

Muhibah Fata Tika  
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Prak DWDM

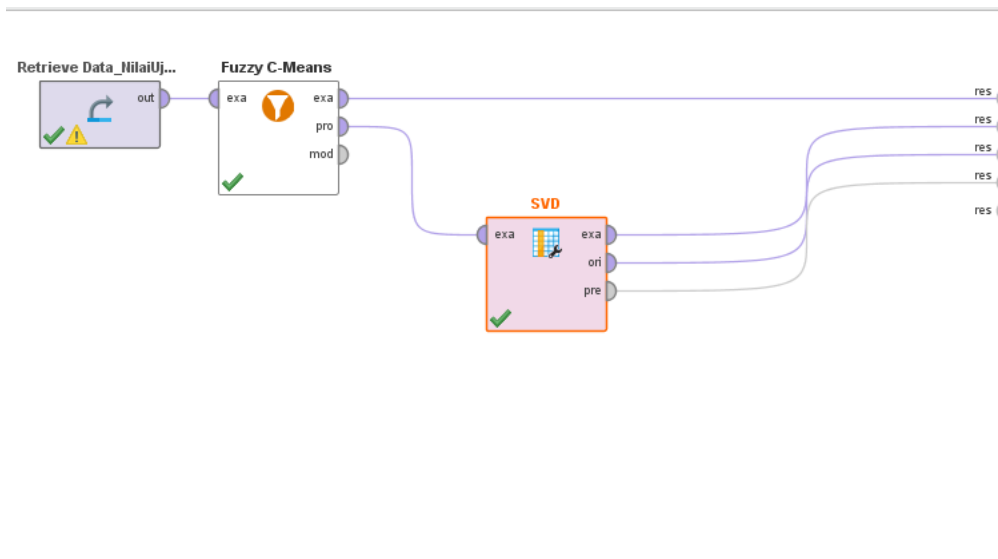
## MODUL 14

### Algoritma Clustering

#### Fuzzy C-Means

#### Latihan

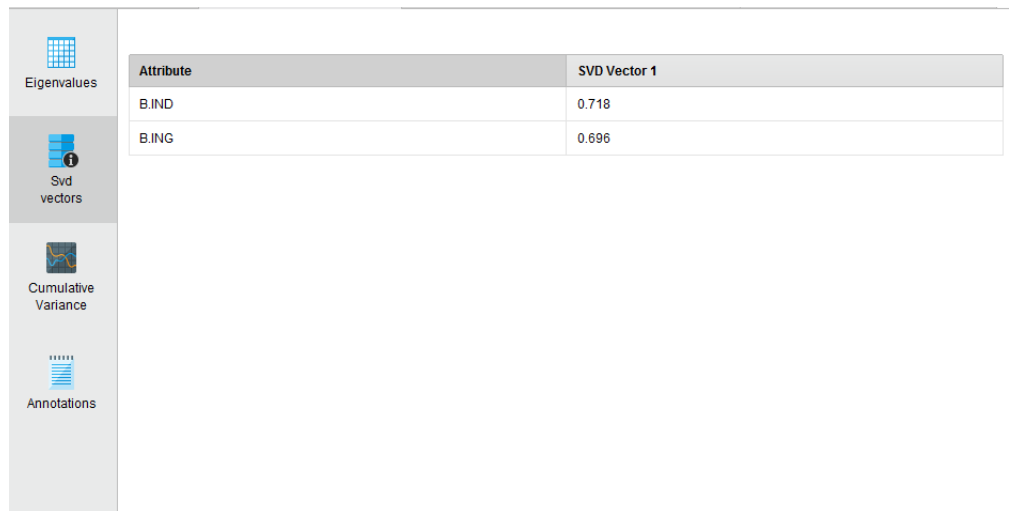
1. Memasukkan Data\_NilaiUjian, Fuzzy C-Means, dan SVD ke dalam operator dan menghubungkan ke masing-masing connector.



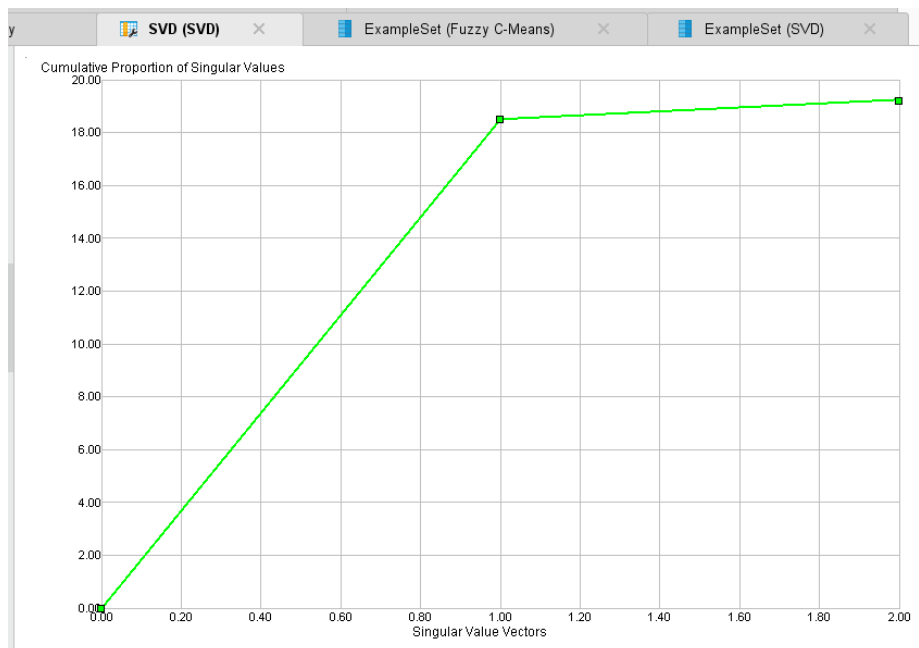
2. Berikut hasil proses Clustering dengan algoritma Fuzzy C-Means
  - a) SVD
    - i. Nilai Eigenvalue

Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion ...
SVD 1	18.509	0.962	18.509	0.962
SVD 2	0.734	0.038	19.243	1.000

- ii. Nilai Svd vectors



iii. Nilai Cumulative variance



b) ExampleSet

Result History

SVD (SVD) × ExampleSet (Fuzzy C-Means) ×

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Row No.	cluster	B.IND	B.ING
1	cluster_0	7.482	7.931
2	cluster_1	6.089	6.078
3	cluster_2	9.164	8.139

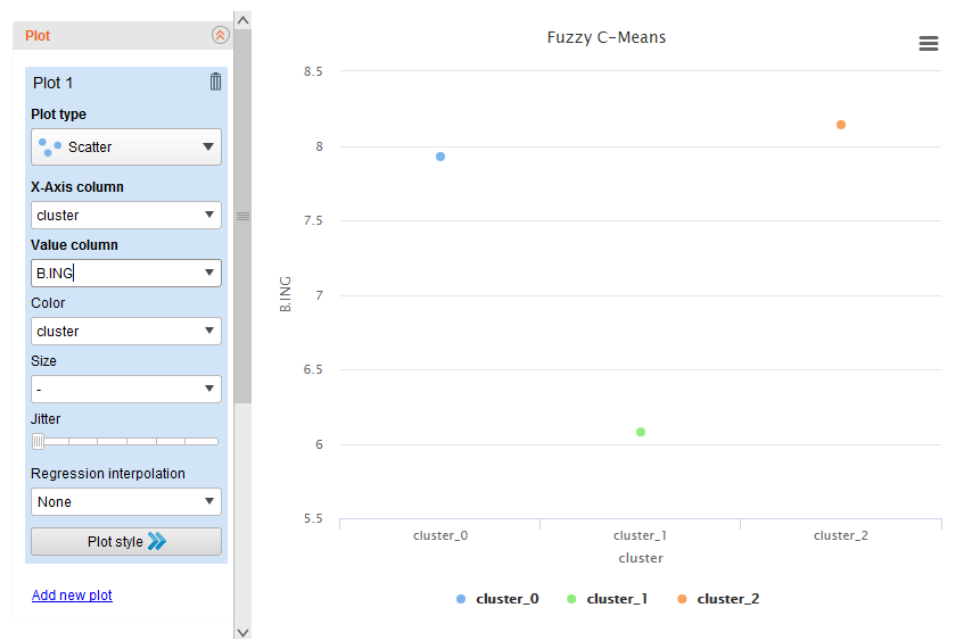
Data

Statistics

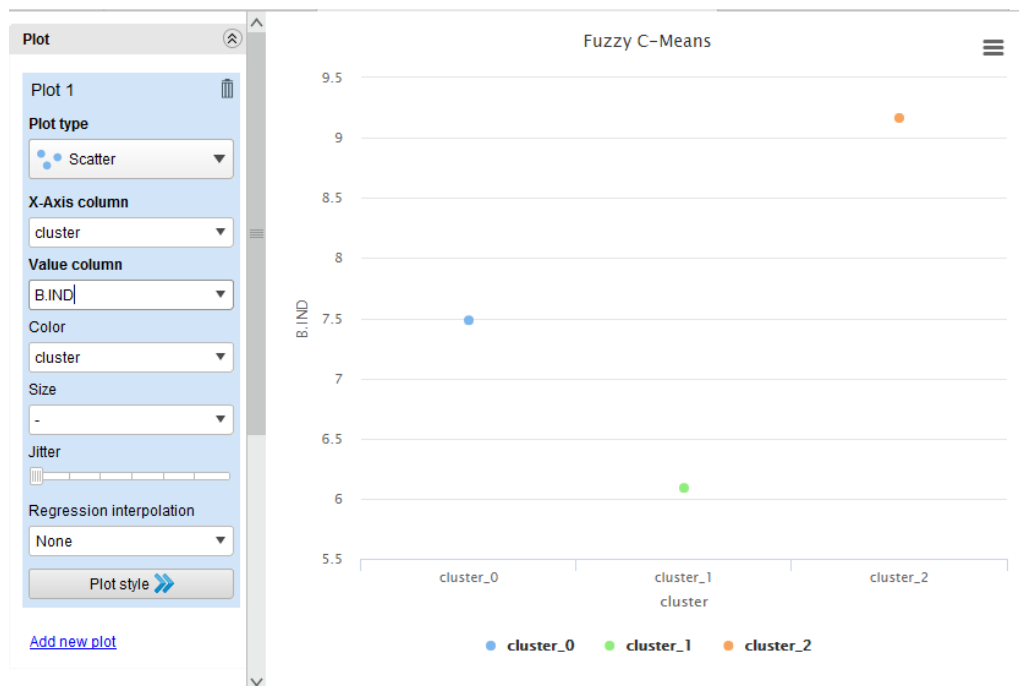
Visualizations

Annotations

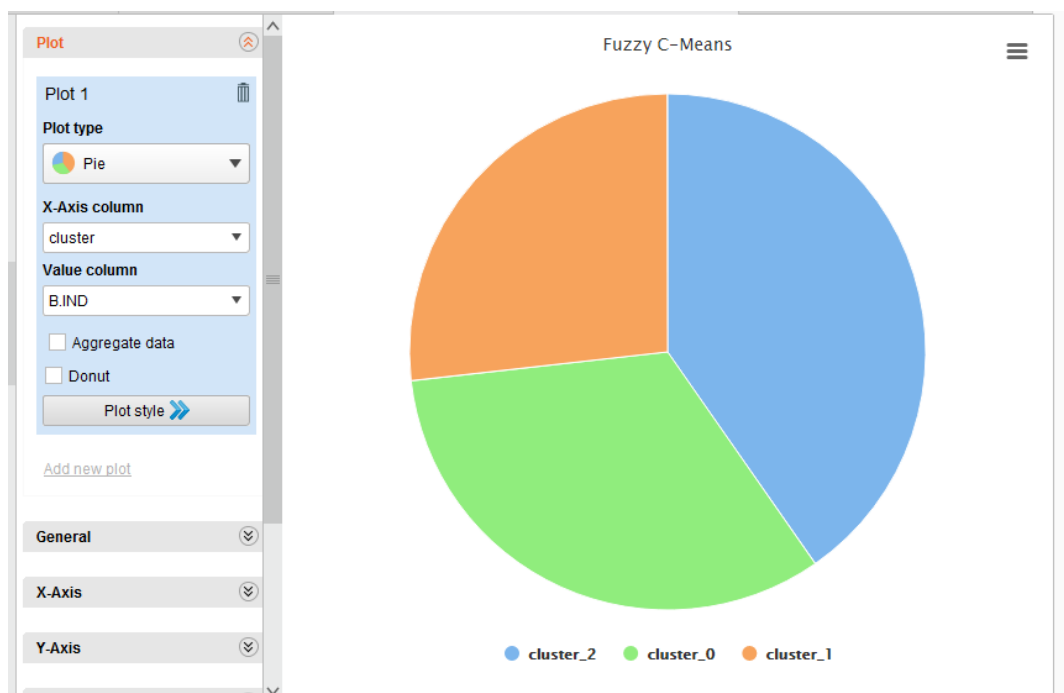
i. Kelompok siswa bidang B.Ing



ii. Kelompok siswa bidang B.indo



Dengan plotter = Pie

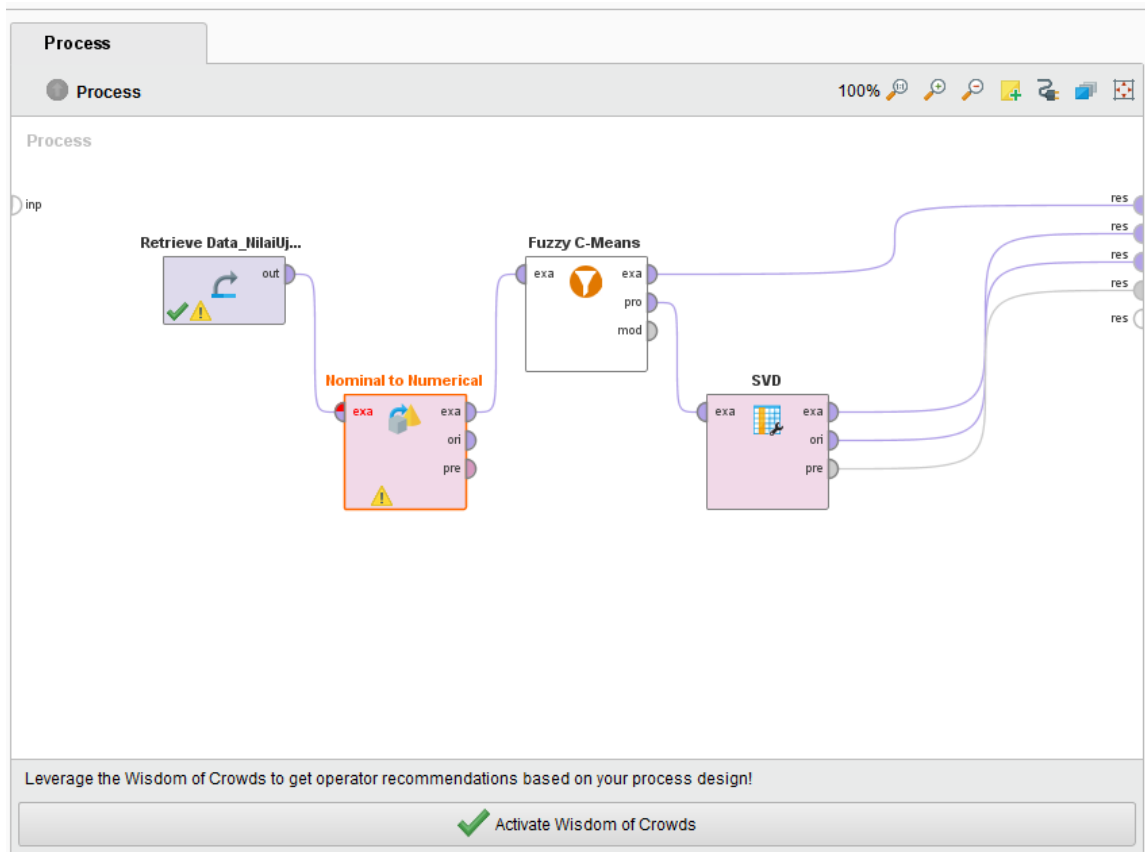


3. Tabel masing-masing siswa yang terdapat dalam kelompok cluster

Row No.	NAMA	cluster ↑
3	SUSI	cluster_0
6	IKA	cluster_0
7	EKO	cluster_0
4	DYAH	cluster_1
5	WATI	cluster_1
8	YANTO	cluster_1
1	JOKO	cluster_2
2	AGUS	cluster_2
9	WAWAN	cluster_2
10	MAHMUD	cluster_2

#### Tugas

1. Memasukkan Data\_NilaiUjian, Fuzzy C-Means, dan SVD ke dalam operator dan menghubungkan ke masing-masing connector.



2. Berikut hasil proses Clustering dengan algoritma Fuzzy C-Means

a) SVD

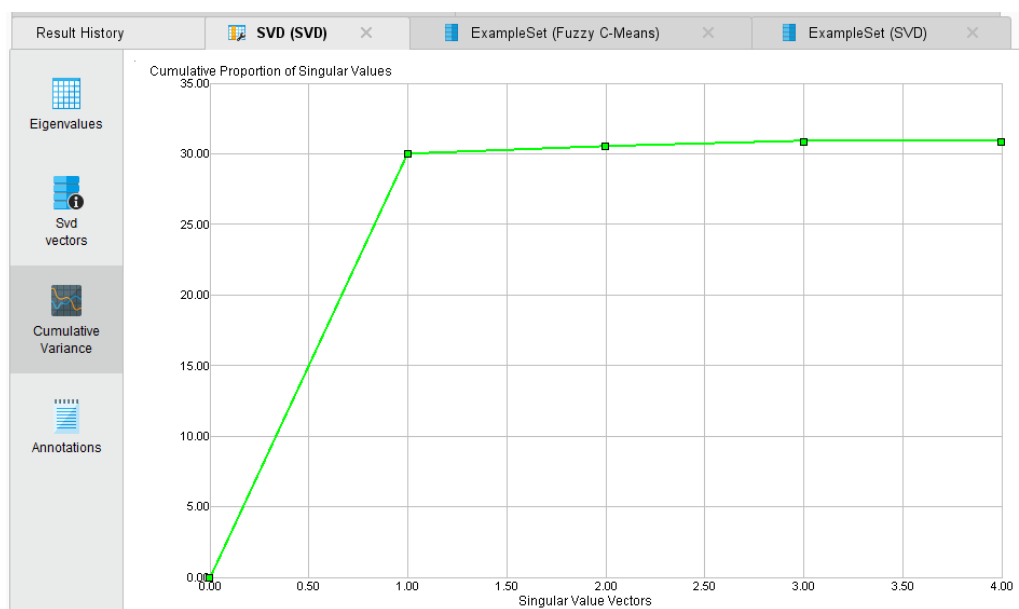
i. Nilai EigenValue

Result History				
SVD (SVD) × ExampleSet (Fuzzy C-Means) × ExampleSet (SVD) ×				
Eigenvalues				
Svd vectors				
Cumulative Variance				
Annotations				
Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion ...
SVD 1	30.016	0.971	30.016	0.971
SVD 2	0.542	0.018	30.558	0.988
SVD 3	0.340	0.011	30.898	0.999
SVD 4	0.018	0.001	30.915	1.000

ii. Nilai Svd Vectors

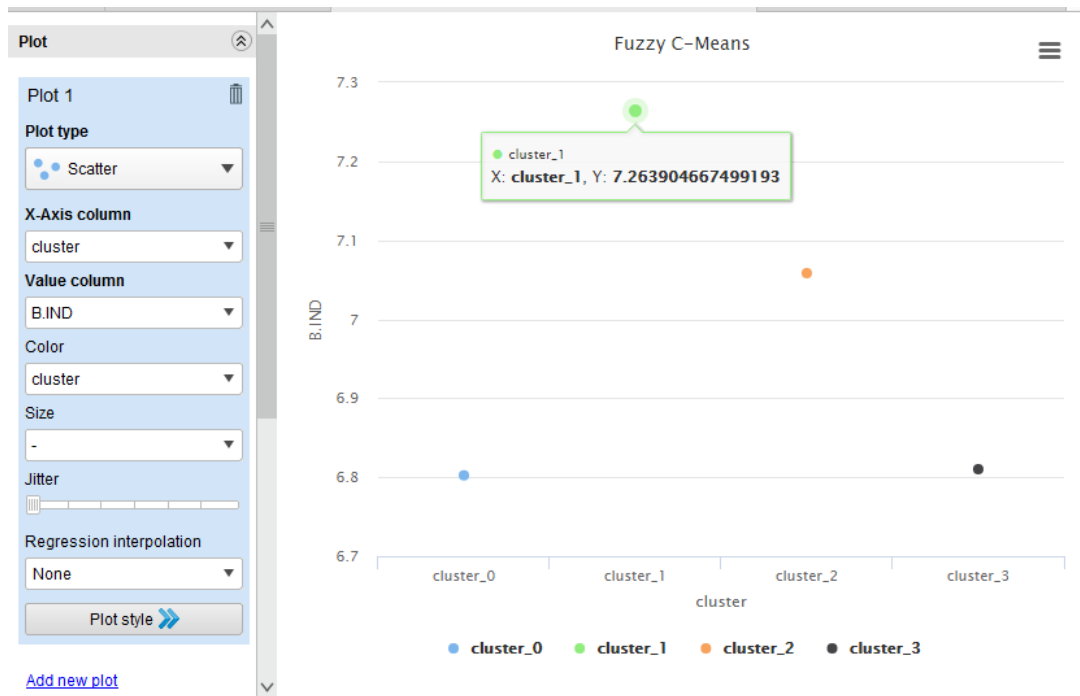
Result History				
SVD (SVD) × ExampleSet (Fuzzy C-Means) × ExampleSet (SVD) ×				
Eigenvalues				
Svd vectors				
Cumulative Variance				
Annotations				
Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3	
B.IND	0.466	-0.017	0.295	
B.ING	0.481	0.842	-0.024	
MTK	0.535	-0.336	-0.775	
IPA	0.516	-0.422	0.559	

### iii. Nilai Cumulative Variance

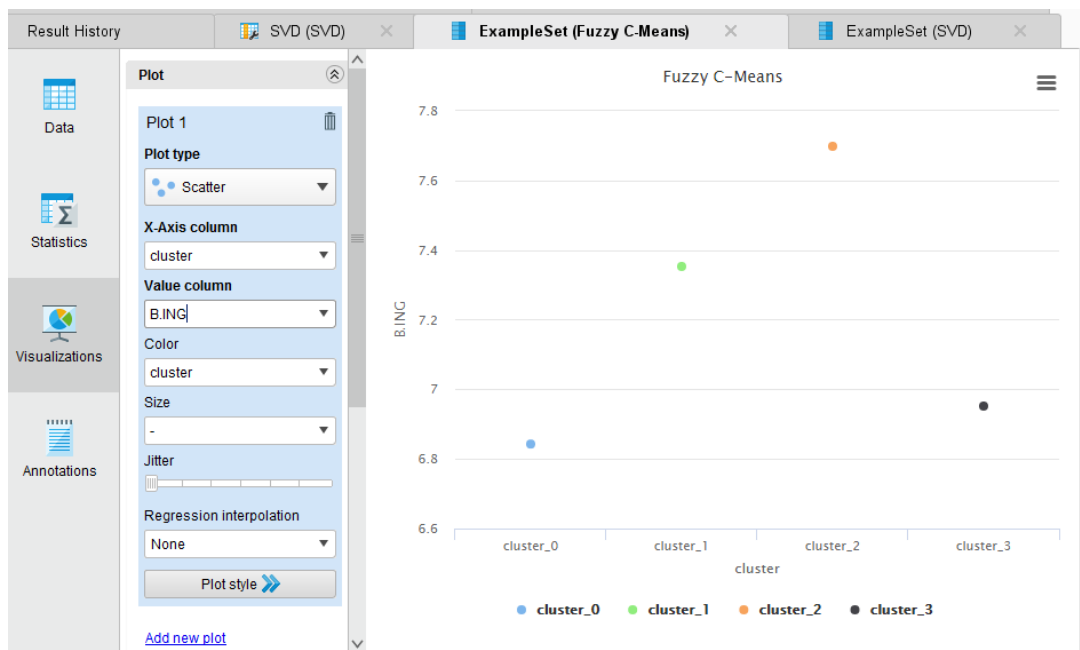


### b) ExampleSet

#### i. Kelompok siswa bidang B.Indo

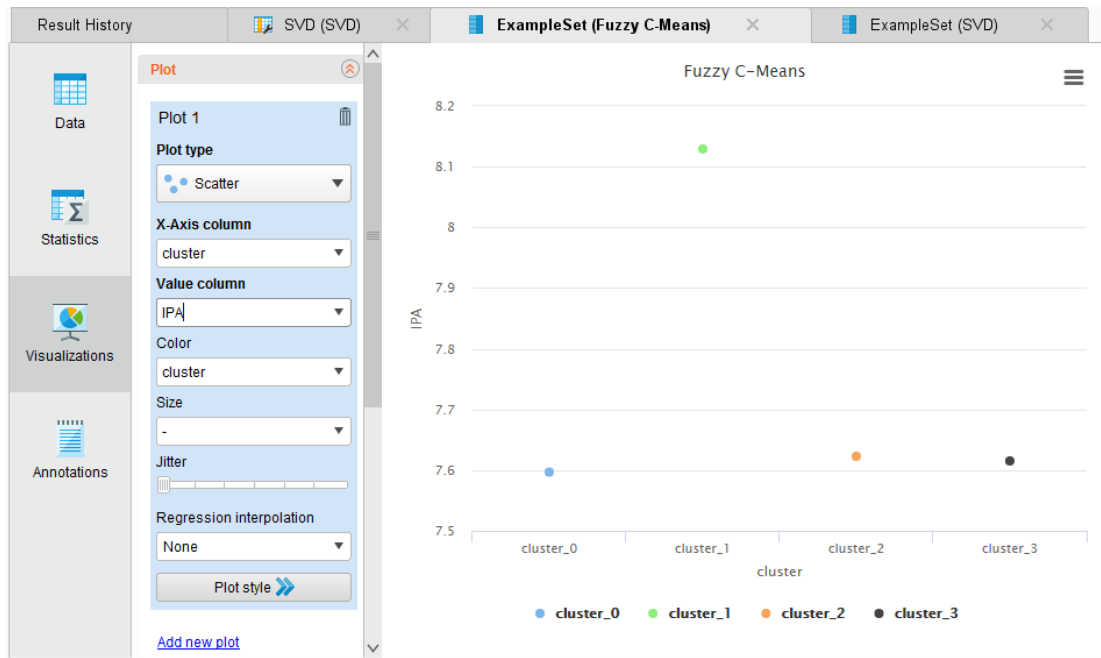


ii. Kelompok siswa bidang B.Ing

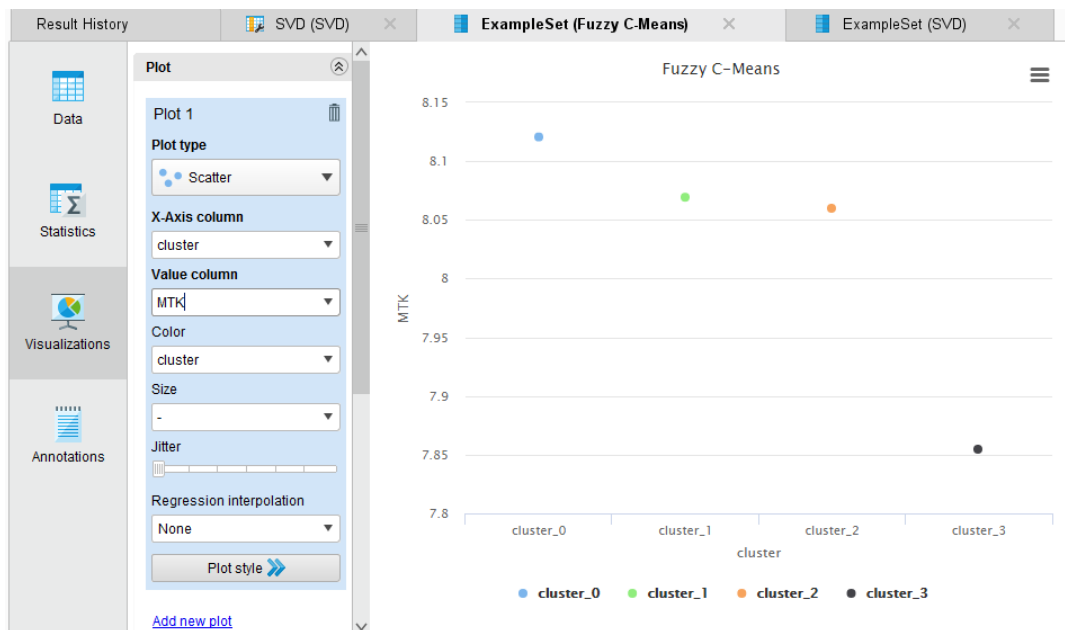


iii. Kelompok siswa bidang IPA





#### iv. Kelompok siswa bidang MTK



### 3. Tabel masing-masing siswa yang terdapat dalam kelompok cluster

Row No.	NAMA	cluster ↑	Row No.	NAMA	cluster ↑
9	WAWAN	cluster_0	20	RATIH	cluster_1
11	BUDI	cluster_0	22	JONO	cluster_1
23	SARAH	cluster_0	27	NANA	cluster_1
24	RAMA	cluster_0	1	JOKO	cluster_2
25	BAMBANG	cluster_0	6	IKA	cluster_2
26	HADI	cluster_0	10	MAHMUD	cluster_2
28	FEBRI	cluster_0	13	DIAN	cluster_2
29	DENI	cluster_0	15	AHMAD	cluster_2
30	TONI	cluster_0	16	BAYU	cluster_2
5	WATI	cluster_1	18	RANI	cluster_2
7	EKO	cluster_1	19	YANI	cluster_2
8	YANTO	cluster_1	2	AGUS	cluster_3
12	SANTI	cluster_1	3	SUSI	cluster_3
14	DANI	cluster_1	4	DYAH	cluster_3

Row No.	NAMA	cluster ↑
27	NANA	cluster_1
1	JOKO	cluster_2
6	IKA	cluster_2
10	MAHMUD	cluster_2
13	DIAN	cluster_2
15	AHMAD	cluster_2
16	BAYU	cluster_2
18	RANI	cluster_2
19	YANI	cluster_2
2	AGUS	cluster_3
3	SUSI	cluster_3
4	DYAH	cluster_3
17	RISA	cluster_3
21	INDAH	cluster_3