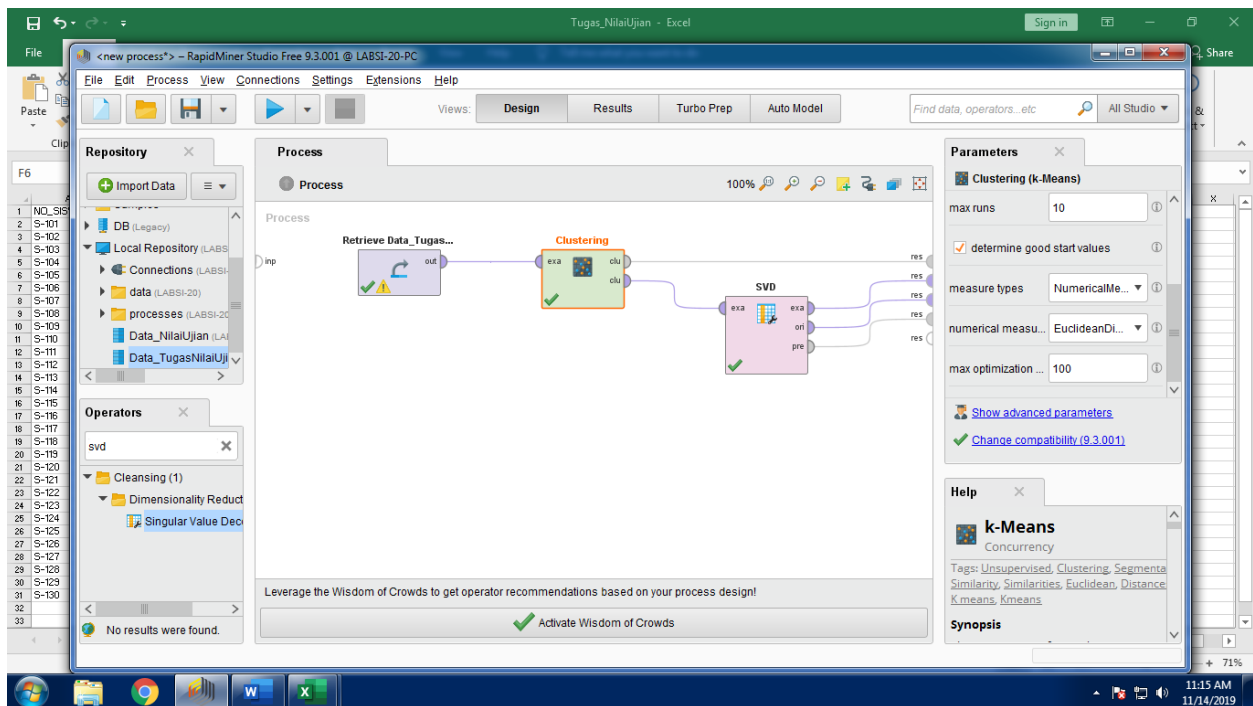
No. Siswa	Nama	BIND	BING	MTK	IPA
1 S-101	JOKO	6.33	7.03	9.95	9.00
2 S-102	AGUS	5.87	5.28	6.67	8.24
3 S-103	SUSI	5.69	7.32	5.30	5.17
4 S-104	DYAH	6.67	5.57	9.11	8.71
5 S-105	WATI	6.04	7.82	5.11	3.96
6 S-106	KA	7.66	6.07	6.31	6.97
7 S-107	EKO	5.48	8.77	5.28	9.66
8 S-108	YANTO	9.44	9.53	7.62	9.80
9 S-109	WAWAN	5.84	5.91	5.26	5.45
10 S-110	MAHMUD	9.18	5.98	6.42	8.13
11 S-111	BUDI	6.15	5.18	6.86	5.15
12 S-112	SANTI	8.98	7.28	8.51	9.54
13 S-113	DIAN	6.10	7.66	9.33	9.23
14 S-114	DANI	5.17	7.34	6.86	9.40
15 S-115	AHMAD	5.14	8.53	6.63	6.49
16 S-116	BAYU	5.06	6.27	7.23	9.36
17 S-117	RISA	9.85	9.61	6.86	7.61
18 S-118	RANI	5.13	6.91	9.69	6.07
19 S-119	YANI	7.55	9.88	6.82	5.51
20 S-120	RATIH	9.78	5.24	9.69	8.99
21 S-121	INDAH	8.90	5.17	9.08	9.00
22 S-122	JONO	9.83	8.24	5.58	8.63
23 S-123	SARAH	6.10	7.05	6.81	7.45
24 S-124	RAMA	5.13	5.26	6.41	5.10
25 S-125	BAMBANG	5.52	6.33	5.30	9.63
26 S-126	HADI	6.27	8.67	6.98	9.15
27 S-127	NANA	7.98	7.69	7.68	9.34
28 S-128	FEBRI	6.75	5.80	7.87	5.76
29 S-129	DENI	5.85	5.97	7.12	6.04
30 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.

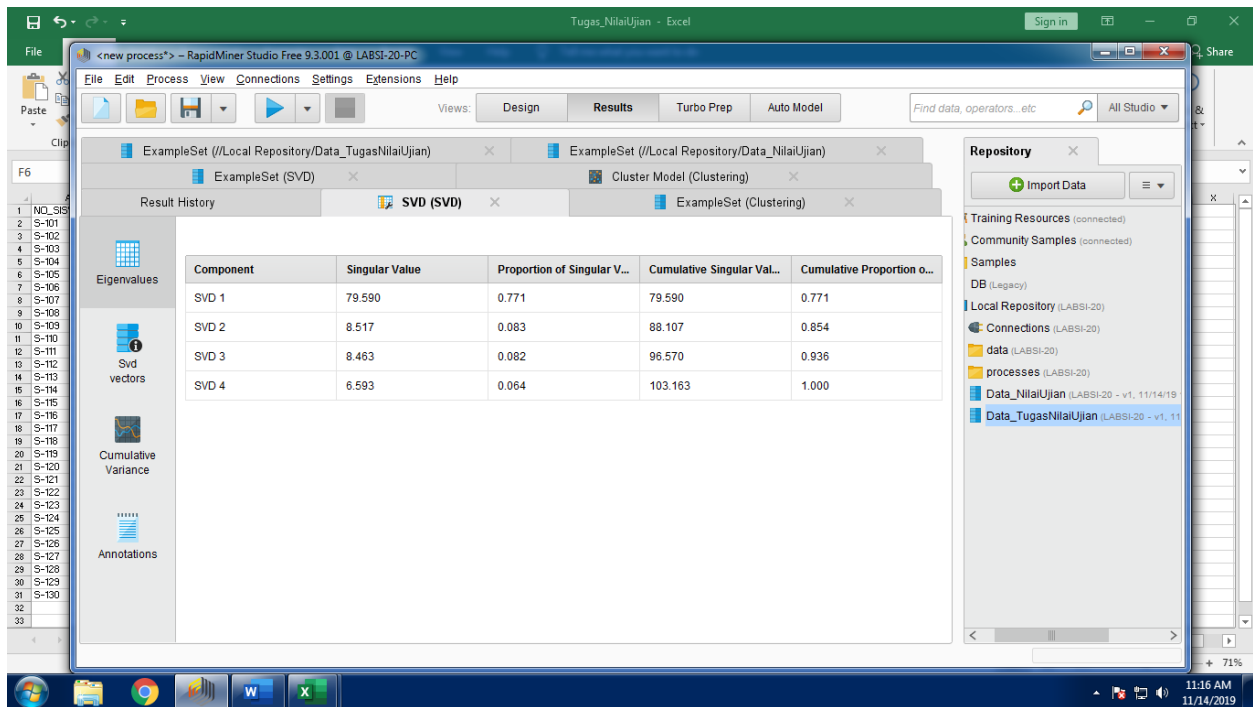
	A	B	C	D	E	F
13	S-112	SANTI	8.975	7.280	8.514	9.545
14	S-113	DIAN	6.098	7.660	9.331	9.226
15	S-114	DANI	5.170	7.338	6.863	9.401
16	S-115	AHMAD	5.140	8.933	6.625	6.490
17	S-116	BAYU	5.062	6.268	7.287	8.958
18	S-117	RISA	9.846	9.611	6.862	7.611
19	S-118	RANI	5.126	6.906	9.694	6.069
20	S-119	YANI	7.547	9.881	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



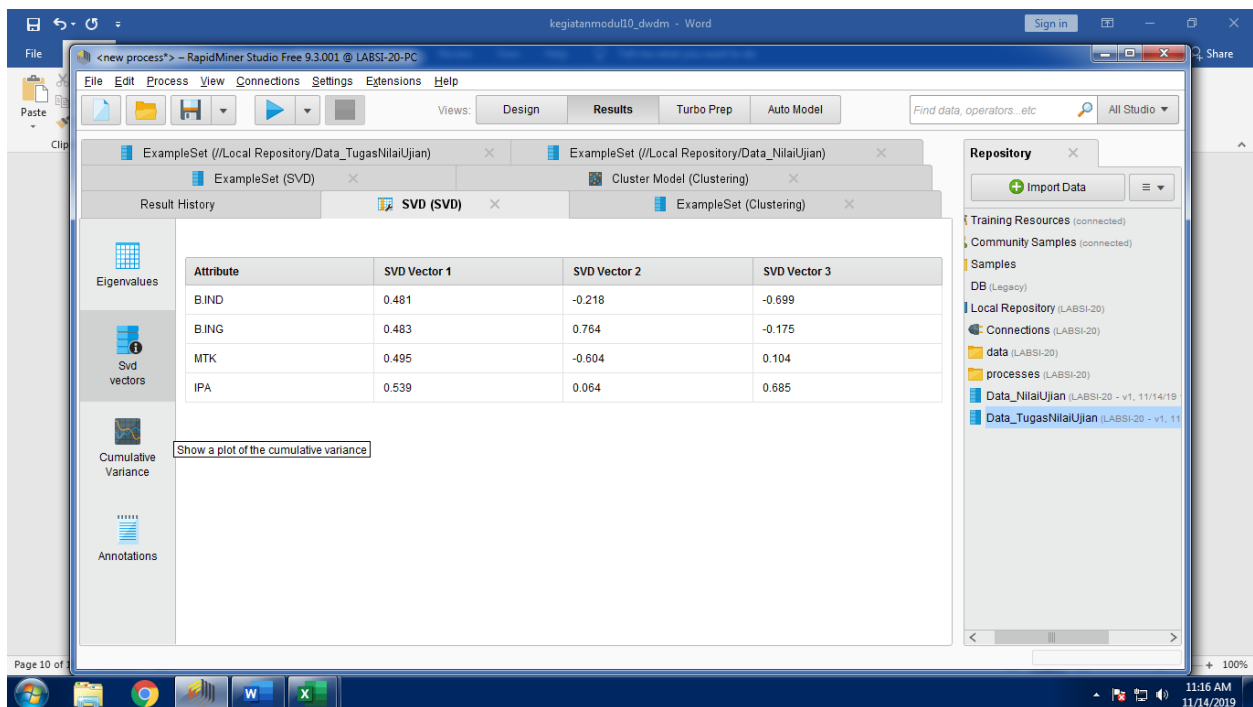
- Tambahkan operator k-Means. Lalu Jalankan dengan menekan tombol run (F11)



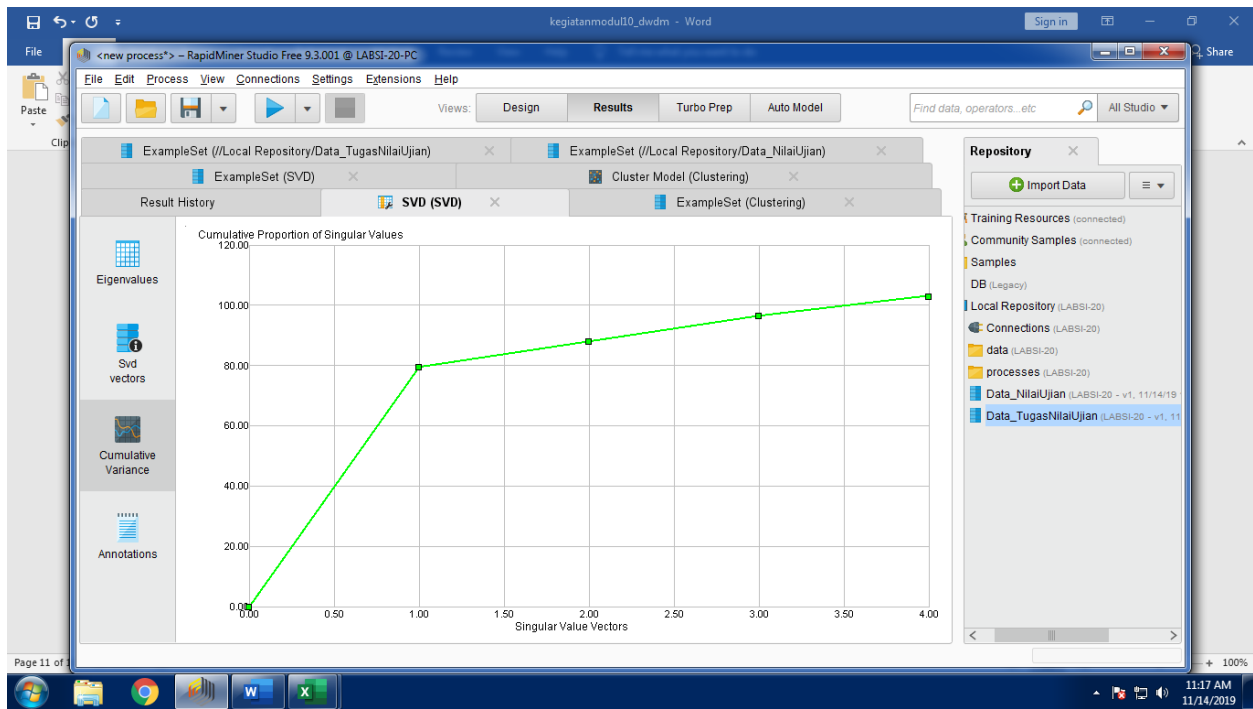
- Nilai Eigenvalue



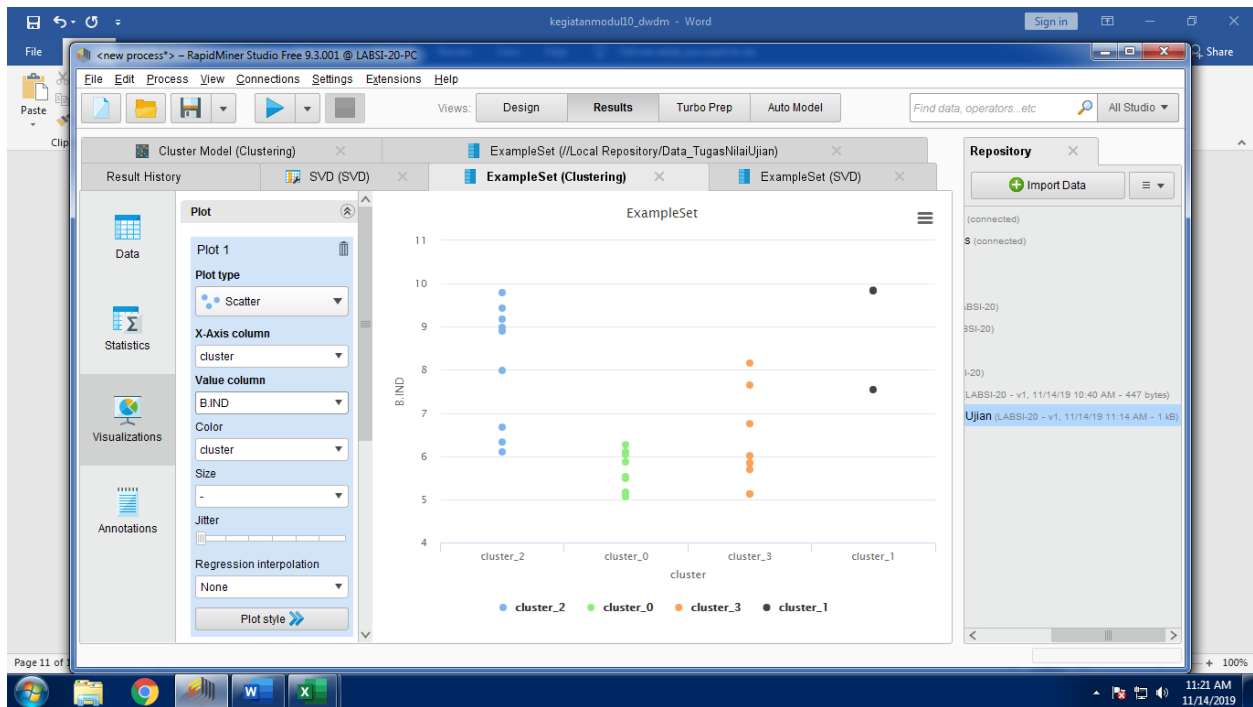
- Nilai Svd Vectors



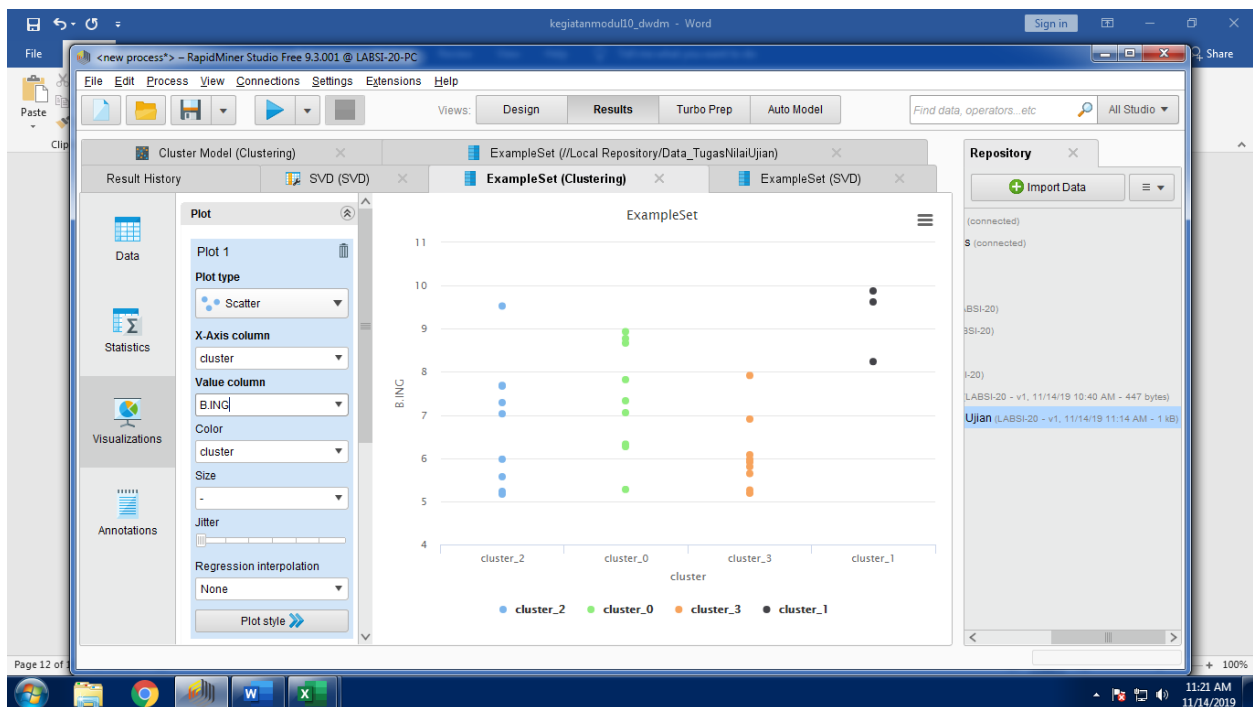
- Nilai Cumulative Variance



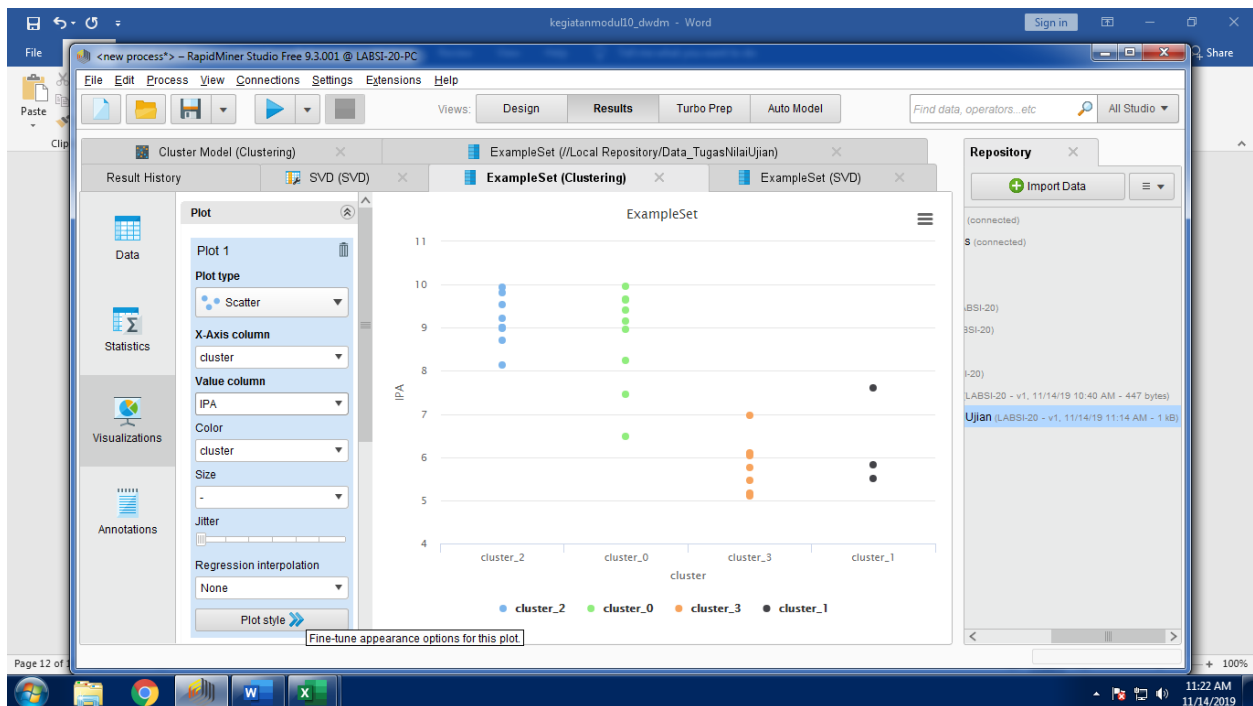
- Kelompok siswa bidang B.INDO



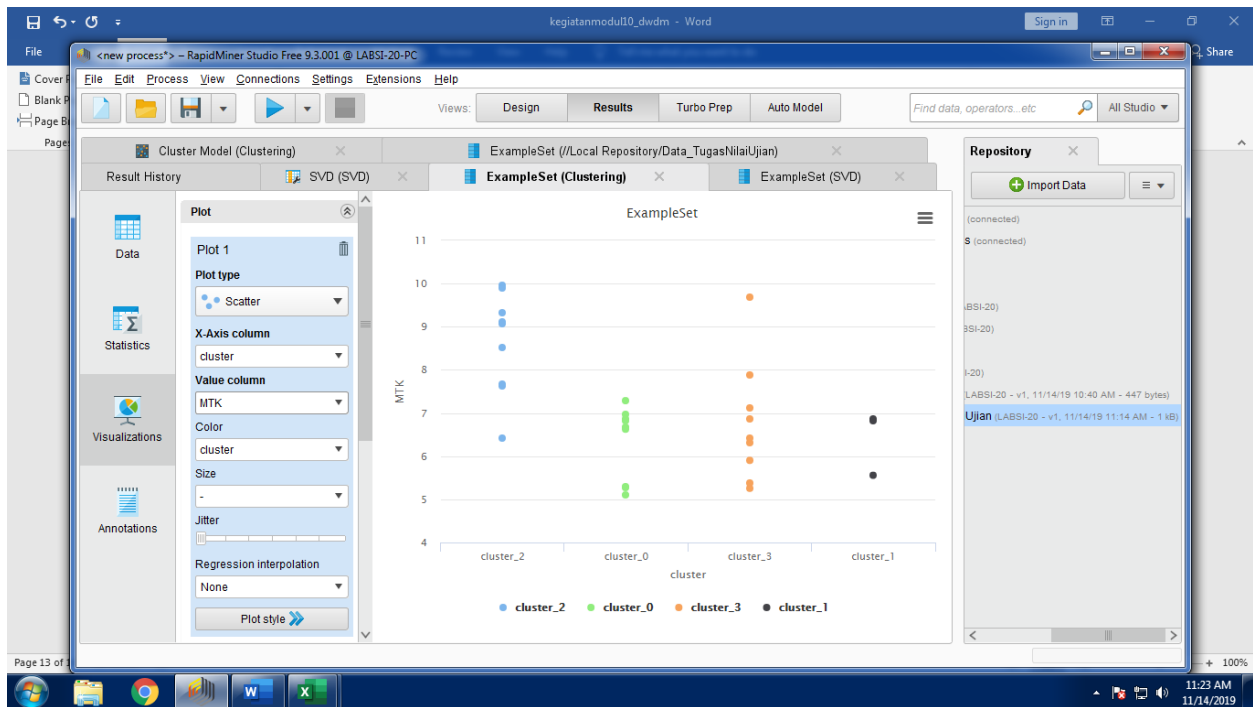
- Kelompok siswa kelompok B.ING



- Kelompok siswa bidang IPA



- Kelompok siswa bidang MTK



- Masing-masing nama siswa yang terdapat dalam kelompok cluster 0, cluster 1, cluster 2, cluster 3.

Cluster Model (Clustering) x ExampleSet (/Local Repository/Data\_TugasNilaiUjian) x

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

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

Row No.	NAMA	cluster	B.IND	B.JING	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)

Repository x

Import Data

(connected)

S (connected)

(BISI-20)

(SISI-20)

(I-20)

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

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Cluster Model (Clustering) x ExampleSet (/Local Repository/Data\_TugasNilaiUjian) x

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

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

Row No.	NAMA	cluster	B.IND	B.JING	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

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

Repository x

Import Data

(connected)

S (connected)

(BISI-20)

(SISI-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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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.IND	B.JING	MTK	IPA
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
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	RANI	cluster_3	5.126	6.906	9.694	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)

(connected)

(LABSI-20)

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- Description

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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)

(connected)

(LABSI-20)

(LABSI-20)

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

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- Graph

