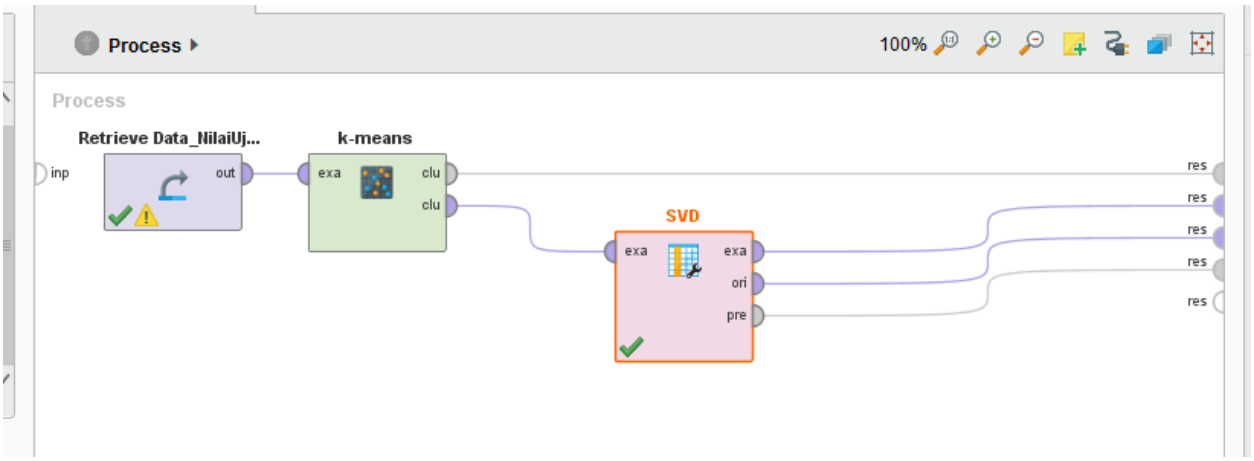
Nama : Ikhwan Fahmi
NIM : L200170174
Kelas : F

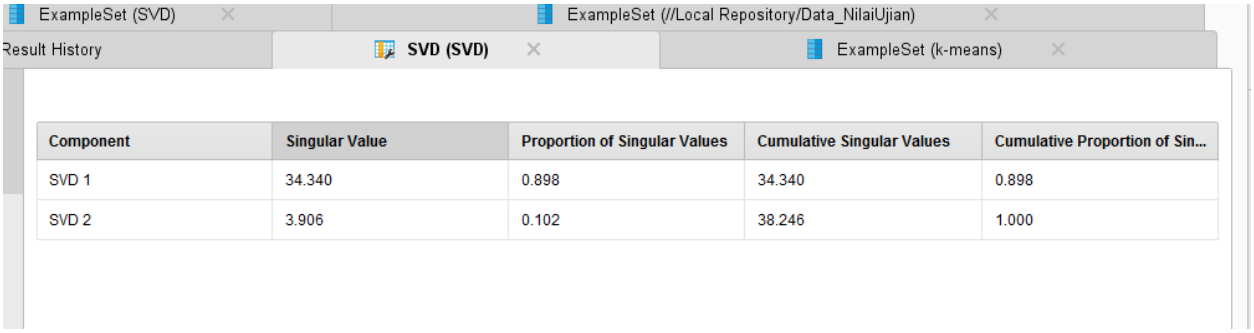
Tabel_NilaiUjian

	A	B	C	D	E
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					

Design- Proses

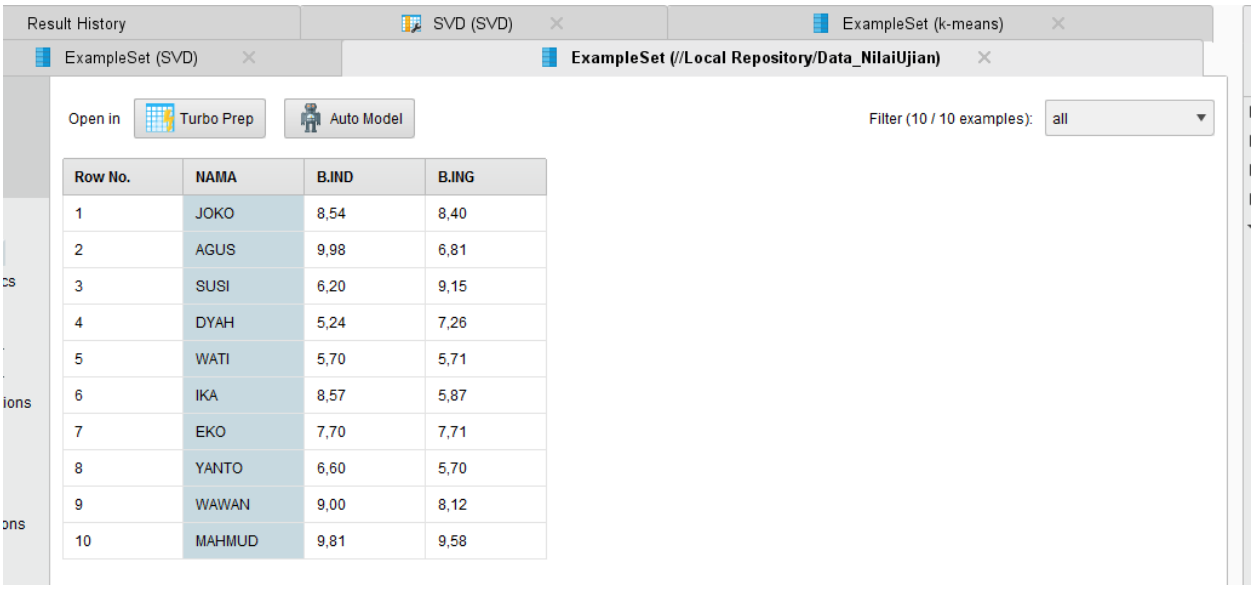


SVD



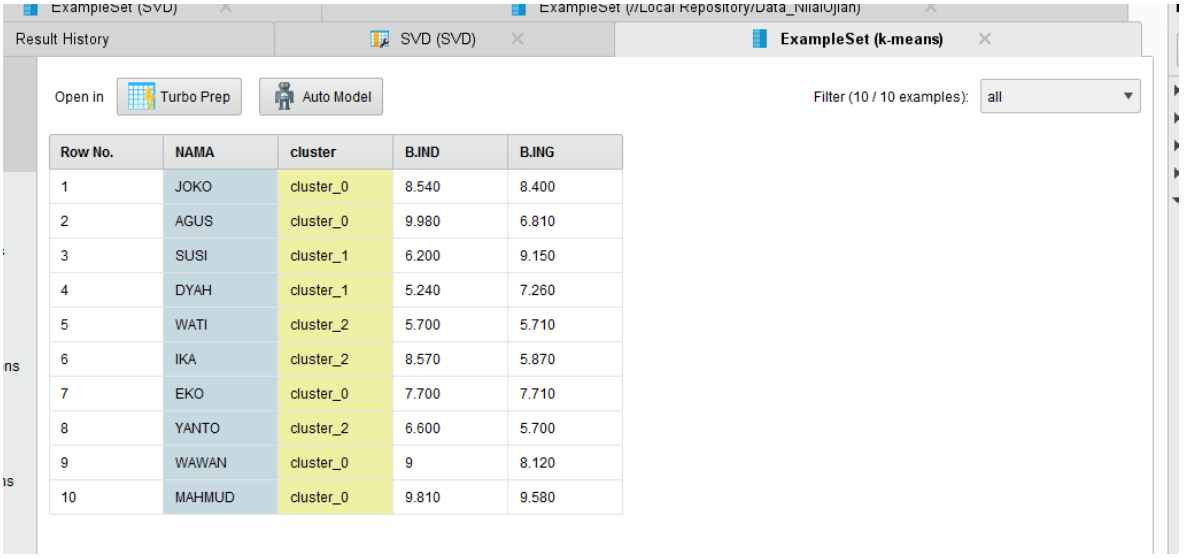
Component	Singular Value	Proportion of Singular Values	Cumulative Singular Values	Cumulative Proportion of Sin...
SVD 1	34.340	0.898	34.340	0.898
SVD 2	3.906	0.102	38.246	1.000

Example Set (Data_NilaiUjian)



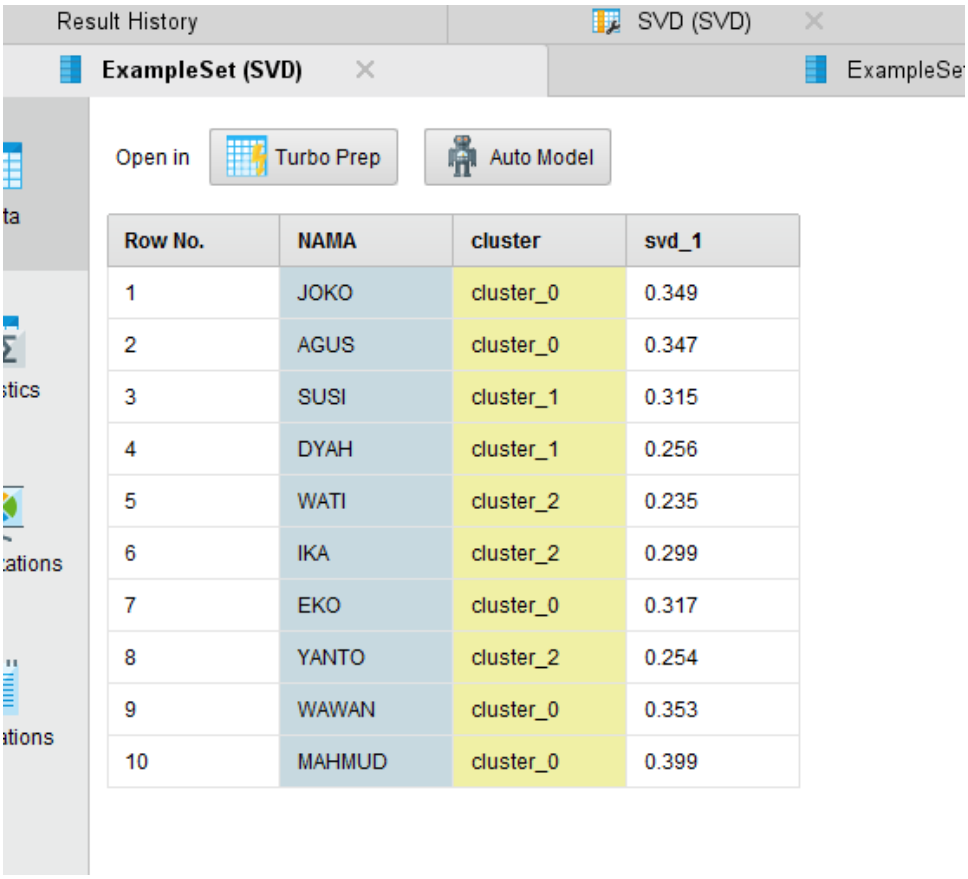
Row No.	NAMA	B.IND	B.ING
1	JOKO	8,54	8,40
2	AGUS	9,98	6,81
3	SUSI	6,20	9,15
4	DYAH	5,24	7,26
5	WATI	5,70	5,71
6	IKA	8,57	5,87
7	EKO	7,70	7,71
8	YANTO	6,60	5,70
9	WAWAN	9,00	8,12
10	MAHMUD	9,81	9,58

Example Set k-means



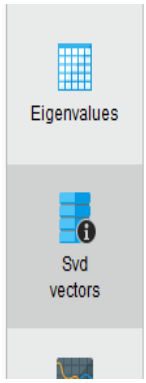
Row No.	NAMA	cluster	B.IND	B.ING
1	JOKO	cluster_0	8.540	8.400
2	AGUS	cluster_0	9.980	6.810
3	SUSI	cluster_1	6.200	9.150
4	DYAH	cluster_1	5.240	7.260
5	WATI	cluster_2	5.700	5.710
6	IKA	cluster_2	8.570	5.870
7	EKO	cluster_0	7.700	7.710
8	YANTO	cluster_2	6.600	5.700
9	WAWAN	cluster_0	9	8.120
10	MAHMUD	cluster_0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

Example Set SVD



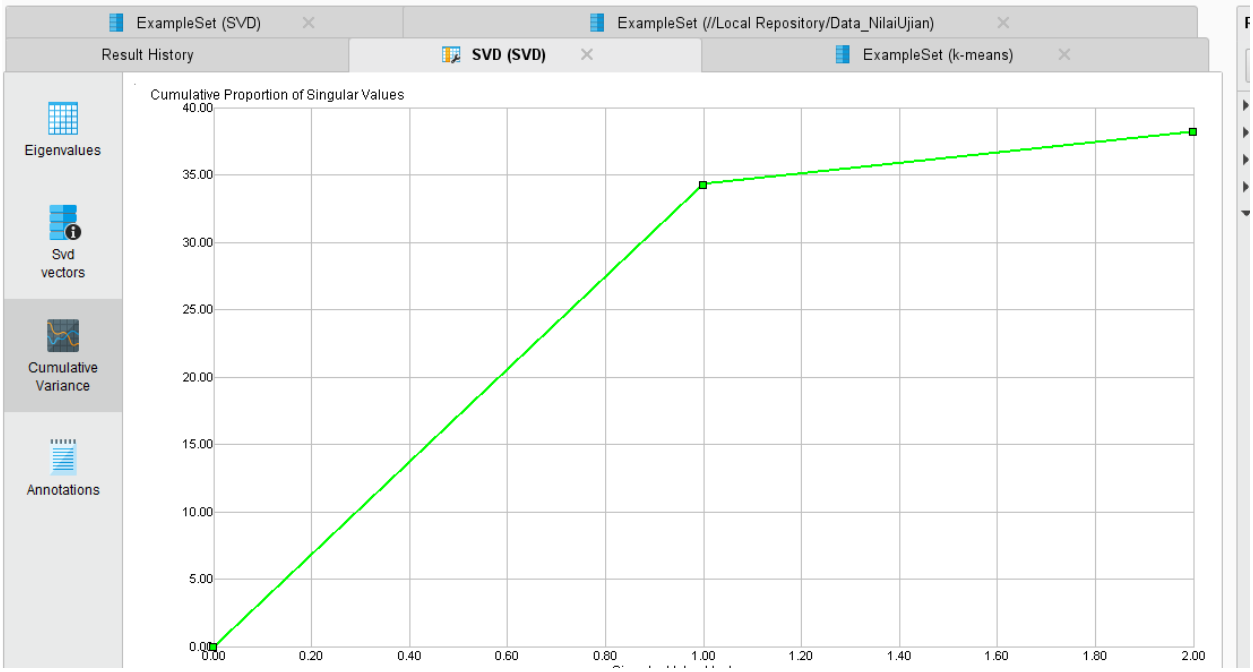
Row No.	NAMA	cluster	svd_1
1	JOKO	cluster_0	0.349
2	AGUS	cluster_0	0.347
3	SUSI	cluster_1	0.315
4	DYAH	cluster_1	0.256
5	WATI	cluster_2	0.235
6	IKA	cluster_2	0.299
7	EKO	cluster_0	0.317
8	YANTO	cluster_2	0.254
9	WAWAN	cluster_0	0.353
10	MAHMUD	cluster_0	0.399

SVD Vector

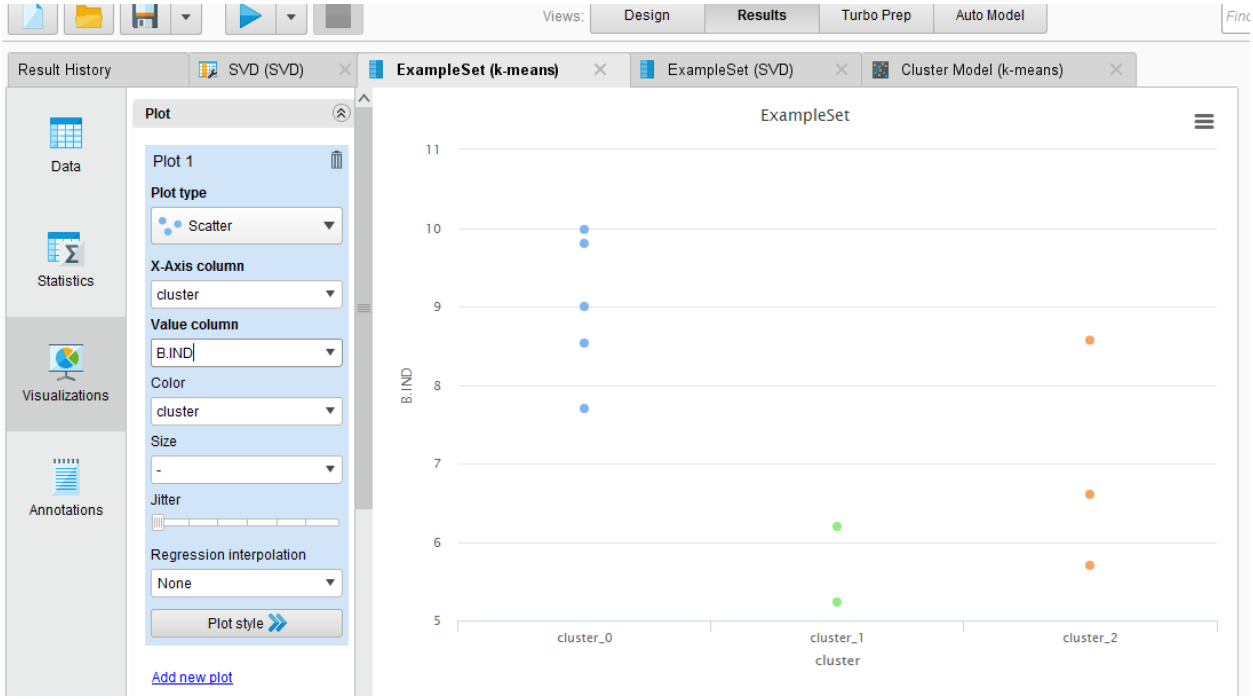


Attribute	SVD Vector 1
B.IND	0.723
B.ING	0.690

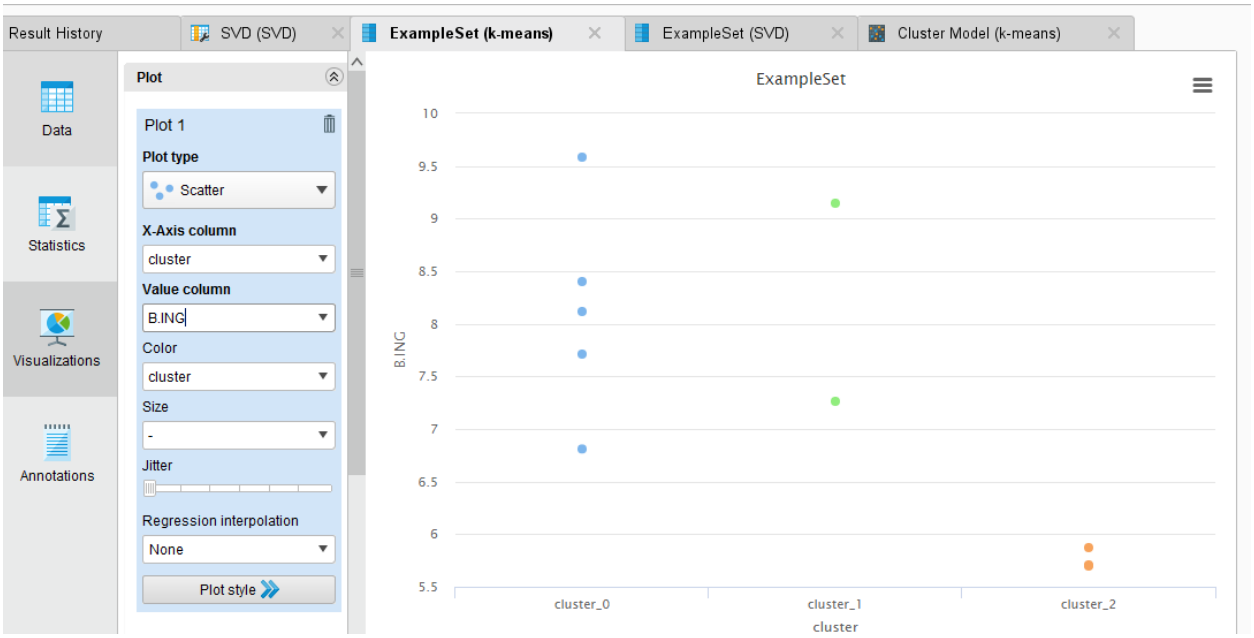
Comulative Variance



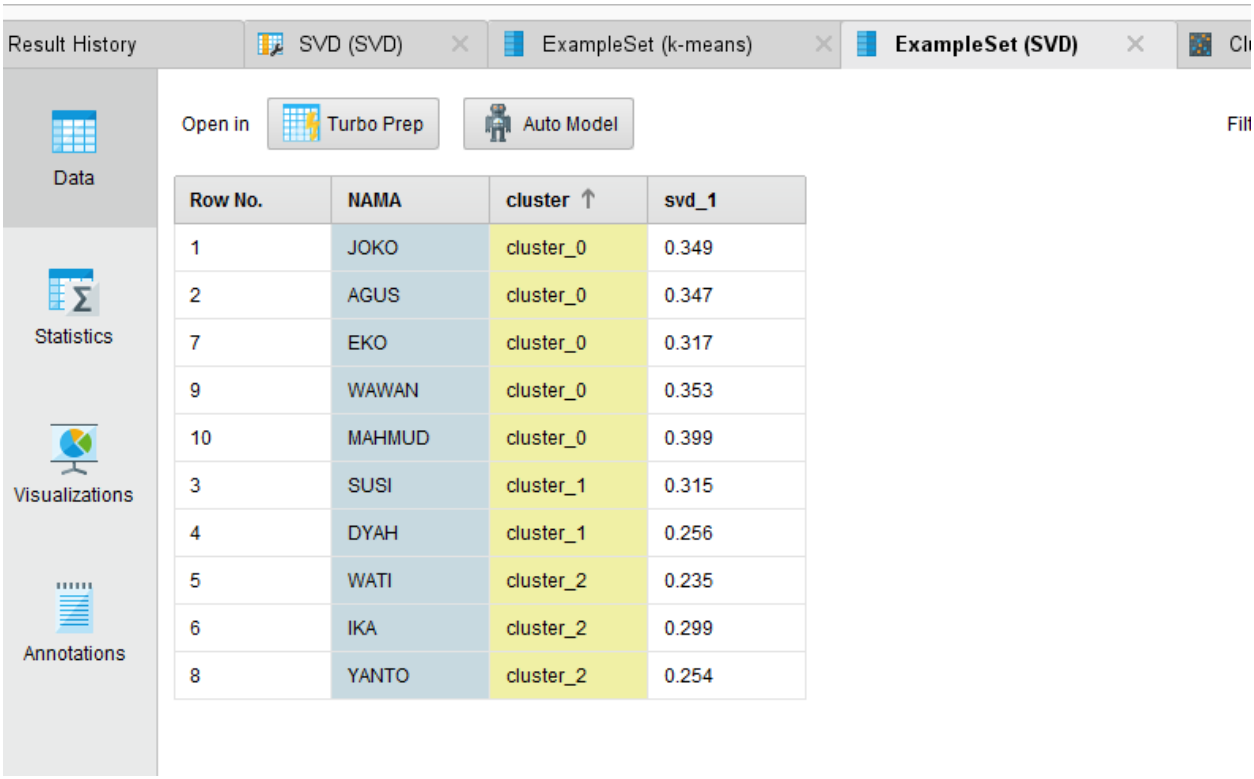
Example Set (k-means) – Plot view (Bhs Indo)



Example Set (k-means) – Plot view (Bhs Inggris)

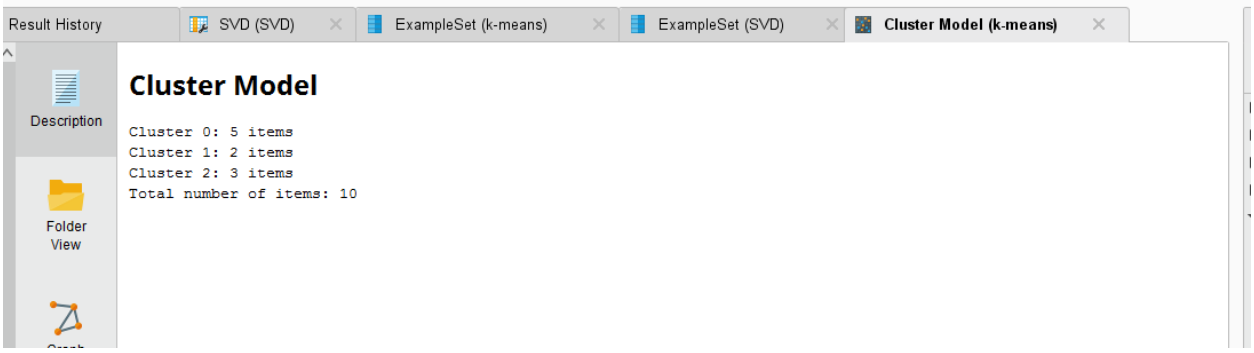


Example Set (SVD)



Row No.	NAMA	cluster	svd_1
1	JOKO	cluster_0	0.349
2	AGUS	cluster_0	0.347
7	EKO	cluster_0	0.317
9	WAWAN	cluster_0	0.353
10	MAHMUD	cluster_0	0.399
3	SUSI	cluster_1	0.315
4	DYAH	cluster_1	0.256
5	WATI	cluster_2	0.235
6	IKA	cluster_2	0.299
8	YANTO	cluster_2	0.254

Cluster Model (Clustering)



Graph

Interpretasi Hasil Argoritma k-means

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

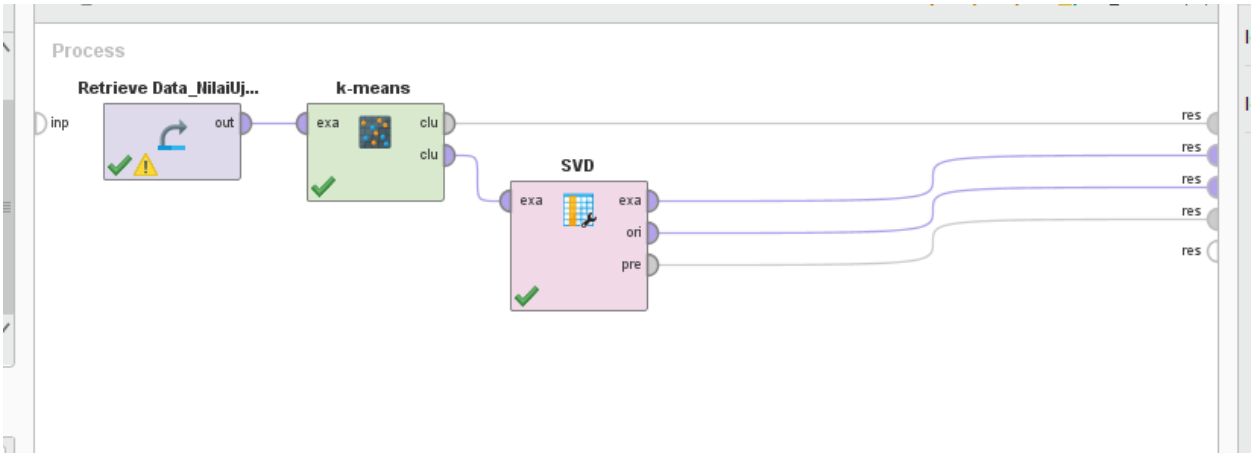
Tugas

1. Tabel di Microsoft Excel

	A	B	C	D	E	F
1	NO_SISWA	NAMA	B.INDO	B.ING	MTK	IPA
2	S-101	JOKO	8.1051	5.9099	7.8048	5.6265
3	S-102	AGUS	9.4425	8.8695	6.7089	5.3736
4	S-103	SUSI	8.4688	8.9368	5.7905	7.693
5	S-104	DYAH	8.3185	7.1998	9.387	8.6034
6	S-105	WATI	5.1997	9.4105	6.7702	7.2958
7	S-106	IKA	8.7691	7.3923	8.692	8.3118
8	S-107	EKO	7.8619	8.0194	6.0973	6.3078
9	S-108	YANTO	5.3204	5.4445	8.063	9.6505
10	S-109	WAWAN	6.2044	6.8821	5.1959	6.5898
11	S-110	MAHMUD	8.3708	5.8965	7.379	7.1305
12	S-111	BUDI	7.1153	5.6639	8.3729	9.549
13	S-112	SANTI	9.3538	9.6798	9.3085	6.8937
14	S-113	DIAN	5.5278	7.2936	5.9958	7.5389
15	S-114	DANI	5.6959	7.5877	8.9988	6.3267
16	S-115	AHMAD	9.6898	7.6054	7.2046	7.6661
17	S-116	BAYU	5.5255	6.6572	6.5679	9.0467
18	S-117	RISA	6.1962	8.8549	6.2477	5.0011
19	S-118	RANI	9.6344	7.1736	7.3626	7.7403
20	S-119	YANI	8.3041	8.7515	5.8358	6.9039
21	S-120	RATIH	6.3008	6.4712	8.9061	8.1434
22	S-121	INDAH	9.2061	5.0059	9.3705	9.3593
23	S-122	JONO	7.7352	5.5926	9.3459	5.6788
24	S-123	SARAH	8.5266	8.383	8.0273	9.6606
25	S-124	RAMA	8.7907	5.3787	8.3868	9.2866
26	S-125	BAMBANG	9.1317	9.3913	7.2315	9.3732
27	S-126	HADI	8.2095	6.7689	9.6617	5.7323
28	S-127	NANA	6.8663	7.1343	9.3451	9.5761
29	S-128	FEBRI	6.9532	6.4656	8.8753	8.2972
30	S-129	DENI	6.702	6.8456	9.1718	7.0187
31	S-130	TONI	9.7546	7.2314	5.5421	7.145
32						

2. Lakukan Kegiatan 10.4.1 dan 10.4.2

Design - Proses



A. SVD

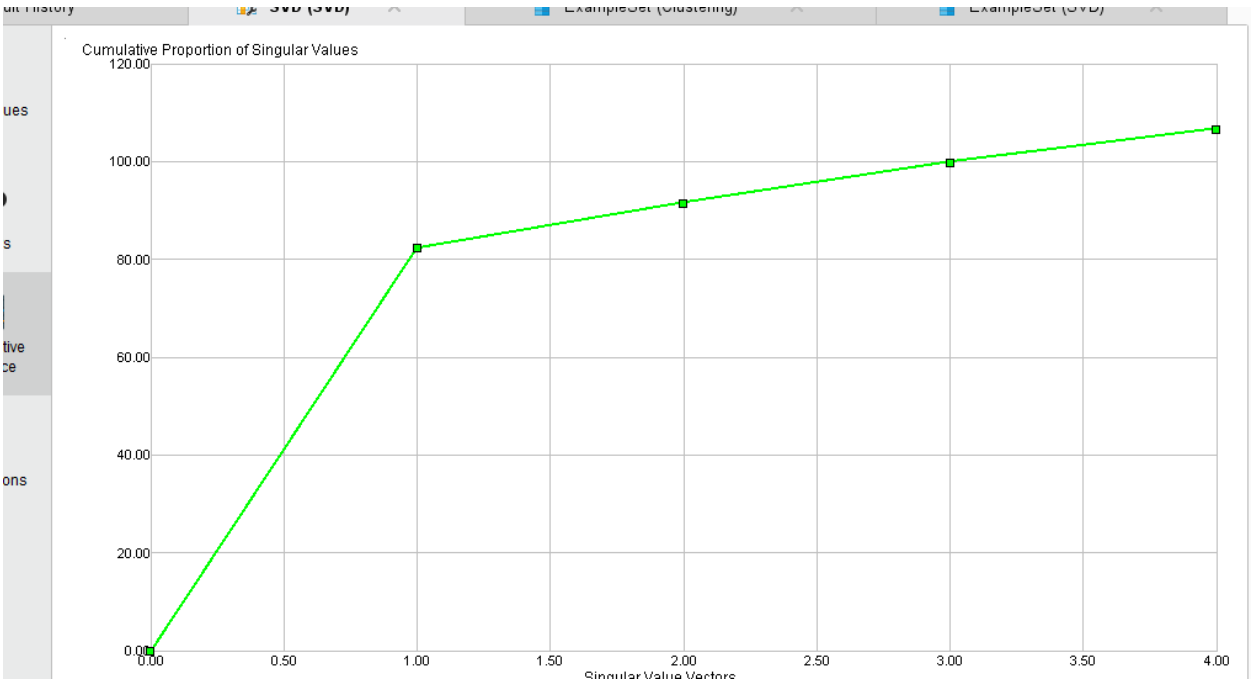
1. Nilai Eigenvalue

Component	Singular Value	Proportion of Singular Values	Cumulative Singular Values	Cumulative Proportion of Sin...
SVD 1	82.423	0.772	82.423	0.772
SVD 2	9.233	0.086	91.656	0.858
SVD 3	8.359	0.078	100.014	0.936
SVD 4	6.788	0.064	106.802	1.000

2. Nilai svd vectors

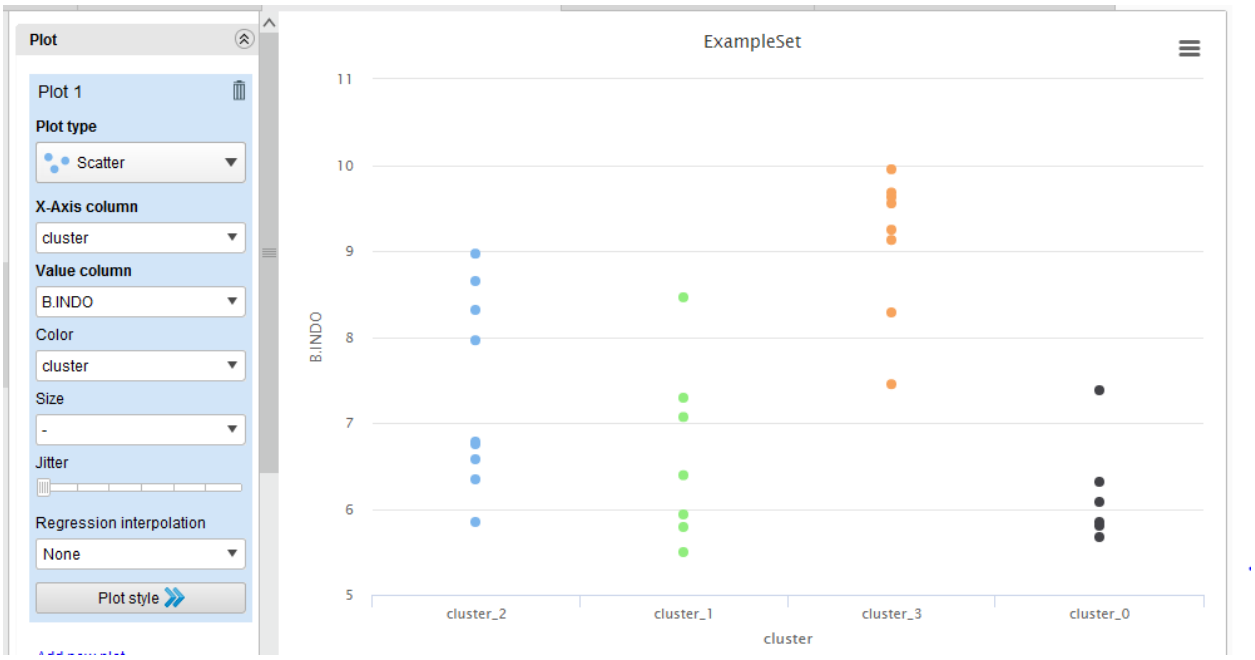
Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.INDO	0.494	-0.074	-0.864
B.ING	0.498	-0.024	0.344
MTK	0.500	-0.661	0.309
IPA	0.507	0.746	0.199

3. Nilai Cumulative variance

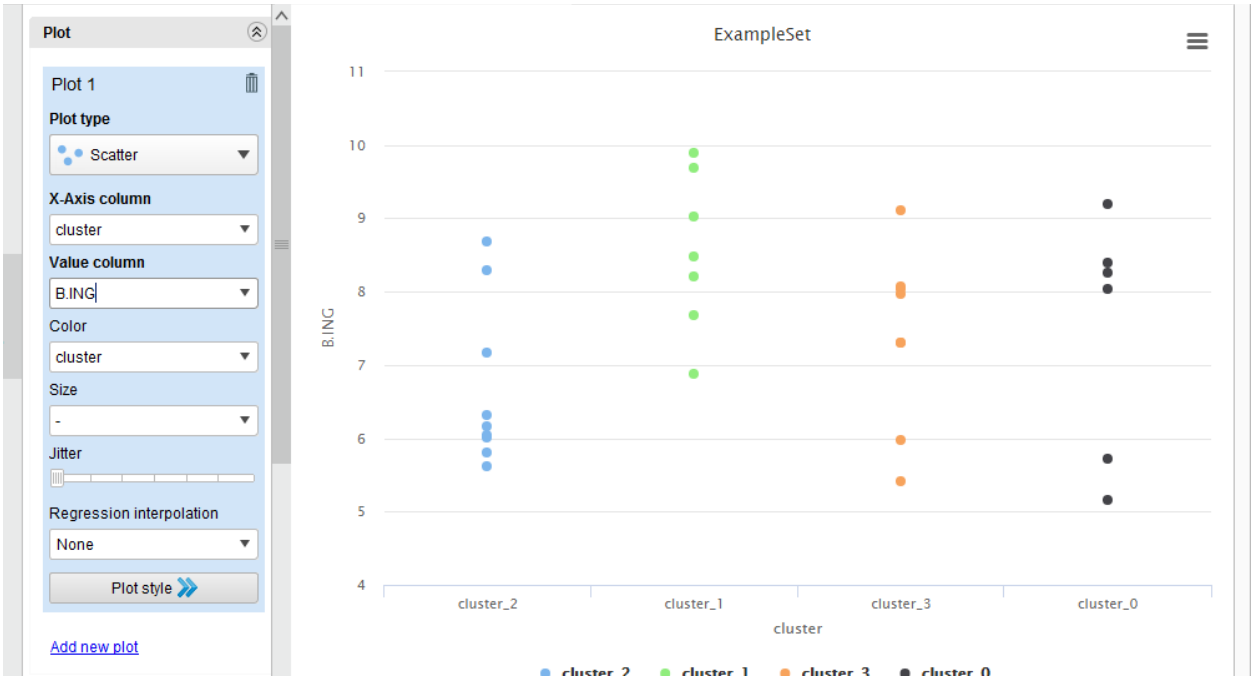


B. Example Set (k-means)

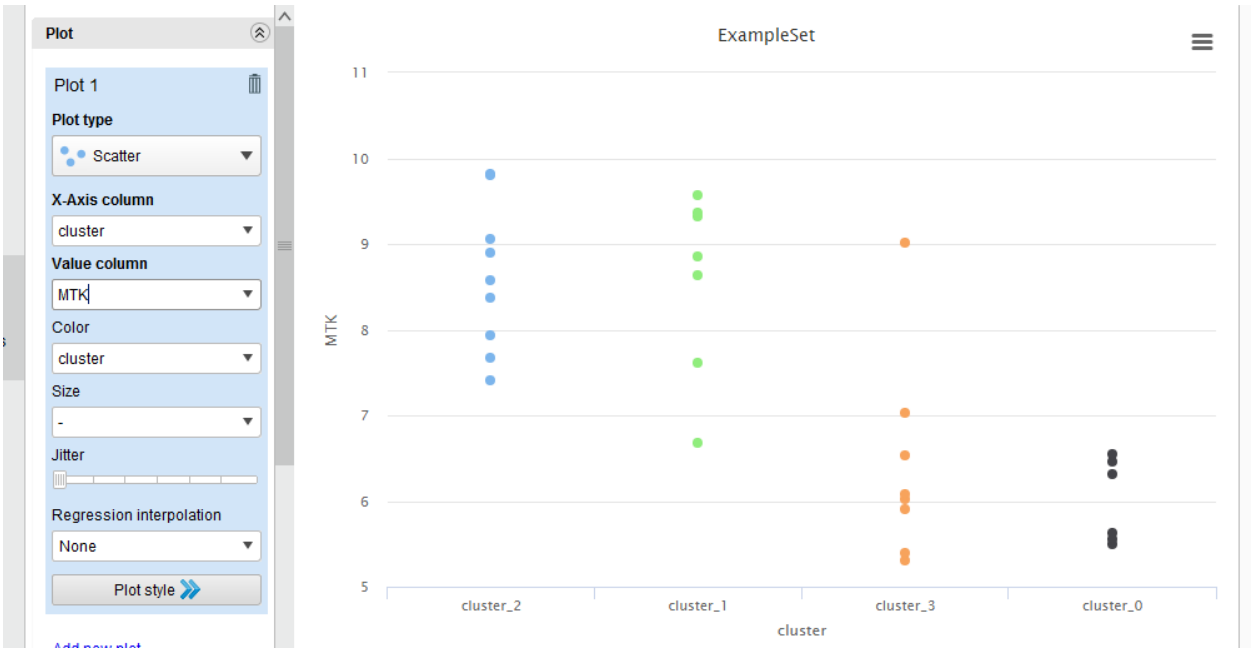
Bhs Indo



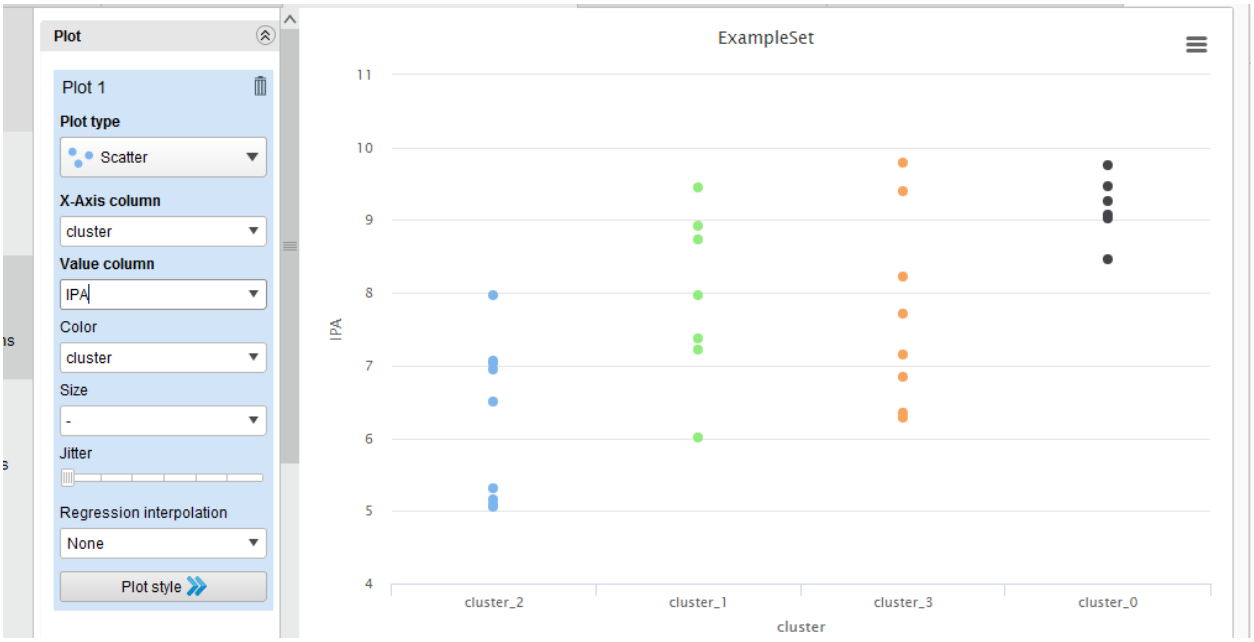
Bhs Ing


Plot
Plot 1
Plot type
Scatter
X-Axis column
cluster
Value column
B.ING
Color
cluster
Size
-
Jitter
Regression interpolation
None
Plot style
Add new plot
ExampleSet
B.ING
cluster
cluster_2
cluster_1
cluster_3
cluster_0

MTK


Plot
Plot 1
Plot type
Scatter
X-Axis column
cluster
Value column
MTK
Color
cluster
Size
-
Jitter
Regression interpolation
None
Plot style
ExampleSet
MTK
cluster
cluster_2
cluster_1
cluster_3
cluster_0

IPA


Plot
Plot 1
Plot type
Scatter
X-Axis column
cluster
Value column
IPA
Color
cluster
Size
-
Jitter
Regression interpolation
None
Plot style
ExampleSet
11
10
9
8
7
6
5
4
IPA
cluster_2
cluster_1
cluster_3
cluster_0
cluster

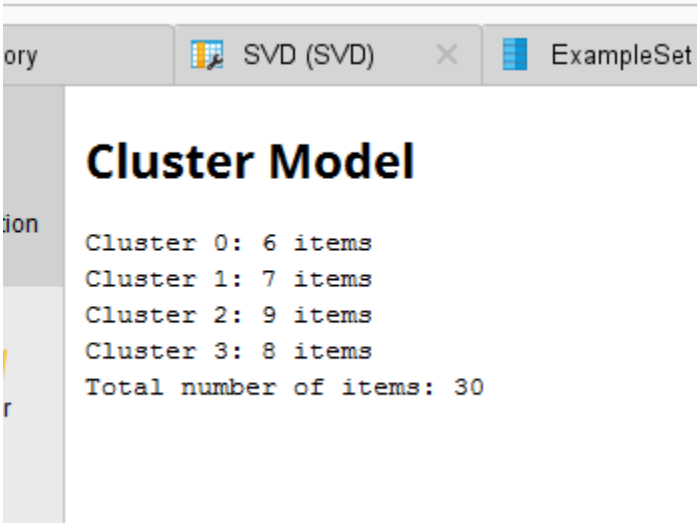
ExampleSet SVD

Row No.	NAMA	cluster	svd_1
1	JOKO	cluster_2	0.185
2	AGUS	cluster_2	0.187
3	SUSI	cluster_1	0.214
4	DYAH	cluster_2	0.158
5	WATI	cluster_3	0.211
6	IKA	cluster_2	0.184
7	EKO	cluster_3	0.183
8	YANTO	cluster_1	0.203
9	WAWAN	cluster_3	0.175
10	MAHMUD	cluster_0	0.165
11	BUDI	cluster_1	0.176
12	SANTI	cluster_0	0.185
13	DIAN	cluster_1	0.188
14	DANI	cluster_3	0.179
15	AHMAD	cluster_3	0.160

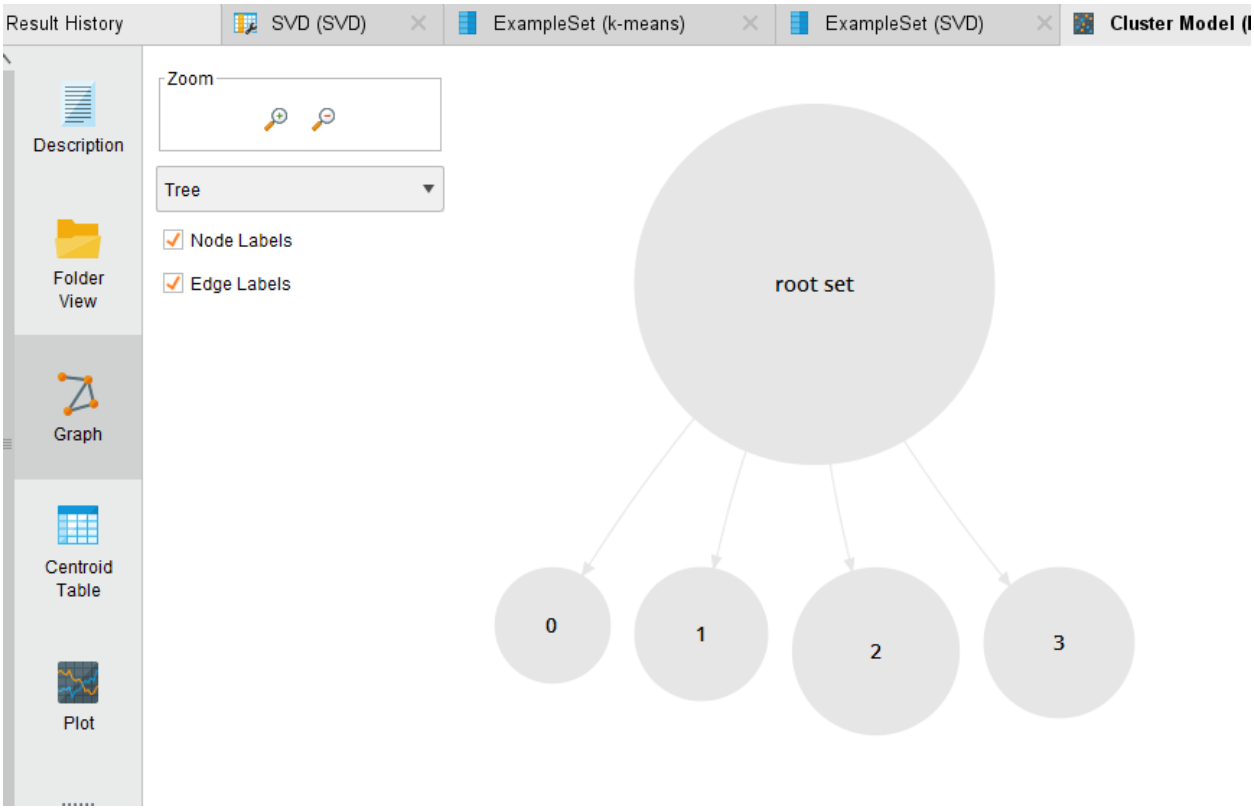
Row No.	NAMA	cluster	svd_1
16	BAYU	cluster_0	0.151
17	RISA	cluster_3	0.186
18	RANI	cluster_3	0.191
19	YANI	cluster_1	0.195
20	RATIH	cluster_0	0.183
21	INDAH	cluster_2	0.165
22	JONO	cluster_0	0.190
23	SARAH	cluster_0	0.176
24	RAMA	cluster_2	0.177
25	BAMBANG	cluster_1	0.197
26	HADI	cluster_2	0.166
27	NANA	cluster_2	0.174
28	FEBRI	cluster_1	0.175
29	DENI	cluster_2	0.179
30	TONI	cluster_3	0.201

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

Cluster Model



Graph


Result History
SVD (SVD)
ExampleSet (k-means)
ExampleSet (SVD)
Cluster Model (
Description
Folder View
Graph
Centroid Table
Plot
Zoom
Tree
Node Labels
Edge Labels
root set
0
1
2
3

Row No.	NAMA	cluster ↑	B.INDO	B.ING	MTK	IPA
10	MAHMUD	cluster_0	5.848	5.727	6.462	9.082
12	SANTI	cluster_0	7.383	8.390	5.628	9.029
16	BAYU	cluster_0	5.800	5.161	5.502	8.461
20	RATIH	cluster_0	6.083	8.263	6.318	9.461
22	JONO	cluster_0	6.311	9.193	6.543	9.259
23	SARAH	cluster_0	5.669	8.031	5.554	9.754
3	SUSI	cluster_1	8.461	9.028	8.860	8.918
8	YANTO	cluster_1	7.068	8.209	8.635	9.456
11	BUDI	cluster_1	5.795	7.672	7.614	7.965
13	DIAN	cluster_1	5.939	6.883	9.325	8.728
19	YANI	cluster_1	5.489	9.889	9.359	7.368
25	BAMBANG	cluster_1	7.296	9.693	9.576	6.001
28	FEBRI	cluster_1	6.391	8.478	6.678	7.218
1	JOKO	cluster_2	8.320	8.296	8.897	5.053
2	AGUS	cluster_2	7.961	6.005	9.815	7.065

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

Row No.	NAMA	cluster ↑	B.INDO	B.ING	MTK	IPA
4	DYAH	cluster_2	5.845	6.321	7.405	6.505
6	IKA	cluster_2	6.757	5.811	9.804	7.965
21	INDAH	cluster_2	8.644	5.611	7.941	5.090
24	RAMA	cluster_2	6.782	8.679	8.573	5.158
26	HADI	cluster_2	6.572	6.161	7.677	6.955
27	NANA	cluster_2	8.968	6.037	8.367	5.313
29	DENI	cluster_2	6.338	7.160	9.055	7.026
5	WATI	cluster_3	9.554	8.040	9.010	8.224
7	EKO	cluster_3	8.285	9.116	5.908	6.851
9	WAWAN	cluster_3	9.950	5.978	5.301	7.706
14	DANI	cluster_3	9.247	7.970	6.016	6.356
15	AHMAD	cluster_3	7.450	7.299	5.391	6.283
17	RISA	cluster_3	9.128	7.298	7.036	7.144
18	RANI	cluster_3	9.680	5.419	6.527	9.790
30	TONI	cluster_3	9.629	8.072	6.082	9.394

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

Interpretasi Hasil Algoritma k-means

CLUSTER	NO_SISWA	NAMA	B.IND	B.ING	MTK	IPA
0	S-110	MAHMUD	8,6489	9,0124	9,39047	8,05488
0	S-112	SANTI	5,2672	8,2305	7,77798	8,04281
0	S-116	BAYU	6,91378	5,22818	7,29955	6,26512
0	S-120	RATIH	9,27413	8,6009	6,38142	8,81772
0	S-122	JONO	5,44198	5,15146	7,52559	6,30332
0	S-123	SARAH	8,32722	6,88616	8,69521	5,77239
1	S-103	SUSI	9,80875	6,94922	7,11967	5,72545
1	S-108	YANTO	6,00589	5,29386	7,85881	5,34064
1	S-111	BUDI	5,76286	6,00705	5,38374	5,19012
1	S-113	DIAN	6,36715	9,79115	8,59514	7,05937
1	S-119	YANI	9,90959	6,44957	5,99343	8,94001
1	S-125	BAMBAN	8,57381	6,01497	8,23967	7,32821
1	S-128	FEBRI	9,30951	9,54003	5,09792	6,58815
2	S-101	JOKO	6,86286	5,38625	6,51716	9,674
2	S-102	AGUS	8,79838	7,56966	8,26895	8,4151
2	S-104	DYAH	6,77507	8,55653	6,42764	5,41586
2	S-106	IKA	9,28038	8,91598	7,75743	6,89774
2	S-121	INDAH	6,11133	8,83844	5,6322	5,89991
2	S-124	RAMA	7,99242	9,32198	8,79782	6,22744
2	S-126	HADI	7,42644	9,28074	5,1722	6,04107
2	S-127	NANA	9,37099	9,02831	6,83066	6,21835
2	S-129	DENI	9,41431	9,47685	8,18162	9,5006
3	S-105	WATI	7,32435	5,94231	6,60962	9,97084
3	S-107	EKO	6,4761	7,16027	7,51278	7,94553
3	S-109	WAWAN	6,05505	5,33866	6,55962	7,84866
3	S-114	DANI	5,01299	7,66005	7,84875	8,71428
3	S-115	AHMAD	9,68765	6,79851	5,23819	8,30034
3	S-117	RISA	6,45061	7,12093	5,48411	9,83417
3	S-118	RANI	5,33499	5,26502	5,54175	5,75167
3	S-130	TONI	9,40052	6,14553	6,02081	9,68744