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## Modul 10

Buat Tabel data nilai Siswa :

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

Ketika sudah membuat di RapidMiner, hasil proses Clustering dengan algoritma K-Means.

a) SVD

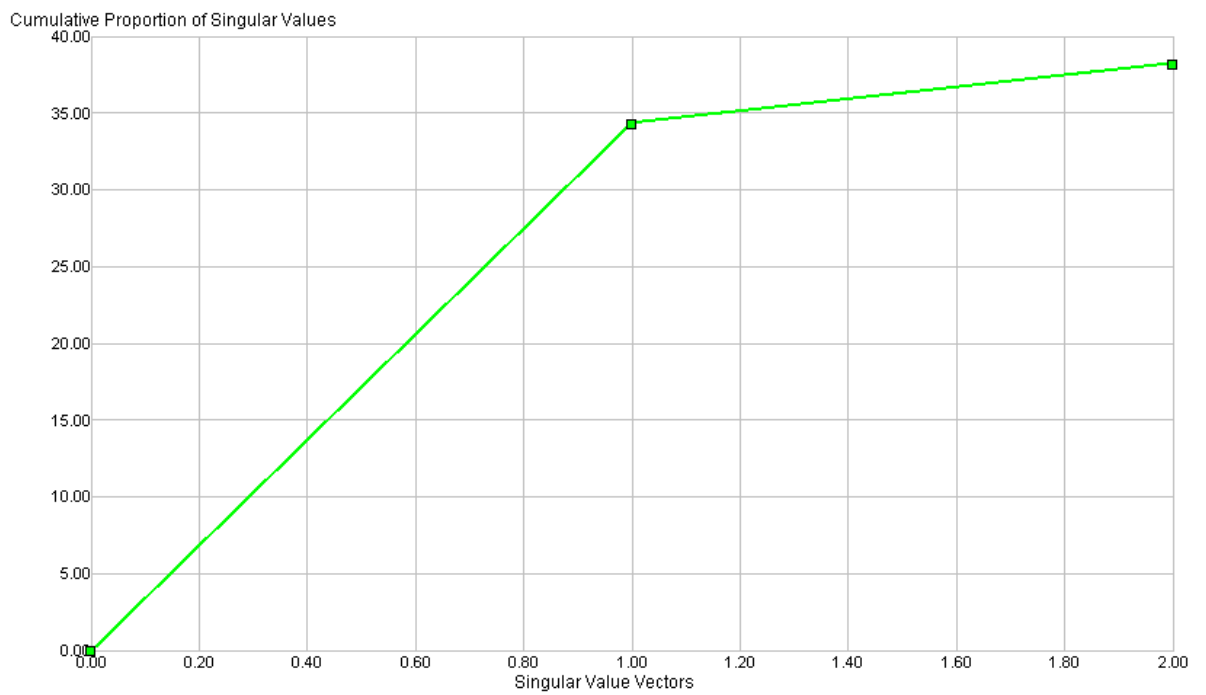
i. Nilai Eigenvalue

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

ii. Nilai Svd vectors

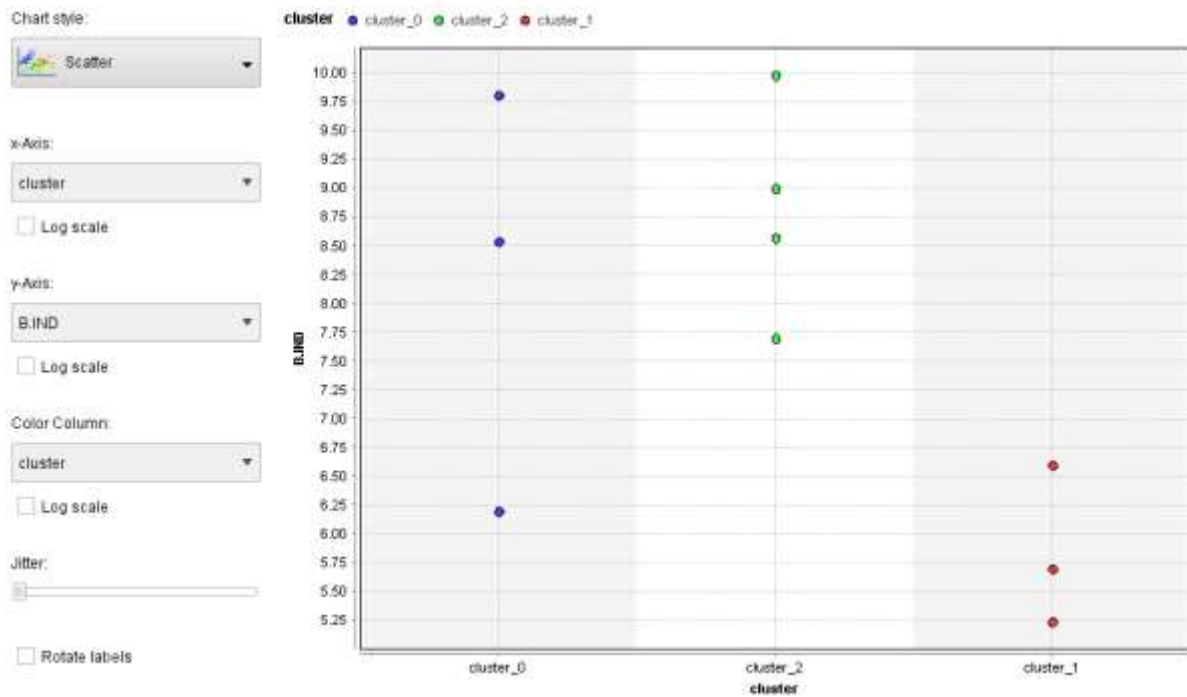
Attribute	SVD Vector 1
B.IND	0.723
B.ING	0.690

### iii. Nilai Cumulative variance

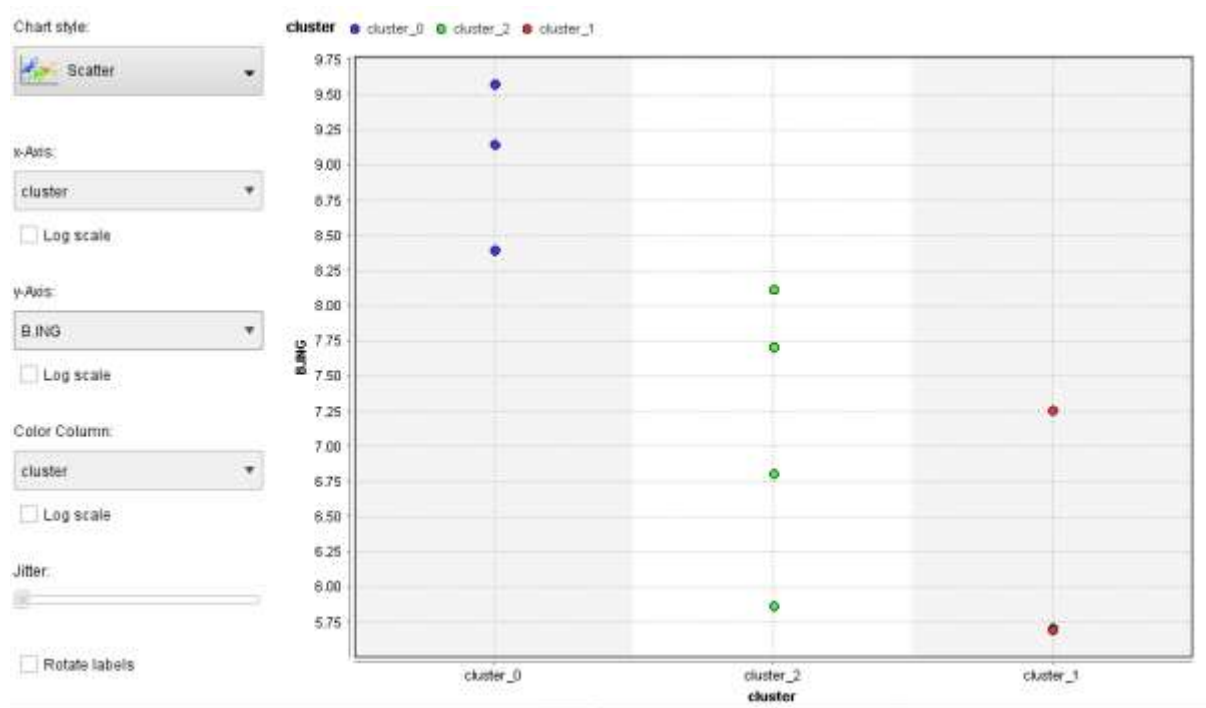


### b) ExampletSet (K-Means)

#### i. Kel.Siswa bidang B.ind



ii. Kel.Siswa bidang B.ing



c) ExampleSet (SVD)

ExampleSet (10 examples, 2 special attributes, 1 regular attribute)

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

d) Cluster Model

## Cluster Model

Cluster 0: 3 items

Cluster 1: 3 items

Cluster 2: 4 items

Total number of items: 10

### Interprestasi Hasil Algoritma K-Means

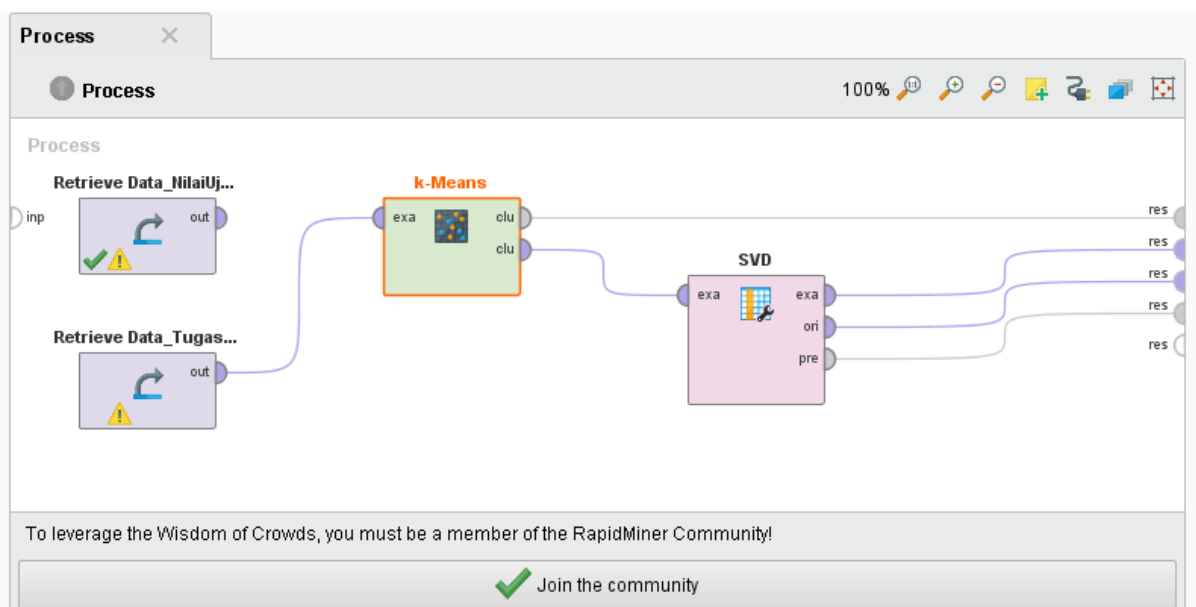
	A	B	C	D	E	F
	CLUSTER	NO_SISWA	NAMA	B.IND	B.ING	
	0	S-101	JOKO	8.54	8.4	
	0	S-103	SUSI	6.2	9.15	
	0	S-107	EKO	7.7	7.71	
	0	S-109	WAWAN	9	8.12	
	0	S-110	MAHMUD	9.81	9.58	
	1	S-104	DYAH	5.24	7.26	
	1	S-105	WATI	5.7	5.71	
	1	S-108	YANTO	6.6	5.7	
0	2	S-102	AGUS	9.98	6.81	
L	2	S-106	IKA	8.57	5.87	
2						
5						

## Tugas

### 1. Mengisi daftar nilai dalam Table

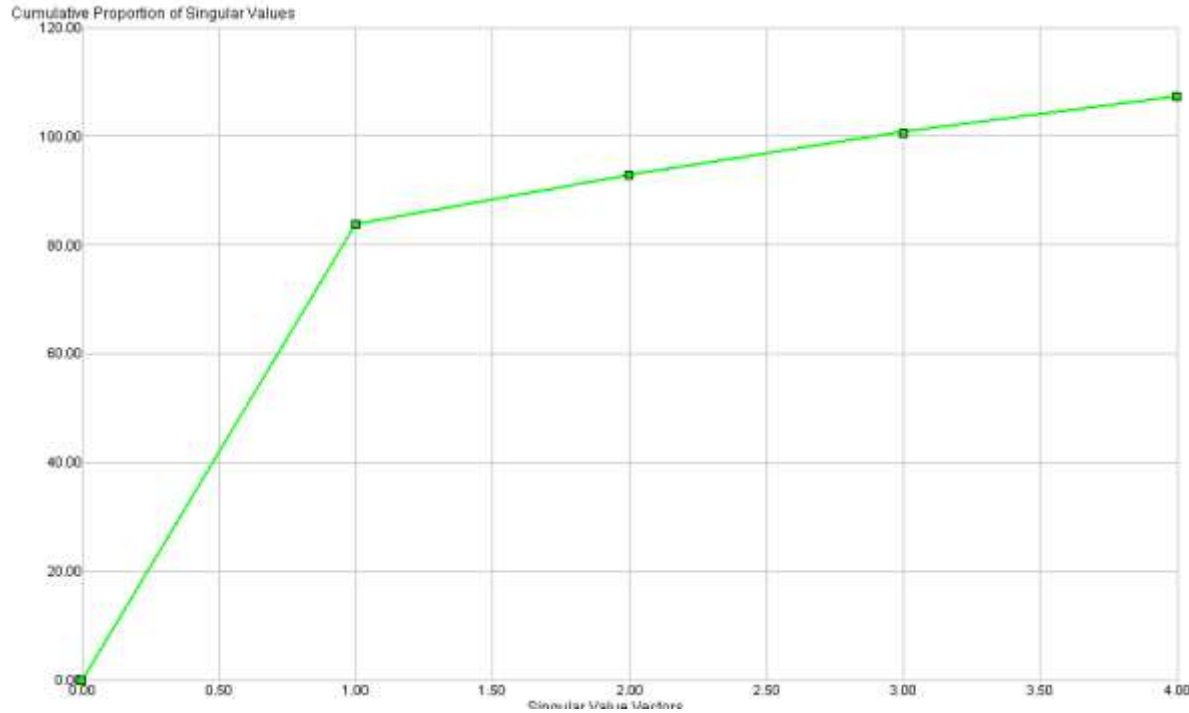
CLUSTER	NO_SISWA	NAMA	B.IND	B.ING	MTK	IPA
0	S-116	BAYU	7,88	5,40	7,49	9,92
0	S-117	RISA	7,56	9,06	6,23	9,79
0	S-118	RANI	6,91	6,54	7,03	5,39
0	S-122	JONO	7,12	7,91	8,55	7,27
1	S-101	JOKO	6,05	5,07	9,03	6,87
1	S-102	AGUS	9,63	6,62	9,23	9,12
1	S-104	DYAH	8,67	7,79	7,01	8,57
1	S-105	WATI	7,55	6,17	7,66	6,34
1	S-106	IKA	8,85	8,62	8,52	7,85
1	S-108	YANTO	8,57	9,39	7,93	8,11
1	S-109	WAWAN	8,81	8,88	7,15	5,08
1	S-110	MAHMUD	8,67	7,73	5,06	5,68
1	S-112	SANTI	7,78	7,11	9,05	5,02
1	S-115	AHMAD	9,90	9,34	8,26	5,89
1	S-126	HADI	8,43	6,82	9,43	5,94
1	S-127	NANA	6,40	9,75	7,97	7,64
1	S-129	DENI	7,69	8,86	7,82	5,66
2	S-103	SUSI	9,33	5,78	7,05	9,29
2	S-107	EKO	5,13	9,02	7,04	7,32
2	S-123	SARAH	8,25	6,64	7,78	7,04
2	S-124	RAMA	5,52	9,66	9,38	8,49
3	S-111	BUDI	5,28	9,67	8,40	5,49
3	S-113	DIAN	8,46	9,87	6,57	8,48
3	S-114	DANI	5,31	5,82	7,16	9,74
3	S-119	YANI	6,95	6,71	7,35	6,94
3	S-120	RATIH	9,09	5,38	8,39	5,92
3	S-121	INDAH	5,77	9,10	8,72	5,63
3	S-125	BAMBAN	9,65	5,20	8,56	7,99
3	S-128	FEBRI	7,87	8,85	6,35	8,20
3	S-130	TONI	7,49	7,72	9,43	8,16

### 2. Membuat Algoritma dan Interpretasi Hasil dari K-Means

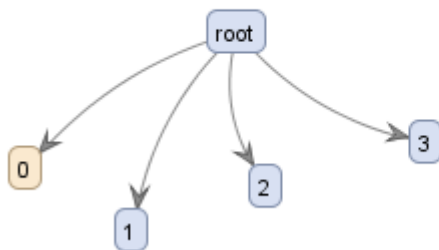


Component	Singular Value	Proportion of Singular Values	Cumulative Singular Values	Cumulative Proportion of Sin...
SVD 1	83.836	0.780	83.836	0.780
SVD 2	9.112	0.085	92.948	0.865
SVD 3	7.794	0.073	100.742	0.938
SVD 4	6.672	0.062	107.414	1.000

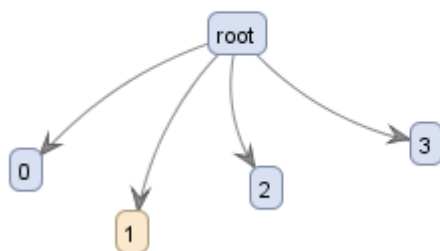
Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.IND	0.504	-0.420	0.542
B.ING	0.504	0.811	-0.107
MTK	0.513	-0.005	0.299
IPA	0.479	-0.407	-0.778



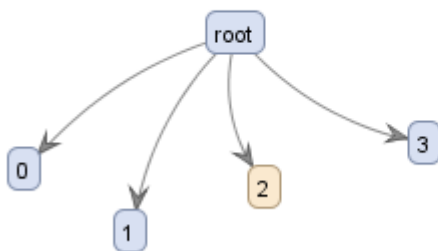
### 3. Masing-masing kelompok Cluster



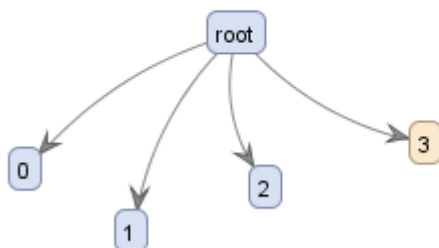
BAYU  
JOKO  
AGUS  
SUSI  
DANI  
BAMBANG



RANI  
WATI  
WAWAN  
MAHMUD  
SANTI  
AHMAD  
HADI  
DENI  
SARAH  
YANI  
RATIH



JONO  
NANA  
EKO  
RAMA  
BUDI  
INDAH  
TONI



RISA  
DYAH  
IKA  
YANTO  
DIAN  
FEBRI